

The relevance of the LEADS framework during the COVID-19 pandemic

Graham Stewart Dickson, PhD¹ ; Deanne Taylor, MDCS, PhD²; Elizabeth Hartney, PhD³; Bill Tholl, O.C., MA⁴; Kelly Grimes, MA⁴; Ming-Ka Chan, MD, MHPE, FRCPC⁵ ; John Van Aerde, MD, PhD⁶ ; Tanya Horsley, PhD⁷; and Ellen Melis, PhD⁸

Healthcare Management Forum
2021, Vol. 34(6) 326–331
© 2021 The Canadian College of
Health Leaders. All rights reserved.



Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/08404704211033002
journals.sagepub.com/home/hmf



Abstract

COVID-19 has created a unique context for the practice of leadership in healthcare. Given the significant use of the LEADS in a Caring Environment capabilities framework (LEADS) in Canada's health system, it is important to document the relevancy of LEADS. The authors reviewed literature, conducted research, and reflected on their own experience to identify leadership practices during the pandemic and related them to LEADS. Findings are presented in three sections: Hindsight (before), Insight (during), and Foresight (post). We profile the issue of improving long-term care to provide an example of how LEADS can be applied in crisis times. Our analysis suggests that while LEADS appears to specify the leadership capabilities needed, it requires adaptation to context. The vision Canada has for healthcare will dictate how LEADS will be used as a guide to leadership practice in the current context or to shape a bolder vision of healthcare's future.

Introduction

The COVID-19 pandemic created a unique context for the practice of leadership in the health sector. Prior to COVID-19, the LEADS in a Caring Environment capabilities framework (LEADS) was used extensively in Canada to guide to practice health leadership for maximum impact.¹⁻³ But how can LEADS, designed in non-crisis times, guide leadership through the complex challenges the COVID-19 pandemic created—and beyond?

Drawing on a recent study⁴ and literature (note 1), this article will outline three perspectives: (1) *Hindsight*: what LEADS was intended to do and has done; (2) *Insight*: observing and exploring leadership practice during the pandemic and relating them to LEADS; and (3) *Foresight*: suggesting future leadership perspectives and practices that are important for health leaders to consider moving out of the pandemic—and their relation to LEADS. Throughout we apply the pandemic leadership lessons in the context of Long-Term Care (LTC) experience in Canada through the lens of LEADS.

Healthcare has been characterized as a complex adaptive system^{2,5} and requires leaders to use best practices (simple context), good practices (complicated contexts), emergent practices (complex contexts), and more rarely, novel practices (chaotic contexts), as appropriate.^{6,7} Exploring how a framework informs how leadership practices in such rare contexts enriches our broader understanding of health leadership.

Hindsight

The LEADS framework was developed by practicing leaders^{8,9} and has a strong research base including three validating studies,¹⁰⁻¹² numerous articles,¹³⁻²¹ and two books.^{2,22} It was

developed to describe the leadership capabilities needed to respond to major change, characterized by a shift from a provider- to a patient-centred care model, regionalization of services, technological advances, demographic shifts, burgeoning chronic disease, increased use of social media, and ever-growing public and consumer expectations.¹⁰

LEADS consists of five domains and 20 capabilities (see Table 1). It assists healthcare leaders to effectively lead in personal, interpersonal, operational, and strategic contexts (self to system).² The framework articulates “what” constitutes good leadership for all situations (ie, common vocabulary), but leaves the “how” it is applied to be adapted to context and situation. It has been adopted widely across Canada.¹

¹ Royal Roads University, Canadian Health Leadership Network, Vancouver, British Columbia, Canada.

² Interior Health Authority, Kelowna, British Columbia, Canada.

³ Royal Roads University, Victoria, British Columbia, Canada.

⁴ Canadian Health Leadership Network, Ottawa, Ontario, Canada.

⁵ University of Manitoba Faculty of Health Sciences, Winnipeg, Manitoba, Canada.

⁶ Canadian Society of Physician Leaders, Ottawa, Ontario, Canada.

⁷ Royal College of Physicians and Surgeons of Canada, Ottawa, Ontario, Canada.

⁸ Unlimited Potentialities, Canadian Health Leadership Network, Mumbai, Maharashtra, India.

Corresponding author:

Graham Stewart Dickson, Royal Roads University, Canadian Health Leadership Network, Vancouver, British Columbia, Canada.

E-mail: gdickson@royalroads.ca

Table 1. The LEADS in a Caring Environment capabilities framework**Lead Self (LS):** Self-motivated leaders . . .*Are self-aware*

- Aware of their assumptions, values, principles, strengths, and limitations

Manage themselves

- They take responsibility for their own performance and health

Develop themselves

- They actively seek opportunities and challenges for personal learning, character building, and growth

Demonstrate character

- They model qualities such as honesty, integrity, resilience, and confidence

Engage Others (EO): Engaging leaders . . .*Foster development of others*

- They support and challenge others to achieve professional and personal goals

Contribute to the creation of healthy organizations

- They create engaging environments where others have meaningful opportunities to contribute and ensure that resources are available to fulfill their expected responsibilities

Communicate effectively

- They listen well and encourage open exchange of information and ideas using appropriate communication media

Build teams

- They facilitate environments of collaboration and co-operation to achieve results

Achieve Results (AR): Goal-oriented leaders . . .*Set direction*

- They inspire vision by identifying, establishing, and communicating clear and meaningful expectations and outcomes

Strategically align decisions with vision, values, and evidence

- They integrate organizational missions, values, and reliable valid evidence to make decisions

Take action to implement decisions

- They act in a manner consistent with the organizational values to yield effective, efficient public-centred service

Assess and evaluate

- They measure and evaluate outcomes, compare the results against established benchmarks, and correct the course as appropriate

Develop Coalitions (DC): Collaborative leaders . . .*Purposefully build partnerships and networks to create results*

- They create connections, trust, and shared meaning with individuals and groups

Demonstrate a commitment to customers and service

- They facilitate collaboration, cooperation, and coalitions among diverse groups and perspectives aimed at learning to improve service

Mobilize knowledge

- They employ methods to gather intelligence, encourage open exchange of information, and use quality evidence to influence action across the system

Navigate socio-political environments

- They are politically astute. They negotiate through conflict and mobilize support

(continued)

Table 1. (continued)**Systems Transformation (ST):** Successful leaders . . .*Demonstrate systems/critical thinking*

- They think analytically and conceptually, questioning and challenging the status quo, to identify issues, solve problems, and design and implement effective processes across systems and stakeholders

Encourage and support innovation

- They create a climate of continuous improvement and creativity aimed at systemic change

Orient themselves strategically to the future

- They scan the environment for ideas, best practices, and emerging trends that will shape the system

Champion and orchestrate change

- They actively contribute to change processes that improve health service delivery

Hindsight: LTC

COVID-19 struck those living in LTC facilities first. Over 80% of the deaths due to COVID-19 during the first two waves were among those over the age of 65. The LTC system was already under pressure.^{23,24} We could and should have seen this coming, says André Picard when he refers to the “horror show” of COVID-19: “It took the coronavirus pandemic to open our eyes to the deplorable state of so many of the nation’s long-term care homes: the inhumane conditions, overworked and underpaid staff, and lack of oversight.”²⁵ LTC staffing is influenced by system issues and policies,²⁶ and reports have identified a system that is underfunded, under tremendous pressure to meet demand, functioning within a lack of transparency and unpredictable funding, and has out-of-date infrastructure.

Leadership factors at the system (design, funding, evaluation), organization (interpretation of standards, staffing, presence of lack of organizational learning systems), and interpersonal (degree of empowerment and autonomy of personal support workers)²⁷ levels often made a difference to the care in LTC²⁸ and the rates of COVID spread.²⁹

Insight

A crisis is “an unstable or crucial time or state of affairs in which a decisive change is impending.”³⁰ The pandemic has become a chronic crisis. Geerts (2020) argues that crises have four stages: preparation (before a crisis); the peak; the wake after the peak; and following a crisis.³¹ Yet it is clear that “the peak” of COVID-19 is ongoing and becomes a perpetual peak. In our view, traditional views of leadership in times of crisis need to be adapted to this unique and challenging context, transforming the long-standing norms of healthcare.^{20,32,33}

“The virus has no mercy: it exposes all our weaknesses, both individually and societally.”³⁴ These include clinician burn out,³⁵ glaring deficiencies in pandemic preparedness,³⁶ Canada’s extended care standards,³⁷ mental health delivery systems,³⁸ and inclusion and diversity, including racism.^{27,39,40} It highlights the dangers of misinformation⁴¹

and supply chain inefficiencies.⁴² Conversely, virtual care⁴³ and receptivity to innovation⁴⁴ have accelerated, technology has effectively integrated the workplace with home⁴⁵ and delivered impactful learning.⁴⁶ The imperative of engaging patients, families, and the public⁴⁷ in overcoming “wicked problems”⁴⁸ has been recognized.

In this context, *leadership matters*.⁴⁹ How can LEADS guide the increasingly chaotic and complex leadership contexts that the COVID-19 pandemic has presented?⁵⁰ A recent CHLNet study—*Leading Through COVID*—provides some insight. One senior leader shared: “I was fortunate enough: . . . I’ve got enough resilience; I wasn’t anxious. I was applying all the stuff that . . . LEADS has taught me . . . in the many years that I’ve used it . . . and those capabilities gave me the tools and the confidence to just deal with the situation.”⁵¹ (note 2).

The pandemic has revealed the necessity of caring and compassion for patients, citizens, and staff, reinforcing the “Caring” ethos of the framework. The *Lead Self* domain, focusing on self-awareness and self-management, helps us to deal with heightened emotions in self and others; emphasizes the importance of being aware of biases when promoting equity, diversity, and inclusion; and reinforces the importance of making decisions according to what benefits the community collectively.

The *Engage Others* domain of LEADS emphasizes the need to advocate for personal protective equipment; to address diversity and inclusion issues, and to support self, clinicians, and staff through their own mental challenges; that is, providing the compassion needed to care for COVID-19 patients; coping with unrelenting workloads and stresses on family life; and dealing with feelings of moral distress, fear, loss, and grief. The need for increased visibility and frequent, honest, and supportive communication—deep listening—surfaced.

Achieve Results outline the early need for fast decision-making and the rational operational steps to make efficient supply chains, implement vaccination rollouts; and deal with therapeutic and diagnostic backlogs. *Develop Coalitions* relate directly to the challenge of building cohesive and meaningful relationships between federal and provincial governments, between Indigenous communities and health authorities, and between LTC and other components of the health system. The capability of *Mobilize Knowledge* is also highlighted, to ensure public information is timely and accurate; and that misinformation is promptly corrected. The *Encourage and Support innovation* capability of *Systems Transformation* has also been highlighted.

Demonstrate Systems and Critical Thinking (Systems Transformation) surfaced as an important leadership capability. It includes recognition of when the need for solutions shifts from a chaotic context, with fast decision-making to institute system-wide interventions that bring some order to the chaos (ie, wash your hands, stay home if sick, keep physical distancing) to a complex context, and the ability to

surface differing perspectives and a comfort with uncertainty (ie, including a broader circle of stakeholders).^{7,52}

Insight: LTC

The most recent and perhaps profound insights into the LTC leadership challenges come from the April 30, 2021, Final Report of the Ontario Long Term Care COVID-19 Commission.³⁷ The report highlights that “strong leadership proved critical in the face of unprecedented challenges,” emphasizes that “leadership does not operate in a vacuum,” and that “quality care depends on effective leadership and accountability.”

Seven characteristics of effective leadership are identified in the report. There is strong alignment with LEADS across all five domains (LS, EO, AR, DC, and ST are acronyms for the LEADS domains; Table 1). Specifically, effective leaders:

1. Create a sense of urgency (ST, Champion and Orchestrate change)
2. Act decisively (AR, Take Action to Implement Decisions)
3. Effectively direct, mobilize, and support staff (AR, Set Direction; EO, Build Teams)
4. Develop and implement creative solutions (AR, Strategically Align Decisions with Vision, Values, and Evidence; ST, Encourage and Support Innovation)
5. Leverage relationships (EO; DC)
6. Demonstrate emotional intelligence and empathy (LS Is Self-Aware, Manages Self; EO Foster Development of Others)
7. Hold self-accountable (LS Demonstrate Character)

The key insights and findings of this Commission clearly reinforce the importance of effective leadership through the COVID crisis and the relevance of LEADS as a useful model for assessing effective leadership and as a model for change needed to address the failings in LTC.

Foresight

Foresight is “an act of looking forward”—implicit in the LEADS capabilities of *Set Direction (AR)* and *Orient Oneself Strategically to the Future (ST)*. COVID-19 is a catalyst for change. What is its “legacy of leadership” for the Canadian health system?^{4,53,54}

We see four primary challenges for healthcare leaders going forward: (1) sustaining affordable, *integrated* health delivery systems; (2) health workforce wellness; (3) envisioning and influencing what the future system will be; and (4) resisting the urge to revert to a version of pre-pandemic normalcy. To address these challenges, future leaders will confront pre-conceived notions of organizational structure, culture, and political dynamics, and their role in causing the deficiencies outlined earlier. Accordingly, effective leaders embrace four overarching principles implicit in the LEADS framework.

The first is to recognize that a heightened *caring ethos* (“Be kind, be calm, be safe”)⁵⁵ is necessary for the leadership

actions we take to truly build health workforce wellness and achieve results for the population. Will our leaders be able to provide the required caring and compassion⁵⁶ needed to meet the demands of the ongoing current and post-pandemic phases and create genuinely inclusive systems?

A second overarching principle is to realize the relationship between personal responsibility and accountability for achieving integrated care.⁵⁷ During COVID-19, the standards we count on to guide system performance—accreditation standards,²⁷ psychological health in the workplace,⁵⁸ and LEADS itself—did not guarantee the qualities they represent. Leaders must deliberately surface the paradox inherent in the responsibility—accountability relationship: that is, the need to articulate standards to guide practice to meet the needs of the patients and the public on one hand, and the need to be responsible for adhering to those standards when they challenge current practice. We must ask ourselves: Do we believe in our standards, or are they just pro forma statements to satisfy ourselves, politicians, and public?

The third overarching principle is to take a systems⁵⁹ view to redesign and change, reflected most obviously in the domain of *Systems Transformation*. COVID-19 showed us the fragility of artificial boundaries, of sectarianism, of our natural tendencies to see a crisis from a discipline-centric view, as if we could put a wall up between our borders to keep the virus out, and as if parts were independent of the whole. A holistic, learning systems⁶⁰ view challenges that. Leaders need to ask which old, and new, and maybe even not-yet discovered relationships must be built to give voice to perspectives that would otherwise not have been heard during the pandemic and beyond. They need to ground those relationships on trust (*EO* and *DC*). They also need to know how to identify and remove barriers to inefficiency and ineffectiveness (*AR*). Systems thinking also supports the notion that the system we have is the one we are complicit in. The questions for leaders to consider are how they contribute from a systems perspective (*ST*) as well as a personal perspective (*LS*) to the current system and what needs to shift for them to imagine new systems.²

A fourth principle is to resist the pressure to “snap back” to the pre-pandemic state. There are many aspects of “normal times” that exert strain on us to revisit past practice rather than persevere with perspectives and practices gained during COVID. Of prime concern is to continue the battle to overcome the health inequities that have surfaced and the importance of continuing to address the systemic patterns of discrimination that were inherent in the pre-COVID world. If we do not resist the subtle drag back to the status quo, leaders will be unable to truly embrace substantive change. Leaders must find ways to *Orient Themselves Strategically to the Future (ST)* if the leadership legacy of COVID-19 is to be realized.

Foresight: LTC


Better learning from the past (hindsight and insight: as reflected in the “learning systems” guidance from the Systems Transformation


domain of LEADS: foresight) can help inform next steps to never again leave Canada’s most vulnerable elderly exposed to the next pandemic. Leadership is required by governments, the public health community, primary and acute health organizations, standard setting bodies (such as Accreditation Canada), and those operating LTC homes. All health leaders must have a deep personal commitment to this change (*LS*); engage Personal Care Workers in that change in a psychologically safe way (*EO*); improve operational practices—planning and adherence to effective and up to date LTC standards—within LTC homes (*AR*). They also need to build the coalitions necessary at the health system level by building stronger relationships with other health partners, unions representing support staff, improved communication with families and loved ones (*DC*), commensurate with person-centred care models driving healthcare transformation (*ST*).


Conclusion

In answer to our question—*how is LEADS relevant in a crisis context*—our analysis suggests that while LEADS appears to specify the leadership capabilities needed, it does so by adopting practices and behaviours to respond to the contextual demands of leadership. Most pre-pandemic LEADS practices were shaped by the existing context. In that context, the capability of *Orients themselves strategically to the future (ST)* suggests small reforms. But a reformed current system is only one future. Should we continue to lead self, engage others, adjust processes to achieve results, and build coalitions, solely within the current context of health service delivery? Our dialogue suggests not. Should we not be envisaging other futures? Transformative futures, Post COVID-19? In those futures, LEADS-based leadership must challenge that existing context. A bolder approach, but still based on relationships, results, and instigating change—self to system as LEADS represents—will be required to create the health system of the future. We invite an ongoing dialogue about what those futures are, and how to operationalize LEADS to create them—together.

ORCID iDs

Graham Stewart Dickson  <https://orcid.org/0000-0003-3677-545X>

Ming-Ka Chan  <https://orcid.org/0000-0003-2989-7766>

John Van Aerde  <https://orcid.org/0000-0001-7697-0722>

Notes

1. The Canadian Health Leadership Network has been reviewing the literature in healthcare leadership as a regular part of their agenda. They publish select precis of relevant leadership articles in their Top Ten—ten leadership articles drawn from the literature—twice a year; during COVID times, 3 times bi-monthly. Available at <https://chl.net.ca/top-ten-reading-lists>. Other literature pertinent to the topic of this paper is also included.
2. The CHLNet study used an action research methodology employing grounded theory approaches to data gathering and analysis.

References

1. Canadian College of Health Leaders. LEADS Across Canada. Available at: LEADS Framework | LEADS Collaborative—Accross Canada. 2021. (leadscanada.net)
2. Dickson G, Tholl B. *Bringing Leadership to Life in Health: LEADS in a Caring Environment: Putting LEADS to Work*. Springer Nature; 2020.
3. CHLNet. Benchmarking health leadership in Canada 2020: report of the CHLNet steering group. Draft Report; 2020. Accessed on Jun 19, 2021. Available at: <https://chlnet.ca/wp-content/uploads/CHLNetBench2-1-3-25.pdf>
4. Canadian Health Leadership Network. Executive summary: CHLNet leading through the covid-19 crisis action research project phase 1. Accessed on June 15, 2021. Available at: <https://chlnet.ca/wp-content/uploads/CHLNetLeadingThruCOVIDPhase1ExecSumm-1.pdf>
5. Sturmberg JP, O'Halloran DM, Martin CM. Understanding health system reform—a complex adaptive systems perspective. *J Eval Clin Pract*. 2012;18(1):202-208. doi:10.1111/j.1365-2753.2011.01792.x
6. Van Aerde J. Leadership agility in chaotic systems. *Can J Physician Leadership*. 2020;6(4):140-143.
7. Snowden DF, Boone ME. A leader's framework for decision making. *Harv Bus Rev*. 2007;85(11):68-76.
8. Dickson G. *Genesis of the Leaders for Life Framework*. Leaders for Life; 2008.
9. Canadian Health Services Research Foundation. The pan-Canadian health leadership capability framework project: a collaborative research initiative to develop a leadership capability framework for healthcare in Canada. *Final Report*; 2007. Available at: Read—The Pan-Canadian Health Leadership Capability Framework Project: A collaborative research initiative to develop a leadership capability framework for healthcare in Canada: Dickson, Graham, Briscoe, Don, Fenwick, Shauna - desLibris.
10. Dickson G, Tholl B, Baker GR, et al. *Partnerships for Health System Improvement, Leadership and Health System Redesign: Cross-Case Analysis*. Royal Roads University, Canadian Health Leadership Network, Canadian Institutes of Health Research, Michael Smith Foundation for Health Research; 2014. Updated June 5, 2021. Accessed August 22, 2019. Available at: <http://tinyurl.com/qh6ogzu>
11. Vilches S, Fenwick S, Harris B, Lammi B, Racette R. *Changing Health Organizations with the LEADS Leadership Framework: Report of the 2014-2016 LEADS Impact Study*. Fenwick Leadership Explorations, the Canadian College of Health Leaders, & the Centre for Health Leadership and Research, Royal Roads University; 2016. Accessed June 18, 2019. Available at: https://leadscanada.net/document/1788/LEADS_Impact_Report_2017_FINAL.pdf
12. Cikaluk M. *Pre-Phase Preliminary Intelligence Gathering Report: LEADS in a Caring Environment Capabilities Framework*. [unpublished research report]. Canadian Health Leadership Network and the Canadian College of Health Leaders; 2017.
13. Cromack M. A journey of leadership from bedside nurse to chief executive officer. *Nurs Adm Q*. 2012;36(1):29-34.
14. Dickson G. The LEADS in a caring environment leadership capability framework: building leadership capacity in Canada to lead systems transformation in health. Accessed September. 2010;12:2017.
15. Marchildon GP, Fletcher AJ. Prioritizing health leadership capabilities in Canada: testing LEADS in a caring environment. *Health Manage Forum*. 2016;29(1):19-22. SAGE Publications.
16. Levitt D. Ethical decision-making in a caring environment: the four principles and LEADS. *Health Manage Forum*. 2014;27(2):105-107. SAGE Publications.
17. Dickson G. *Mapping the National Standard for Psychological Health and Safety in the Workplace to the LEADS in a Caring Environment Capabilities Framework* [unpublished commissioned report]. Mental Health Commission of Canada; 2018:11.
18. Matlow A, Chan MK, Bohnen JD, et al. *Collaborating Internationally on Physician Leadership Education: First Steps*. Leadership in Health Services; 2016.
19. Comber S, Wilson L, Crawford KC. *Developing Canadian Physician: The Quest for Leadership Effectiveness*. Leadership in Health Services; 2016.
20. Van Aerde J. Panarchy, the collapse of the Canadian health care system, and physician leadership. *Can J Physician Leadership*. 2016;2(4):103-9.
21. Votova K, Laberge AM, Grimshaw JM, Wilson B. Implementation science as a leadership capability to improve patient outcomes and value in healthcare. *Health Manage Forum*. 2019;32(6):307-312. SAGE Publications.
22. Dickson G, Tholl B. *Bringing Leadership to Life in Health: LEADS in a Caring Environment*. Springer; 2014.
23. Armstrong P, Braedley S. *Troubling Care: Critical Perspectives on Research and Practices*. Canadian Scholars' Press; 2013.
24. Munro D, Downie M, Stonebridge C. *Elements of an Effective Innovation Strategy for Long Term Care in Ontario*. Conference Board of Canada; 2011.
25. Picard A. *Neglected No More: The Urgent Need to Improve the Lives of Canada's Elders in the Wake of a Pandemic*. Penguin; 2021.
26. Duan Y, Iaconi A, Song Y, et al. Care aides working multiple jobs: considerations for staffing policies in long-term care homes during and after the COVID-19 pandemic. *J Am Med Dir Assoc*. 2020;21(10):1390-1391.
27. Melis EH. Understanding the context and social processes that shape person-and family-centered culture in long-term care: the pivotal role of personal support workers (Doctoral dissertation, Antioch University) 2020.
28. Armstrong P, Armstrong H, Choiniere J, Lowndes R, Struthers J. *Re-Imagining Long-Term Residential Care in the COVID-19 Crisis*. Canadian Centre for Policy Alternatives; 2020.
29. Liu M, Maxwell CJ, Armstrong P, et al. COVID-19 in long-term care homes in Ontario and British Columbia. *CMAJ*. 2021;193(7):E1540-E1546.

30. Crisis. Definition of crisis by Merriam-webster. Accessed on June 7, 2021. Available at: <https://www.merriam-webster.com/dictionary/crisis>
31. Geerts J. Leadership lessons and hope for a post-crisis world. Blog: BMJ Leader. 2020. Accessed at: Leadership Lessons and Hope for a Post-Crisis World By Jaason Geerts – The official blog of BMJ Leader. Accessed on June 17, 2021. Available at: <https://blogs.bmj.com/bmjleader/2020/04/30/leadership-lessons-and-hope-for-a-post-crisis-world-by-jaason-geerts/>
32. Berwick DM. Choices for the new normal. *JAMA*. 2020;323(21):2125-2126.
33. Leixnering S, Höllerer M. Remaining the same or becoming another? adaptive resilience versus transformative urban change. *Urban Stud*. 2021:0042098021998923.
34. Joanne L. Podcast Canadian society of physician leaders. Available at: Canadian Society of Physician LeadersCSPL Leading the Way Podcasts 2020.
35. Weiner K. Clinician burnout is only getting worse. here's how to tackle the problem. *NEJM Catalyst Innov Care Deliv*. 2021;2(2).
36. Timmis K, Brüßow H. The COVID-19 pandemic: some lessons learned about crisis preparedness and management, and the need for international benchmarking to reduce deficits. *Environ Microbiol*. 2020;22(6):1986-1996.
37. Marrocco FN, Coke A, Kitts J. Ontario's long-term care COVID-19 commission. 2021. Accessed on June 27, 2021. Available at: <http://www.ltccommission-commissionsld.ca/>
38. Jenkins EK, McAuliffe C, Hirani S, et al. A portrait of the early and differential mental health impacts of the COVID-19 pandemic in Canada: findings from the first wave of a nationally representative cross-sectional survey. *Prev Med*. 2021;145:106333.
39. Branicki LJ. COVID-19, ethics of care and feminist crisis management. *Gend Work Organ*. 2020;27(5):872-883.
40. Li Y, Galea S. Racism and the COVID-19 epidemic: recommendations for healthcare workers. *Am J Public Health*. 2020;110(7):956-957.
41. Baines D, Elliott RJ. Defining misinformation, disinformation and malinformation: an urgent need for clarity during the COVID-19 infodemic. Discussion Papers. April 21, 2020:20.
42. Snowdon AW, Forest PG. Flying blind: Canada's supply chain infrastructure and the COVID-19 pandemic. *Healthc Q*. 2021;23(4):12-16.
43. Wosik J, Fudim M, Cameron B, et al. Telehealth transformation: COVID-19 and the rise of virtual care. *J Am Med Inform Assoc*. 2020;27(6):957-962.
44. Woolliscroft JO. Innovation in response to the COVID-19 pandemic crisis. *Acad Med*. 2020;95(8):1140-1142.
45. Bolisani E, Scarso E, Ipsen C, Kirchner K, Hansen JP. Working from home during COVID-19 pandemic: lessons learned and issues. *Manag Market Challenges Knowl Soc*. 2020;15(s1):458-476.
46. Schmaltz K. CHLNet white paper. Available at: The Changing Landscape of Leadership Development: Integrating e-Learning Wise Practices into Canadian Healthcare Leadership Development Programming. 2021.
47. Michener L, Aguilar-Gaxiola S, Alberti PM, et al. Peer reviewed: engaging with communities—lessons (re) learned from COVID-19. *Prevent Chronic Dis*. 2020;17:E65.
48. Dobbs D, Zimmerman S. Lessons learned in research to address wicked problems facing the care of older adults across the care continuum. *Innov Aging*. 2020;4(supplement_1):699.
49. Bartsch S, Weber E, Büttgen M, Huber A. Leadership matters in crisis-induced digital transformation: how to lead service employees effectively during the COVID-19 pandemic. *J Serv Manag*. 2020;32(1).
50. Barile S, Saviano M. Complexity and sustainability in management: insights from a systems perspective. In: *Social Dynamics in a Systems Perspective*. 2018:39-63. Springer, Cham.
51. Hartney E, Melis E, Taylor D, Dickson G, Tholl B, Chan M-K, Horsley T. Leading through the first wave of COVID: a Canadian action research study. Submitted for publication: Leadership in Health Services. 2021. Pending.
52. Van Beurden EK, Kia AM, Zask A, Dietrich U, Rose L. Making sense in a complex landscape: how the cynefin framework from complex adaptive systems theory can inform health promotion practice. *Health Promot Int*. 2013;28(1):73-83.
53. Turner S, Botero-Tovar N, Herrera MA, et al. Systematic review of experiences and perceptions of key actors and organisations at multiple levels within health systems internationally in responding to COVID-19. *Implement Sci*. 2021;16(1):1-3.
54. Geerts J. Imagining health leadership after the pandemic. Hospital News. 2021. Available at: Imagining health leadership after the pandemic—Hospital News.
55. Henry B, Henry L. *Be Calm, Be Kind, Be Safe: Four Weeks That Shaped a Pandemic*. Penguin; 2021.
56. Hodges BD, Paech G, Bennett J. *Without Compassion, There is No Healthcare: Leading with Care in a Technological Age*. McGill-Queen's University Press; 2020.
57. Koestenbaum P. Freedom and accountability at work applying philosophic insight to the real world 2001.
58. Canadian Standards Association (CSA) in Association With the Mental Health Commission of Canada. *Psychological Health and Safety in the Workplace—Prevention, Promotion, and Guidance to Staged Implementation*. Canadian Standards Association (CSA) in Association with the Mental Health Commission of Canada; 2013. Accessed on June 25, 2021. Available at: https://www.csagroup.org/documents/codes-and-standards/publications/CAN_CSA-Z1003-13_BNQ_9700-803_2013_EN.pdf
59. Kania J, Kramer M, Senge P. *The Water of Systems Change*. FSG; 2018. Accessed on June 21, 2021. Available at: <https://efc.issuelab.org/resource/the-water-of-systems-change.html>
60. Agency for Health care Research and Quality. *Learning Health Systems*. Agency for Health care Research and Quality; 2019. Accessed on June 25, 2021. Available at: <https://www.ahrq.gov/learning-health-systems/index.html>