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Planning for After the COVID-19 Pandemic

by Ross Fetterly
May 2020

POLICY PERSPECTIVE

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“Pandemics are the inevitable attendants of economic progress. Interconnected trade networks and teeming cities have made societies both richer and more vulnerable, from the empires of antiquity to the integrated global economy of the present.”¹

On Sept. 11, 2001, members of the Islamic extremist group al Qaeda hijacked aircraft and carried out suicide attacks against the World Trade Center in New York City, and the headquarters of the Department of Defense just outside the American capital. On that date, the world that we thought we knew changed momentarily, but we didn’t fully understand that at the time. The rapid onset of COVID-19 in Canada during March and April is revolutionizing how Canadians now need to think and decide about our future, once again. For all Canadians, it is deeply personal. The ways in which we live our lives, travel, work and appreciate the simple things in life like family gatherings on special occasions have changed.

The transition to the new normal will take time and effort. Large-scale reform at the national level is a niche skill set that engages governments, industry and civic groups, while simultaneously reacting to unexpected change. While national, provincial and city governments are focused on dealing with the onslaught of citizens who are suffering from the COVID-19 virus, and have implemented exceptional measures to limit and reduce that spread, these governments must begin thinking about approaches to restarting the economy. With the Canadian economy reeling as the “impacts of the COVID-19 pandemic ravage consumer and business spending and cratering oil prices,”² quiet is now the norm in our streets, and we have given up – at least temporarily – the structure of our lives. Some have viewed this virus as foreshadowing “an imminent restructuring of the global economic order.”³ The current global pandemic will change how we view the world and how we live. Institutions and businesses in this interconnected world – including governments – will have to change how they operate, use technology, and plan for future economic, environmental and biological shocks. This needs to begin with governments, and it is the subject of this essay.

Throughout history, various deadly pathogens have had devastating long-term impacts on populations and economies. The most recent significant life-threatening pandemic, known as the Spanish flu – a H1N1 virus⁴ – killed an estimated 50 million people⁵ between 1918 and 1920. Pandemics happen when “new (novel) influenza A viruses emerge which are able to infect people easily and spread from person to person in an efficient and sustained way.”⁶

¹ Free Exchange, “The Ravages of Time: Throughout History, Pandemics have had Profound Economic Effects,” *The Economist*, March 14, 2020. <https://www.economist.com/finance-and-economics/2020/03/12/throughout-history-pandemics-have-had-profound-economic-effects>

² Conference Board of Canada, Canada Outlook Summary – Spring 2020. https://www.conferenceboard.ca/temp/08853cb9-7cee-4ca0-b62a-91b2782a1ab9/10648_ES_CO_EN_Spring2020.pdf

³ Kevin Sneader and Shubham Singhal, “Beyond Coronavirus: The Path to the Next Normal,” McKinsey, March 2020. <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/beyond-coronavirus-the-path-to-the-next-normal?cid=eml-app>

⁴ Centers for Disease Control and Prevention, “The Deadliest Flu: The Complete Story of the Discovery and Reconstruction of the 1918 Pandemic Virus.” <https://www.cdc.gov/flu/pandemic-resources/reconstruction-1918-virus.html>

⁵ P. Johnson and J. Mueller, “Updating the Accounts: Global Mortality of the 1918–1920 ‘Spanish’ Influenza Pandemic,” *Bulletin of the History of Medicine*, Baltimore, 2002, 76:1:105-115.

⁶ Centers for Disease Control and Prevention, “Pandemic Influenza,” 2020. <https://www.cdc.gov/flu/pandemic-resources/index.htm>



Unfortunately, trade links “which spread a pathogen can themselves be undone by its effects.”⁷ As a trading nation, Canada is now seeing the effects of rapidly unravelling global trade, driven by the impact of the COVID-19 virus. COVID-19 will have a significantly more transformative impact on North America than the terrorist attacks on 9/11 did. The COVID-19 virus is only one of a number of emerging infectious diseases in recent decades – either new (Ebola virus or hepatitis C) or increasing in geographic range (West Nile virus or the Zika virus) that have created a health-care crisis in a number of countries.

In 2019, the Global Preparedness Monitoring Board, a group hosted by the World Health Organization, which publishes an annual report on global preparedness for health emergencies, stated that the world “is at acute risk for devastating regional or global disease epidemics or pandemics that not only cause loss of life but upend economies and create social chaos.”⁸ This has now taken place. In an increasingly connected world, growth in migration and travel has been the primary mechanism for the recent accelerated rate of infectious disease transmission. The COVID-19 virus in a very short period of time has already severely impacted the structure of daily life across Canada. The heavy economic impact of this virus will leave Canada and many parts of the world poorer. In recent years, the federal and provincial governments have increased their debts and are now heavily stimulating the economy with more government-fuelled debt.

With the onset of significant change in the global trading system in recent years, highlighted by tariffs and trade wars, businesses and the federal government have had to adapt their strategies more frequently than in the past. Now, however, Canadians need to accept that failure to change to a post-COVID-19 environment could have serious consequences. With cinemas, professional sports, the theatre, national parks, restaurants and bars closed across the country, Canadians – from business leaders to academics and politicians – need to focus on remaking the economy. While the federal and provincial governments have reacted relatively quickly, the response to the COVID-19 pandemic and its aftermath is driving greater agility into the public service, defined as: adaptability, innovation, collaboration, visibility and velocity.⁹ Canadians do not have the luxury of time like Shakespeare, who supposedly wrote *King Lear* and *Macbeth*, as well as *Antony and Cleopatra*, during the bubonic plague.¹⁰

The pandemic requires rapid development of scientific knowledge and decisive international leadership. The cause of the disease is a “mutating virus, SARS CoV-2 (Severe Acute Respiratory Syndrome Coronavirus-2) that thrives in conditions that are difficult to control at scale.”¹¹ The recent internally co-ordinated U.S. government COVID-19 response plan assumes the

⁷ *The Economist*, “Throughout history, ...”

⁸ Global Preparedness Monitoring Board, “A World at Risk: Annual Report on Global Preparedness for Health Emergencies,” World Health Organization, Geneva, 2019.

⁹ David Mitchell and John Moore, “Agile Government: Responding to Citizens’ Changing Needs,” Pricewaterhousecoopers and Public Policy Forum, Ottawa, 2015: 5. <https://www.pwc.com/si/en/assets/document/agile-government-2015-03-en.pdf>

¹⁰ Andrew Dickson, “Shakespeare in Lockdown: Did He Write *King Lear* in Plague Quarantine?” *The Guardian*, March 22, 2020. <https://www.theguardian.com/stage/2020/mar/22/shakespeare-in-lockdown-did-he-write-king-lear-in-plague-quarantine>

¹¹ Thomas A. Drohan, “Human-led Machine Learning & Advanced Threats: Case Method Inquiry and Visual Analytics Applied to COVID-19,” Over the Horizon Multi-domain Operations and Strategy, Maxwell Air Force Base, 2020. <https://othjournal.com/2020/03/26/human-led-machine-learning-advanced-threats-case-method-inquiry-and-visual-analytics-applied-to-covid-19/>



“pandemic will last 18 months or longer and could include multiple waves of illness.”¹² The widely read and referenced March 16, 2020 Imperial College COVID-19 response team publication entitled “Impact of Non-Pharmaceutical Interventions (NPIs) to Reduce COVID-19 Mortality and Healthcare Demand” concludes that epidemic suppression is the only viable strategy at this time, “which will need to be maintained until a vaccine becomes available,”¹³ potentially a year and a half away. Unfortunately, this new virus has abruptly propelled us into a new and considerably more arduous reality.

The focus of this paper is the urgency for planning now for after the COVID-19 pandemic subsides, and it begins with a discussion of reframing strategic thinking. Over the last several decades, an increasingly interconnected world built global supply chains that were efficient, but are now recognized as “also fragile and unstable.”¹⁴ Both the distance of supply for international supply chains and the resilience of operations are increasingly being viewed as key business metrics. Consequently, multinationals will now shift to an emphasis on decreasing vulnerabilities and simplifying the supply chain, and nations will look for domestic sources for some products. The second section will highlight the limited resources the federal government has allocated for pandemic preparedness. The third section will focus on preparing for the future. It will deal first with provincial health-care capacity, and then the ability of defence planners to support civilian authorities.

Reframing Strategic Thinking – Decreasing Vulnerabilities in an Interconnected World

The COVID-19 tsunami that is washing over the globe with increasing ferocity, and the impact that it will have on Western nations for years to come, means that we will have to reframe our strategic thinking in relation to the new reality. Canada and our allies need to adjust our thinking while remembering that strategic analysis is about “framing the future, not predicting it.”¹⁵ We are now living in a time of liminality,¹⁶ a time of narrowing of focus, and at the threshold of meaningful change. This process consists of three distinct phases. First comes a dramatic separation from recent times, then a journey toward a distant future, and finally, a sacrifice required by those involved. Canadians are now in the uncertain, messy and challenging middle phase.

The way we have traditionally looked at society and how we live has already been radically upended. The customary focus on celebrities, professional athletes, musicians and actors is being replaced by appreciation for ordinary citizens doing essential and extraordinary work in

¹² U.S. Department of Health and Human Services, “COVID-19 Response Plan,” 2020: 4. <https://int.nyt.com/data/documenthelper/6819-covid-19-response-plan/d367f758bec47cad361f/optimized/full.pdf#page=1>

¹³ Neil M Ferguson, Daniel Laydon, Gemma Nedjati-Gilani, et al., “Impact of Non-Pharmaceutical Interventions (NPIs) to Reduce COVID-19 Mortality and Healthcare Demand,” Imperial College COVID-19 Response Team, London, 2020: 2. <https://doi.org/10.25561/77482>

¹⁴ James Crabtree, “Coronavirus Crisis will Send Globalization into Reverse: Complex Asian Supply Chains and Just-in-Time Production are Vulnerable to Shocks,” *Kikkei Asian Review*, March 25, 2020. https://asia.nikkei.com/Opinion/Coronavirus-crisis-will-send-globalization-into-reverse?utm_source=Eurasia+Group+Signal&utm_campaign=d1425d5708-EMAIL_CAMPAIGN_2020_04_03_11_08&utm_medium=email&utm_term=0_e605619869-d1425d5708-170121997

¹⁵ Robert L. Hutchings and Gregory F. Treverton, “Rebuilding Strategic Thinking,” Center for Strategic & International Studies, 2018: 11. <https://www.csis.org/analysis/rebuilding-strategic-thinking>

¹⁶ Arnold van Gennep, *The Rites of Passage* (London: Routledge, 1977), 21.



sectors of the economy vital to the lives of Canadians, including cashiers in grocery stores, transport drivers and loaders, and taxi drivers. This includes municipal and private sector workers ensuring our infrastructure continues to function and garbage is taken away. Vehicle mechanics, farmers and couriers delivering online orders to residences are also doing vital work. In hospitals, the medical staff, cleaners and others have worked under exceptional circumstances and continue to demonstrate their professionalism and dedication. The third phase – the sacrifice – is one that municipal, provincial and federal leaders, as well as the corporate business community now need to address to prepare the transition to restarting the economy. This will cost money, in addition to the liquidity injected by the federal government, which is already being distributed to laid-off workers.

Current global organizational structures were primarily designed and built in a period that had considerably less complexity. The velocity of technological change and the swiftly evolving pandemic have resulted in national governments and the private sector scrambling to keep pace with unexpected and arduous change. This has resulted in a unique underlying paradox in economies. Business startups and large corporations are more capable and efficient with just-in-time global supply chains and extensive use of advanced technology, but they are less robust than in previous generations, due to heavy reliance on technology and the complexity this brings, the proliferation of interdependencies, and the constraints inherent in leaner organizational structures. In the present fluid situation with borders increasingly closed to travel, supply chain failures and other issues make long-term planning problematic.

The crisis offers an opportunity for the Canadian government to radically change longstanding, entrenched processes which have resisted modification. Historically, in periods of revolutionary change, it has “not usually been the states that initiated the revolution, but those that responded best once the technologies and techniques had become common property.”¹⁷ Governments and private sector organizations that do not structure themselves for rapid adaptation to changes in the external environment will risk significant failure. Indeed, global wealth in 2020 has been dominated by the challenging combination of complexity and rapid change, with globalization impacting our lives through the “spread of new technologies that enable a global information environment and empower people to see more, share more, create more, and organize faster than ever before.”¹⁸

Corporations will need to employ an anticipatory approach to change based on developing new concepts, incorporating emerging technologies and adapting to emerging business practices. This will also need to be an integral requirement in federal, provincial and municipal governments. For example, the need to remain aware of substantive developments in potential vaccines and technological capabilities to operate in an intensely connected world is not new. However, the environment has changed, reinforcing the importance of this now critical institutional capability and ongoing adaptation to change. This includes both a national and provincial focus on helping to “improve the management of epidemic response.”¹⁹ Contributions to organizational innovation can include knowledge acquisition, dissemination and use. Indeed, “knowledge must become capability.”²⁰ In short, to be innovative, they must be organized for the “systematic abandonment of whatever is established, customary, familiar, and

¹⁷ Frederick W. Kagan, “The Art of War,” in *American Defense Policy*, edited by Paul J. Bolt, Damon V. Coletta and Collins G. Shackelford, Jr., 8th edition (Baltimore: Johns Hopkins University Press, 2005), 229-234.

¹⁸ U.S. Department of Defense. *The National Security Strategy of the United States of America*, 2015: 1. https://obamawhitehouse.archives.gov/sites/default/files/docs/2015_national_security_strategy_2.pdf

¹⁹ Jennifer B. Nuzzo, Lucia Mullen, Michael Snyder, Anita Cicero and Thomas V. Inglesby, *Preparedness for a High-Impact Respiratory Pathogen Pandemic* (Baltimore: Johns Hopkins University Press, 2019), 7. https://apps.who.int/gpmb/assets/thematic_papers/tr-6.pdf

²⁰ Carl von Clausewitz, *On War*, translated and edited by Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 147.



comfortable.”²¹ In public sector organizations, leaders are generally “appointed on the basis of their command of policy, technical expertise in the agency’s work, or political connections.”²² They are not necessarily appointed because of their knowledge, experience or commitment to institutional change or their specific experience in significant business process transformation initiatives. Consequently, rapid institutional change in government while simultaneously dealing with the impacts of the COVID-19 pandemic should be led by a dedicated full-time team separate from daily operations and issues. This is of particular importance given the low priority pandemic preparedness has in government.

Pandemic Preparedness as a Low Government Priority

“During a pandemic, decisions will be made under rapidly changing, uncertain conditions, with limited (if any) prior experience.”²³

Emergency preparedness is a niche skill-based activity. Necessarily led by national governments, it engages broadly across organizations including disaster response, engineering, medical, procurement and other domains. Indeed, how governments make decisions during a sudden environmental crisis, such as floods or forest fires, or a viral pandemic like COVID-19 will lay bare the effectiveness of their leadership. A principal complicating factor is that federal government decision-making is both complicated and non-linear. Yet, demands on national government continue to intensify, boosting complexity. The COVID-19 pandemic has forcefully reminded us that “globalization brings fragilities, causes more extreme events as a side effect, and requires a great deal of redundancies to operate properly.”²⁴

A pandemic is not like a hurricane, forest fire, flood or other comparable natural disasters. These national disasters are usually characterized by being “isolated in time and space, with extensive infrastructure damage.”²⁵ In contrast to a single catastrophic event, pandemics are longer term in duration and affect the health and safety of populations in infected areas. The Spanish flu in 1918 lasted approximately 18 months in the United States and had three distinctive waves of deaths. While pandemics have occurred throughout much of history at irregular intervals, they can be catastrophic, with long-lasting effects. In the interconnected world of 2020, in terms of commerce and human travel, the rapid onset of COVID-19 illustrates that national government preparedness for pandemics is an essential requirement. Unfortunately, governments across all regions were largely unprepared for this pandemic. The cost to Canadians, as a result of limited pandemic preparedness by both the federal and provincial governments, will likely exceed the costs they would have incurred if they had been better prepared. Consequently, governments must carry out significant planning to mitigate against future viral pandemics.

Preparing for the Future

²¹ Peter F. Drucker, “Managing in a Time of Great Change,” *Harvard Business Review*, 1995: 77.

²² Frank Ostroff, “Change Management in Government,” *Harvard Business Review*, May 2006. <https://hbr.org/2006/05/change-management-in-government>

²³ Freya M. Shearer, Robert Moss, Jodie McVernon, Joshua V. Ross and James M. McCaw, “Infectious Disease Pandemic Planning and Response: Incorporating Decision Analysis,” *PLOS Medicine*, 2020: 1. <https://journals.plos.org/plosmedicine/article/file?id=10.1371/journal.pmed.1003018&type=printable>

²⁴ Nassim Nicholas Taleb, *Antifragile: Things that Gain by Disorder* (New York: Random House, 2012), 384.

²⁵ Stephen Prior, Robert Armstrong and Ford Rowan, with Mary Beth Hill-Harmon, “Weathering the Storm: Leading Your Organization through a Pandemic,” National Defense University, 2007: vii. <https://ndupress.ndu.edu/Portals/68/Documents/DefenseTechnologyPapers/DTP-038.pdf?ver=2017-06-22-143014-217>



“Accountability is a relationship based on obligations to demonstrate, review, and take responsibility for performance, both the results achieved in light of agreed expectations and the means used.”²⁶

Organizational change is always disruptive, expensive and affects the proficiency of the organization for an extended period of time. Yet, it is not the change process that will obstruct organizations; it is the transition to the new structure or operation processes that will impede the change. At certain intervals in Western history, an acute transformation happens, where humanity crosses a divide. Several decades later, society has rearranged itself to the extent that people born then “cannot even imagine the world in which their grandparents lived and into which their own parents were born.”²⁷ While the start of a new age is often only recognized in retrospect, the COVID-19 pandemic is changing the daily lives of citizens in all countries in ways that cannot be more different.

It is increasingly evident that the post-Cold War era will be demarcated by a fundamental schism: “the period before COVID-19 and the new normal that will emerge in the post-viral era: the next normal.”²⁸ In the second quarter of 2020, North Americans are immersed in trying to flatten the curve of increasing numbers of citizens with COVID-19. Yet, plans need to be developed now to restart the economy and address shortfalls in government capacities evident with the onset of COVID-19. Making emergency preparedness a federal priority with annual reporting requirements is the first step. The second step is creating a department specifically for that purpose. This can be accomplished by moving emergency preparedness personnel from Public Safety to that dedicated department. Third is to significantly invest in public infrastructure to help prepare Canadians for a changing environment over the coming decades. Finally, provinces must significantly increase the capacity of provincial health-care systems, both in terms of trained health-care professionals and medical infrastructure.

Making Emergency Preparedness a Federal Priority

“We live in a world of heightened microbial danger. Infectious disease outbreaks are far more frequent, far more extreme, and impose far higher costs.”²⁹

In the publication, *An Emergency Management Framework for Canada*, emergency management is framed in the context that “natural and human-induced hazards and disasters have become more prevalent in urban and rural communities.”³⁰ Furthermore, increased losses derived from natural and human-induced events are expected to continue into the foreseeable future, “as a result of drivers of change, including: climate change; critical infrastructure interdependence; and shifting demographics in Canada.”³¹ Within the country, the emergency management system is a combined responsibility and “is shared by federal, provincial and

²⁶ Auditor General of Canada, “Modernizing Accountability in the Public Sector,” Chapter 9, Report of the Auditor General of Canada, 2002: 1. http://publications.gc.ca/collections/collection_2012/bvg-oag/FA1-2002-2-17-eng.pdf

²⁷ Peter F. Drucker, *Post-Capitalist Society* (New York: HarperBusiness, 1993), 1.

²⁸ Kevin Sneader and Shubham Singhal, “Beyond Coronavirus...” 2.

²⁹ Katherine F. Smith, Michael Goldberg, Samantha Rosenthal, Lynn Carlson, et al., “Global Rise in Human Infectious Disease Outbreaks,” *Journal of the Royal Society Interface*, 11: 2014, 0950. <http://dx.doi.org/10.1098/rsif.2014.0950>

³⁰ Public Safety Canada, “An Emergency Management Framework for Canada,” 2017:4. <https://www.publicsafety.gc.ca/cnt/rsrcs/pblctns/2017-mrgnc-mngmnt-frmwk/2017-mrgnc-mngmnt-frmwk-en.pdf>

³¹ Public Safety Canada, “Emergency Management Strategy for Canada: Toward a Resilient 2030,” 2019: 1. <https://www.publicsafety.gc.ca/cnt/rsrcs/pblctns/mrgncy-mngmnt-strty/mrgncy-mngmnt-strty-en.pdf>



territorial government and their partners.”³² In addition, stakeholders in pandemics include an array of public and private entities. In the public sector, critical infrastructure can include public health, health care, university research facilities and social services. In the private sector, this can include transportation, manufacturing, and grocery store and pharmacy chains, as well as co-ordination with international partners.³³

Municipal or provincial authorities can manage emergency preparedness in a very large country like Canada, where emergencies are often local – such as forest fires, flooding, extreme heat, nuclear incident response, intense winter storms and tornadoes. However, national emergencies, such as the COVID-19 pandemic, require both national co-ordination and provincial execution. In Canada, the minister of Public Safety is responsible for co-ordinating emergency management responses among federal government departments and agencies. While capacities are limited federally, co-ordination is also needed with provinces, and in some cases major cities across a vast country. Given the vast scale and impact that the COVID-19 virus has had on Canada, the federal government is spending hundreds of billions of dollars to support Canadians who have lost their jobs and large employers that have seen their markets collapse.

The primary lesson from the COVID-19 pandemic for Canadians is that we must accept that the world we live in has dramatically changed, and we must adjust accordingly. This is due to a combination of climate change, the rapid spread of the virus globally due to a hyper-connected world, and very limited excess capacity in national health-care systems. Canadians have experienced extreme weather events in recent years such as massive forest fires in British Columbia, drought in the Prairie Provinces, and high levels of spring flooding from Ontario through to the East Coast, at a greater frequency than in the past. With other parts of the world dealing with the aftermath of forest fires, tornadoes, tsunamis, earthquakes and various other natural disasters, dramatic increases in house, condominium and other real estate investment insurance costs have become a proxy for the growing risks of climate change to Canadians. The global flows of people³⁴ internationally similarly continued to advance in an increasingly interconnected world until the COVID-19 pandemic began in China. The virus, first identified in the Chinese city of Wuhan in November 2019,³⁵ has “already crashed economies and broken health-care systems, filled hospitals and emptied public spaces”³⁶ while now precipitously spreading throughout Europe and North America, and beginning to impact Africa, South America and other Asian countries. Global governance structures are ineffectual in dealing with viral pandemics due to their combination of non-linearity and cascading effects.

The COVID-19 pandemic has laid bare the shortcomings of not having a well-resourced federal department or agency exclusively responsible for emergency. In addition to emergency management, the minister of Public Safety is also responsible for the Royal Canadian Mounted Police, the Canadian Security Intelligence Service, the Canada Border Services Agency, Correctional Service of Canada and the Parole Board of Canada. Emergency Management

³² Government of Canada, “National Emergency Response System,” 2011: 3. <https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/ntnl-rspns-sstm/ntnl-rspns-sstm-eng.pdf>

³³ United States Department of Health and Human Services, “Pandemic Influenza Plan 2017 Update,” 40. <https://www.cdc.gov/flu/pandemic-resources/pdf/pan-flu-report-2017v2.pdf>

³⁴ Steven A. Altman and Phillip Bastian, DHL Global Connectedness Index, 2019: 8. <https://www.dhl.com/content/dam/dhl/global/core/documents/pdf/g0-en-gci-2019-update-complete-study.pdf>

³⁵ Jeanna Bryner, “1st Known Case of Coronavirus Traced Back to November in China,” *Live Science*, 2020. <https://www.livescience.com/first-case-coronavirus-found.html>

³⁶ Ed Yong, “How the Pandemic will End,” *The Atlantic*, March 2020. <https://www.theatlantic.com/health/archive/2020/03/how-will-coronavirus-end/608719/>



Canada has a mandate “to promote an integrated and resilient whole-of-government approach to emergency management planning, which includes better prevention/mitigation of, preparedness for, response to, and recovery from emergencies.”³⁷ The federal government and its bureaucracy need increased flexibility in adapting to the changing operational environment and emerging requirements. An important lesson from the 2003 Toronto SARS outbreak is that “emergency situations are inherently stressful. Public health crises require clear leadership at the municipal, provincial, and ultimately national levels as their scope widens.”³⁸

The COVID-19 pandemic has also showed Canadians that we need to fundamentally rethink how we look at emergency preparedness. Forest fires and floods are largely local events over certain timeframes and dealt with provincially, with federal support if required. In contrast, viral pandemics know no borders. One significant issue is enhanced funding and co-ordination in the scientific community. Indeed, for the coming decades, Canada needs to focus on both the science and preparedness of pandemics as a key capability. For example, increased co-ordination and interaction between “medical scientists and more general biologists (natural scientists) from disciplines such as ornithology, ecology and evolutionary biology”³⁹ through targeted funding programs would support greater understanding of the nature of evolutionary processes that affect influenza viruses. Ideally, this would also include a co-ordinated multinational effort.

With “the large number of variables that are involved in influenza pandemic planning, comprehensive risk management is challenging.”⁴⁰ That statement in itself should have prioritized viral pandemic planning in Canada, given the significant impact of the SARS outbreak. In the 2018 Health Canada publication, *Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector*, COVID-19 would be ranked as a high-impact pandemic scenario, and it describes the scenario that is unfolding across Canada now. Yet given the massive impact that this scenario is having in Canada, and experience from both SARS and the 2012 Middle East Respiratory Syndrome (MERS), it is unclear why Canada and other countries did not intensify pandemic preparedness. Canadian investment in influenza pandemic preparedness needs to meaningfully increase, now that we better understand the risk of global viral transmission in 2020. “No pandemic emergence of a new influenza strain has been preceded by detection of a closely related precursor in an animal or human.”⁴¹ Thus, for Canada and like-minded nations, the impact of COVID-19 should mean significant investment in influenza research and prevention, as well as a substantial increase in preparedness.

The minister of Public Safety manages an important portfolio. With the increasing severity of weather-related events, and now the COVID-19 pandemic, national emergency preparedness needs a stand-alone department with a minister who can devote his or her full attention to the portfolio. This would require a change to the *Department of Public Safety and Emergency Preparedness Act*.⁴² The current pandemic is the central, and at times overwhelming, focus of

³⁷ Public Safety Canada, “Federal Policy for Emergency Management: Building a Safe and Resilient Canada,” 2012:1. <https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/plc-mrgnc-mngmnt/plc-mrgnc-mngmnt-eng.pdf>

³⁸ Health Canada, National Advisory Committee on SARS and Public Health, “Chapter 2 - SARS in Canada: Anatomy of an Outbreak,” *Renewal of Public Health in Canada*, 2003: 31. <https://www.canada.ca/content/dam/phac-aspc/migration/phac-aspc/publicat/sars-sras/pdf/chapter2-e.pdf>

³⁹ Olav Albert Christophersen and Anna Haug, “Why is the World so Poorly Prepared for a Pandemic of Hypervirulent Avian Influenza?” *Microbial Ecology in Health and Disease*, 2006, 18:113-132, 113. <https://www.tandfonline.com/doi/pdf/10.1080/08910600600866544?needAccess=true>

⁴⁰ Health Canada, *Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector*, 2018: 30.

<https://www.canada.ca/content/dam/phac-aspc/migration/phac-aspc/cpip-pclcpi/assets/pdf/report-rapport-02-2018-eng.pdf>

⁴¹ M. Lipsitch, W. Barclay, R. Raman, et al., “Viral Factors in Influenza Pandemic Risk Assessment,” *eLife*, Howard Hughes Medical Institute, 1. <https://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC5156527&blobtype=pdf>

⁴² *Department of Public Safety and Emergency Preparedness Act*. <https://laws-lois.justice.gc.ca/PDF/P-31.55.pdf>



all levels of government and of Canadians. However, at some point it will recede, a vaccine will be developed and citizens will be inoculated. Unfortunately, historical reaction in Canada and other nations has shown that the memory and impact of the COVID-19 pandemic will diminish in people's minds, and other priorities will become the issue of the day. Nations have a tendency to "extrapolate short-term, crisis-driven changes in behavior indefinitely into the future, long after the crisis is past."⁴³ We do not want to repeat the example of SARS that faded from Canadian consciousness and the Ontario government's priorities, resulting in millions of N95 masks and other medical equipment having long passed their expiry dates.⁴⁴ This resulted from the inexplicable logic of funding for storage of the equipment, but not their replacement as expiry dates approached. While governments need to be held to account for ignoring the currency of stockpiles of vital supplies, an annual reporting mechanism to Parliament and provincial legislatures needs to be made law. This would provide Canadians with an annual update on the status of emergency preparedness, and specifically on capabilities to address emerging pandemics.

Investment in Provincial Health-Care Systems

"A lasting implication of the pandemic is that resilient and efficient health-care systems will become part of the competitive advantage of nations."⁴⁵

Health care in Canada is a patchwork system of 10 provinces and three territories in accordance with the powers assigned by the Constitution. COVID-19 affects all provinces and territories. Demand for health services across the country has highlighted the limitations in capacity to deal with a significant medium-term spike in the need for hospital care. Canada has significantly fewer "physicians, acute-care beds and psychiatric beds per thousand compared to the average Organisation for Economic Co-operation and Development (OECD) country,"⁴⁶ while ranking close to the average for nurses. Apart from Sweden, Canada has the lowest number of acute care beds per capita compared with other high-income OECD countries. One explanation for why Canadian provinces have fallen behind peer countries is a "failure of funding levels to keep up with population growth,"⁴⁷ particularly in Ontario, British Columbia and Alberta. Adding acute care beds or other hospital services to existing capacity requires expansion of hospitals or construction of new hospitals. With hospitals across the country busy on any given day, provinces early in the COVID-19 outbreak in Canada were already actively working to increase capacity. For example, British Columbia prepared Vancouver's waterfront convention centre to act as a 270-bed facility.⁴⁸ In Ontario, the provincial government has provided health-care authorities the power to lease space to increase capacity.

⁴³ Andrew Coyne, "This Changes Everything, Unless it Doesn't," *Globe and Mail*, April 11, 2020.

<https://www.theglobeandmail.com/opinion/article-this-changes-everything-unless-it-doesnt/>

⁴⁴ Allison Martell and Moira Warburton, "Millions of Masks Stockpiled in Canada's Ontario Expired before Coronavirus Hit," Reuters, March 9, 2020. <https://ca.reuters.com/article/domesticNews/idCAKBN20W2OG>

⁴⁵ Kevin Lynch and Paul Deegan, "Five Lasting Implications of COVID-19 for Canada and the World," *Globe and Mail*, April 2, 2020.

<https://capitalmarkets.bmo.com/en/news-insights/covid-19-insights/five-lasting-implications-covid-19-canada-and-world/>

⁴⁶ Bacchus Barua and Mackenzie Moir, "Comparing Performance of Universal Health Care Countries," Fraser Institute, 2019: 13.

<https://www.fraserinstitute.org/sites/default/files/comparing-health-care-countries-2019.pdf>

⁴⁷ Frances Woolley, "Canada has so Few Acute-Care Beds that Even the Flattest of Curves will Overwhelm Hospitals: Fixing the System's Flaws will Require Federal Funding," *Policy Options*, Institute for Research on Public Policy, March 2020.

<https://policyoptions.irpp.org/magazines/march-2020/coronavirus-is-about-to-reveal-how-fragile-our-health-system-is/>

⁴⁸ Karen Howlett, "Provinces Prepare for Worst by Building Makeshift Hospitals," *Globe and Mail*, April 1, 2020.

<https://www.theglobeandmail.com/canada/article-ontario-bc-quebec-begin-building-makeshift-hospitals-in/>



SARS demonstrated that “facilities have insufficient base-line staff, especially full-time workers and are too reliant on overtime, casual, and agency workers. They have too few staff for business as usual and minimal surge capacity.”⁴⁹ Consequently, a report written by practitioners after the SARS outbreak concluded that in order to “ensure that the system responds in a consistent fashion, staff used in emergency situations must be full-time or regular part-time and work consistently with known colleagues in multi-disciplinary teams.”⁵⁰ While governments learned some lessons from SARS, they did not address the key issue of additional capacity in provincial health-care systems. In effect, the SARS outbreak was simply a dry run for the current and much more significant public health emergency. A virus outbreak is severely testing the Canadian health-care system again. In the pandemic’s early phase, our health-care workers once again distinguished themselves during the rapid increase in COVID-19 patients, but the federal and provincial governments insufficiently implemented the lessons of SARS. From the workers who focused on keeping the hospitals clean, to the lab technicians, nurses and doctors, everyone did an outstanding job in supporting their patients. The swift transmission of COVID-19 globally underscores the potential of future pandemics and the importance of increasing capacity in Canada’s public health-care system.

Several factors affect hospital capacity in Canada – now and in the coming years. These are an aging population, insufficient medical personnel to deal with rapid surges in demand, infrastructure limitations and a shrinking workforce as a percentage of the overall population. With projected government spending increases related to health care and elderly benefits in Canada “expected to be 5.3 percentage points of GDP higher in 2045 compared to 2017,”⁵¹ it will cost provincial governments significantly more money simply to deliver the same level of care currently provided. As Canadians age, their health-care costs increase. In addition, population growth will also drive those costs higher. Between 2000 and 2018, the Canadian population increased from 30.7 million to 37.1 million people, with further growth projected in the coming years. Provinces will require greatly increased investment in trained medical personnel and hospital capacity, simply to support population growth. In addition, to support surge capacity demands during future pandemics, additional capacity will need to be added to new and expanded facilities built to accommodate population growth. Finally, trends project that notwithstanding continued elevated immigration levels, the average age of the Canadian population will continue to increase – placing a burden on those still in the workforce to fund an enlarged medical system across the country. The 2002 Commission on the Future of Health Care in Canada called on the federal government to establish “a minimum threshold for federal funding, as well as a new funding arrangement that provides for greater stability and predictability.”⁵² The provincial and federal governments need to revisit this recommendation after the COVID-19 pandemic subsides, by discussing substantial increases in the Canada Health Transfer (CHT) to support escalating provincial health-care costs.

⁴⁹ Andrea Baumann, Jennifer Blythe, Jane Underwood and Jenny Dzuiba, “Capacity Casualization and Continuity: The Impact of SARS,” *Nursing Effectiveness, Utilization and Outcomes Research Unit*, McMaster University Hamilton, 2002: 4. https://fhs.mcmaster.ca/nru/documents/VTI_CNF/Final%20Report%20Sept%2030%2004.pdf

⁵⁰ Ibid.

⁵¹ Taylor Jackson, Jason Clemens and Milagros Palacios, “Canada’s Aging Population and Implications for Government Finances,” Fraser Institute, 2017: 14. <https://www.fraserinstitute.org/studies/canadas-aging-population-and-implications-for-government-finances>

⁵² Commission on the Future of Health Care in Canada, “Final Report, Building on Values: The Future of Health Care in Canada,” 2002: xvii. <http://publications.gc.ca/collections/Collection/CP32-85-2002E.pdf>



Embedding Defence Planners to Support Civilian Authorities in Emergency Planning

National governments need to constantly balance near-term and long-term demands on resources. The challenge is that they are “constantly confronted by the paradox of pessimistic realism of phrase coupled with loose optimism in practice.”⁵³ This can be seen today in countries where national governments faced with a wide range of resource demands from different departments are challenged to treat all funding requests with the commensurate magnitude of resources. This illustrates the enduring challenge in allocating resources and the appropriate level of institutional attention in national-level resource planning where near-term demands can crowd out investment in longer term threats. Asymmetry of information at various levels within government departments presents material challenges to institutional planning. At the service delivery level, managers understand their capacity to expend resources, yet have limited flexibility to reallocate those resources. At the departmental headquarters level, executives can reallocate resources, but may not have the knowledge or experience of front-line workers.

COVID-19’s rapid global spread has reinforced the importance of agility to respond quickly to emerging international crises. This pandemic also illustrates that governments can now expect to be regularly taken by surprise by health, climate and other related challenges. Furthermore, the near-term capabilities and resources that responses to those challenges demand need to be available nationally. The core of the Canadian military’s “cultural operating system already functions systematically and effectively in planning for operations. Indeed, military organizations are inherently planning machines.”⁵⁴ The Canadian Armed Forces (CAF) can support federal government emergency preparedness, as part of a whole of government effort with planning, logistics and transportation in isolated locations in the country.

Military Planning Support to Federal Government Emergency Preparedness

During floods, earthquakes or other environmental events that overwhelm provincial capacity, provinces can request assistance from the CAF as “Aid of the Civil Power.”⁵⁵ Military support is much more than simply trucks and manpower. The military provides unique capabilities, such as the capacity to mobilize rapidly, move to necessary locations with the required specialized equipment and sustain organizations for extended periods of time. Military personnel also have a second-to-none capacity to plan and support other federal government departments, or assist provinces in an emergency in executing their mandate.

The military has a domestic posture to support governments at all levels and a North American Aerospace Defence (NORAD) commitment. However, given the lack of a ground or visible threat, the CAF is essentially built for expeditionary operations, and those skills assist us in understanding how to move large distances and sustain operation inside a vast country like Canada. This planning capability is now being used in support of the federal government’s COVID-19 pandemic initiatives, and military planners have been seconded to federal agencies to support planning in those organizations. The government was proactive when the Defence minister committed up to 24,000 military personnel to support provincial and territorial governments. The Canadian military prioritizes planning, organizational and execution skills,

⁵³ Roberta Wohlstetter, *Pearl Harbour: Warning and Decision* (Stanford: Stanford University Press, 1962), 69.

⁵⁴ Ross Fetterly, “Defence Business Planning in Canada,” Canadian Global Affairs Institute, 2018: 7.

https://www.cgai.ca/defence_business_planning_in_canada

⁵⁵ Government of Canada, *National Defence Act – Aid of the Civil Power*, Sections 274-285, 2020. <https://laws-lois.justice.gc.ca/PDF/N-5.pdf>



and also has experience in mass movements and logistics. The CAF prepares plans and orders through the operational planning process (OPP).⁵⁶ This process has been an important and integral part of Canadian military culture, with leaders tailoring it to the situation.

The CAF uses the OPP to plan for events that may occur which could have negative impacts for Canada. These contingency operations are “planned in advance of known events or events that could reasonably be expected, thereby permitting a relatively formal planning process.”⁵⁷ Early Department of National Defence (DND) and CAF engagement in support of civilian authorities confronting pandemic-type circumstances can accelerate whole of government responses. The objective of pandemic preparedness is to strengthen current systems instead of creating new ones. The OPP would be used in co-ordination with other federal departments and provinces to prepare for pandemics or similar situations.

Historically, provinces facing natural disasters such as forest fires, floods, ice storms or hurricanes, have requested military assistance. The CAF provides defence, safety and security services for Canadians, and a 2017 departmental audit established that military liaison with other government departments and civilian agencies has enhanced military “responsiveness and effectiveness in domestic operations.”⁵⁸ Under Operation LENTUS,⁵⁹ the CAF can respond quickly to support Canadians in need during natural disasters and pandemics.

The CAF has regular force combat engineer regiments based out of Edmonton, Petawawa and Valcartier, as well as 10 reserve combat engineering regiments. In the air force, Cold Lake, Trenton and Comox have regular force construction engineering squadrons, as well as a reserve force construction engineer squadron. The navy has a construction engineering troop in Victoria and Halifax. The 1st Canadian Field Hospital is based in Petawawa. At a time of national mobilization, these units could deploy personnel across the country as part of formed units on federal government direction to support local or provincial authorities.

A crisis is not the time to develop relationships. In the post-COVID-19 reviews by provincial and federal governments, lessons learned are likely to include a larger permanent cadre of public servants and broader scope of responsibilities. The risk of future pandemics and the cost of unpreparedness will drive investment in this additional capability. The COVID-19 pandemic, similar to military conflict situations, is “forcing innovation on a scale and at a pace that no government would normally contemplate.”⁶⁰ While functions such as search-and-rescue centres combine military and civilians, these need to be significantly expanded to increase combined federal and provincial response and integration of effort. The Canadian military can provide experienced planners, jointly co-ordinate exercises and participate in training for pandemic scenarios.

Impact of COVID-19 on Our Allies

⁵⁶ Government of Canada, *The Canadian Forces Operational Planning Process*, Strategic Joint Staff, Ottawa, 2008. <https://crhnet.ca/sites/default/files/library/Canada.2008.Canadian%20Forces%20Joint%20Pub.Planning.pdf>

⁵⁷ Government of Canada, *The Canadian Forces Operational Planning Process* ...5

⁵⁸ Assistant Deputy Minister (Review Services), “Evaluation of Canadian Armed Forces Operations,” November 2017: 23. <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/audit-evaluation/evaluation-canadian-armed-forces-operations.html>

⁵⁹ Department of National Defence, “Operation LENTUS,” <https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-lentus.html>

⁶⁰ “Innovation: Move Fast and Try not to Break Things,” *The Economist*, April 4, 2020.



In recent years, there has been a fusion of civil wars and terrorism, decreases in the effectiveness of United Nations peacekeeping operations, renewed great power tensions and growth in proxy warfare.⁶¹ With the United States taking an “America First” approach even with longstanding close allies, with China an increasingly malign influence globally, and Russia continuing to prioritize the “rebuilding of its military and funding for its military operations abroad,”⁶² and with the COVID-19 pandemic increasing global impact, the international security environment has deteriorated further. The impact of a previously enduring consensus among Western nations falling apart is exacerbated by no clear way forward, such as during the end of the Cold War. Historically, national planning for future conflicts has focused too much on doctrine and the latest technology. In a world thrown into a tailspin by the COVID-19 pandemic, increasingly indebted Western governments need to reframe their world view in a Hobbesian world. The pandemic has significantly impacted our close allies economically, such as the United States, United Kingdom and France. China is increasing its use of disinformation and propaganda to push a revisionist narrative of the COVID-19 pandemic.⁶³ Similarly, Russia has used disinformation through social media to “drive wedges”⁶⁴ between North Atlantic Treaty Organization (NATO) allies. Yet, COVID-19 funding pressures in our NATO allies may act as a “forcing function for NATO evolution”⁶⁵ in a manner that was not previously possible.

The past two months have been a steep learning curve for Canada and our Western allies, with the COVID-19 pandemic requiring extraordinary changes to our lifestyles and sharply reducing our close interactions with others. This pandemic has created a public health emergency, as well as an economic crisis of significant magnitude.⁶⁶ Unfortunately, some countries have used this pandemic to strengthen state authority and to reinforce nationalism. The danger is that governments of all types will adopt emergency measures to manage the crisis, and “many will be loath to relinquish these new powers”⁶⁷ once the pandemic is over. The primary challenge for our allies is to maintain our trade links and to withstand the impulse to turn inward, and lose the benefits of trading with like-minded allies. In this century, “technologies are global not just in their distribution, but also in their consequences.”⁶⁸ Yet, like computer viruses, pathogens can become as much of a problem to the recipient as to the country of origin.

⁶¹ Bruce Jones, Charles T. Call, Daniel Toubolets and Jason Fritz, “Managing the New Threat Landscape: Adapting the Tools of International Peace and Security,” Brookings Institute, 2018: 1-2. https://www.brookings.edu/wp-content/uploads/2018/09/FP_20180919_prevention_agenda1.pdf

⁶² Dakota L. Wood, ed., 2020 Index of U.S. Military Strength, The Heritage Foundation, 201. https://www.heritage.org/sites/default/files/2019-11/2020_IndexOfUSMilitaryStrength_WEB.pdf

⁶³ Vanessa Molter, Renee DiResta and Alex Stamos, “As Chinese Propaganda on COVID-19 Grows, U.S. Social Media Must Act,” *Washington Post*, April 27, 2020. <https://www.washingtonpost.com/opinions/2020/04/27/chinese-propaganda-covid-19-grows-us-social-media-must-act/>

⁶⁴ David J. Bercuson, “COVID-19 is Bringing out the Deceptive Worst in Russia, China and Iran,” *National Post*, April 1, 2020. <https://nationalpost.com/opinion/david-j-bercuson-covid-19-is-bringing-out-the-deceptive-worst-in-russia-china-and-iran>

⁶⁵ Nikolas K. Gvosdev, “The Effect of COVID-19 on the NATO Alliance,” Foreign Policy Research Institute, March 2020. <https://www.fpri.org/article/2020/03/the-effect-of-covid-19-on-the-nato-alliance/>

⁶⁶ Ian Peach, “Briefing: COVID-19 and the Challenge of Intergovernmental Coordination in Responding to a Crisis,” McGill University Max Bell School of Public Policy, 2020. <https://www.mcgill.ca/maxbellschool/article/articles-policy-challenges-during-pandemic/covid-19-and-challenge-intergovernmental-coordination-responding-crisis>

⁶⁷ Stephan. F. Walt, “A World Less Open, Prosperous, and Free,” *Foreign Policy*, March 20, 2020. <https://foreignpolicy.com/2020/03/20/world-order-after-coronavirus-pandemic/>

⁶⁸ Richard Danzig, “Technology Roulette: Managing Loss of Control as Many Militaries Pursue Technological Superiority,” Center for a New American Security, 2018: 2. <https://s3.amazonaws.com/files.cnas.org/documents/CNASReport-Technology-Roulette-DoSproof2v2.pdf?mtime=20180628072101>



Conclusion

“The reason that the future is difficult to predict is that it depends on choices that have yet to be made, including by our governments, in circumstances that remain uncertain.”⁶⁹

Using a baseball analogy, a wit once said that Canada was born on third base and that we think we got a triple base hit. At times, Canadians can be too comfortable and too complacent. Once the COVID-19 pandemic subsides either through a vaccine or by other measures, Canadian industry will need to shift early into a different paradigm. This change process is intellectual and psychological. The lack of manufacturing in Canada and the country’s reliance on foreign sources for personal protective equipment, ventilators and other gear was apparent in the global bidding for this equipment. Can Canadians afford to be placed in a similar situation again? Both the federal government and industry need to collaborate on this issue.

The federal government and provinces will need to think about how we can prepare better for viral outbreaks or pandemics in Canada. As a start, the federal government needs to examine current weaknesses in fighting the COVID-19 pandemic in Canada, as well as what Canadians did well. In a 2019 report, the World Bank noted a significant death count and social disruption caused by pandemics, and added that “the financial and economic damages are also devastating.”⁷⁰ This has now occurred. In addition, governments need to invest in research on how Canada and the countries that we work closely with can do better. The near-term environment will require senior management in the public and private sectors to use different sets of competencies, to face the changes coming in markets and national economies.

How the rest of the year unfolds will largely depend on epidemiology, not on economics. Government plans need to include “greater and more targeted engagement of the private sector,”⁷¹ as a partner in pandemic preparedness. We have already seen the innovative, outstanding and dedicated work Canadian companies have done in a short time. Now is the time to leverage the work done and support the development of these companies to compete globally and ensure domestic sales for their products.

The COVID-19 pandemic has been an exceptional shared experience among citizens of countries throughout the world. Finally, as this global pandemic has unfolded and changed our lives, dedicated journalists, politicians, and leaders from different professions and backgrounds have tried to help us make sense of what is happening. This was perhaps best articulated by an empathetic religious leader in Vancouver who said that while largely living in isolation, it underscores to Canadians “that we really are in this together. The frustrations we experience in isolation, employment lost, finances in question, life-celebrations cancelled, grief felt when a beloved dies and you can’t even be at bedside or mourn in community – all of this is shared in some capacity around the world and in a strange way, while kept apart, we’re brought together in a common human experience.”⁷²

⁶⁹ Lawrence Freedman, *The Future of War: A History* (New York: Hachette Book Group, 2017), xviii.

⁷⁰ World Bank, “Pandemic Preparedness Financing: Status Update,” 2019: viii. https://apps.who.int/gpmb/assets/thematic_papers/tr-4.pdf

⁷¹ World Health Organization, “Thematic Paper on the Status of Country Preparedness Capacities,” World Bank, 2019: 5. https://apps.who.int/gpmb/assets/thematic_papers/tr-2.pdf

⁷² Dan Chambers, Stawlight, St. Andrews Wesley Church, Vancouver, April 8, 2020.



► About the Author

Ross Fetterly retired in 2017 from the Canadian Forces after a 34-year career as the Royal Canadian Air Force's director of air comptrollership and business management. He previously served as the military personnel command comptroller, and in other senior positions with the Department of National Defence Assistant Deputy Minister (Finance).

Retired Col. Fetterly completed a tour in February 2009 as the chief CJ8 at the NATO base headquarters at Kandahar airfield, Afghanistan, where he was responsible for finance, contracting and procurement. While deployed he wrote a paper entitled *Methodology for Estimating the Fiscal Impact of the Costs Incurred by the Government of Canada in Support of the Mission in Afghanistan* with staff from the Parliamentary Budget Office. Col. Fetterly was employed as the deputy commanding officer of the Canadian contingent in the United Nations Disengagement Observer Force in the Golan Heights during the second intifada in 2000-2001. He has served as an air force squadron logistics officer and as a finance officer at military bases across Canada.

An adjunct professor at the Royal Military College of Canada (RMC) department of management and economics, and a Senior Fellow with the Centre for Security Governance, Dr. Fetterly has a B.Comm (McGill), M.Admin (University of Regina) and an MA and PhD in war studies from RMC. His PhD fields of study included defence economics, defence policy and defence cost analysis. His primary research focus is defence resource management. Dr. Fetterly also teaches courses in financial decision-making, defence resource management and government procurement at RMC. Through his company, Ross Fetterly Consulting Inc., he has taught a defence resource management course and a business planning course internationally for the Department of National Defence to senior military officers and defence executives in developing countries.

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The Institute was created to bridge the gap between what Canadians need to know about Canadian international activities and what they do know. Historically Canadians have tended to look abroad out of a search for markets because Canada depends heavily on foreign trade. In the modern post-Cold War world, however, global security and stability have become the bedrocks of global commerce and the free movement of people, goods and ideas across international boundaries. Canada has striven to open the world since the 1930s and was a driving factor behind the adoption of the main structures which underpin globalization such as the International Monetary Fund, the World Bank, the World Trade Organization and emerging free trade networks connecting dozens of international economies. The Canadian Global Affairs Institute recognizes Canada's contribution to a globalized world and aims to inform Canadians about Canada's role in that process and the connection between globalization and security.

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