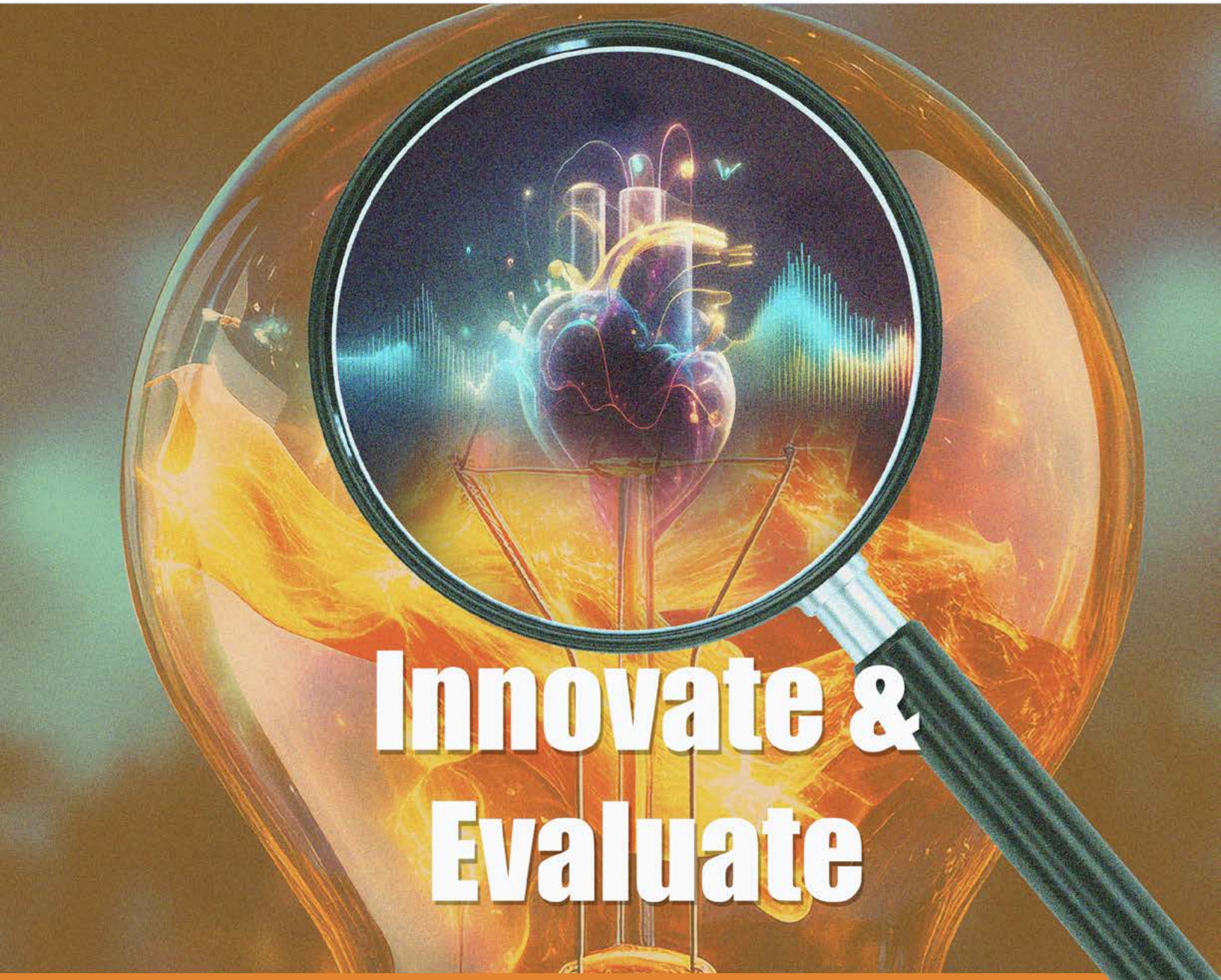
CANADIAN JOURNAL OF

Volume 9 Number 3
Winter 2023

Physician Leadership

THE OFFICIAL JOURNAL OF THE CANADIAN SOCIETY OF PHYSICIAN LEADERS



In this Issue

CSPL Canadian Society of Physician Leaders
SCLM Société canadienne des leaders médicaux

Contents

Contact Information:
Canadian Society of Physician Leaders
875 Carling Avenue, Suite 323
Ottawa ON K1S 5P1
Phone: 613 369-8322
Email:
deirdre@physicianleaders.ca

ISSN 2369-8322

EDITORIAL

Embracing progress

Colleen Galasso

Physicians, more than most, understand that change is the only constant. In navigating the ever-evolving landscape of health care, the theme that resonates most is "innovate and evaluate." These principles are the pillars that form the foundation of effective physician leadership, guiding your pursuit of excellence and relevance.

Innovation is the engine that propels us forward. It is the driving force behind your collective efforts to redefine and enhance health care. Whether it be leveraging cutting-edge technologies, exploring novel treatment modalities, or reimagining care delivery models, innovation is the key to unlocking improved patient outcomes and an enhanced health care system. The range of innovation is vast, promising transformative potential that can be felt throughout the entire health care system.

However, innovation alone is not sufficient. It is like setting sail without a compass. In celebrating the strides we make in health care innovation, we must equally champion the rigorous evaluation of these innovations. Evaluation grounds us in evidence-based practices, ensuring that the changes we implement not only meet the needs of our patients and the health care system but also withstand critical assessment and the test of time.

As we head into a new year, let's remain steadfast in our dedication to *both* innovation and evaluation. This issue's contributors exemplify the spirit of progress and adaptation. The articles, delving into co-leadership, gender parity in leadership roles, artificial intelligence (AI), leadership style, and well-being, capture the essence of innovation while underscoring the importance of thorough evaluation.

Like you, CSPL is also taking steps in the area of innovation. CCPL2024 is undergoing a transformation to redefine your conference experience. We're revamping the format to prioritize active participation and engagement. Through a new, dynamic platform, attendees will not only be active participants but also influential contributors in shaping the conference agenda and determining the issues to be addressed. Our goal is to amplify every voice, foster collaboration, and create an environment where ideas can flourish. Throughout this transformation, our commitment to advancing your individual leadership knowledge and skills remains strong through the provision of pre-conference courses and workshops. Join us, and let's make CCPL2024 a conference experience unlike any other.

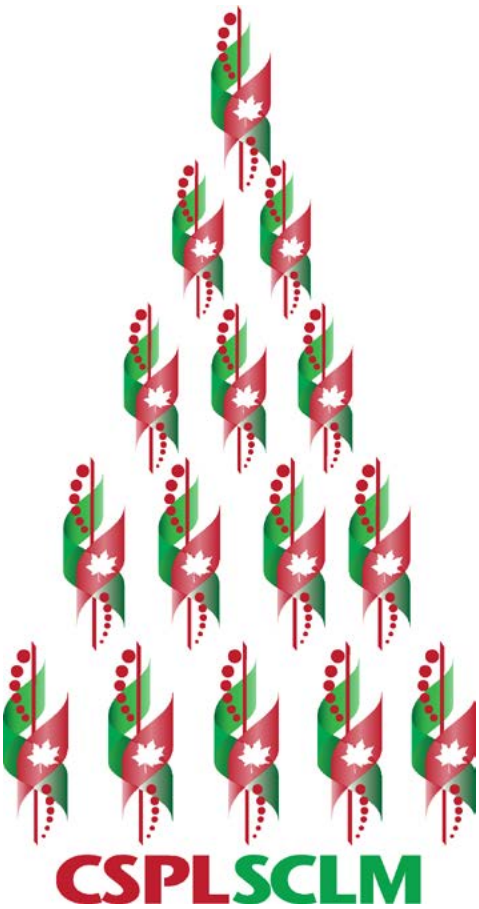
Dr. Abraham (Rami) Rudnick

In the spirit of progress, I am pleased to share the exciting news that Dr. Abraham (Rami) Rudnick will assume the role of editor-in-chief of *CJPL* starting in January. Dr. Rudnick brings with him a wealth of experience,

expertise, and a fresh perspective that will undoubtedly enrich our journal. I am eager to see the innovative strides the journal will make under his guidance.

This issue is more than a collection of articles; it is an invitation to you, as leaders, to innovate our approaches, elevate our impact, embrace the lessons that shape us, and prioritize the well-being that sustains us.

Wishing you a joyful holiday season, a reflective year-end, and a transformative beginning to 2024.



Author

Colleen Galasso is executive director, CSPL.

Correspondence to: **colleen@physicianleaders.ca**

Unleash the Leader in YOU at CCPL2024!

CCPL2024 is undergoing a transformation! Get ready for a conference experience like never before – designed to tackle the issues that matter most to you.

Your Voice, Your Agenda

Imagine a conference where you have the power to set the tone. At **CCPL2024**, we're flipping the script! **YOU** will not only be an active participant but also an influential contributor, shaping the conference agenda and driving the conversation that sparks fundamental system reform.

Personalize your Learning Experience

Tailor your learning experience by selecting from a diverse range of workshops that cater to **YOUR** interests and level. Acquire insights and resources that will enhance your leadership skills.

Connect with the Best and Brightest

Rub shoulders with the brightest minds in healthcare leadership. Our revamped conference format provides unparalleled opportunities to connect, collaborate, and forge partnerships with like-minded physicians who share your passion for leadership.

Don't miss the opportunity to shift the paradigm – CCPL2024 is YOUR stage to make an impact!

ADVICE

The physician executive's crash course on AI in health care

Alexandra T. Greenhill, MD

There are excellent longer reads on this topic,[1,2] but if you don't have the time to delve into them – or as the younger generation calls it TLDR (too long, didn't read) – here is a quick framing that will help you be well informed as you navigate the crucial conversations you should be having about artificial intelligence (AI) in health care.

Greenhill A.T. The physician executive's crash course on AI in health care. *Can J Physician Leadersh* 2023;9(3):72-77
https://doi.org/10.37964/cr24772

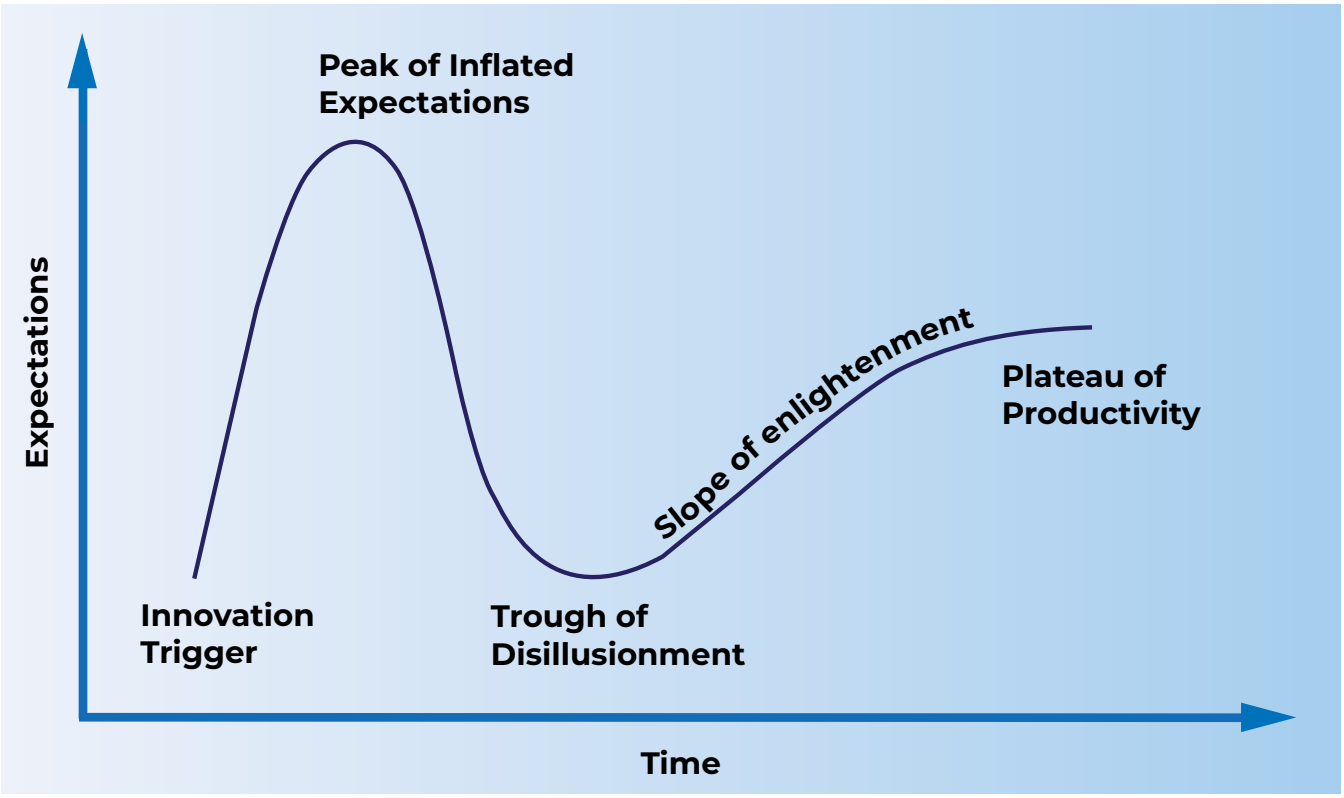
AI is suddenly everywhere — why now?

In the history of all innovation, there are boom and bust cycles and AI is no exception. We are emerging from what became known as the "AI winter," a period of reduced funding and interest in the field, following several "hype cycles," that led to periods of disappointment, skepticism, and funding cuts. Years later, as the innovation becomes more mature and usable, interest renews. The current sudden hype around all things AI can be attributed to four key factors.

- **Increased data availability:** As so many aspects of the world we live in have become digitized, we are seeing exponential growth in data, the primary matter for AI. These data have enabled the training of AI models, enhancing their accuracy and capabilities.
- **Technological advancements:** We have better and faster computing power enabling access and capabilities to do AI. Therefore, AI algorithms have significantly improved, allowing for more accurate predictions and better performance in various tasks.
- **Increased funding combined with technology cost reductions:** The massive increase in funding combined with significantly decreasing costs of computing power and storage have made AI more accessible to different organizations and domains and many of their staff and users, not just specialists.
- **Clear and practical applications:** The Gartner Hype Cycle (Figure 1), created by United States research, advisory, and information technology firm, Gartner, is a graphic representation of the maturity and adoption of innovative technology over time through the five key phases that all disruptive technologies go through.[3] Overall, AI is in phase 5 in terms of enabling more automation and predictions and in a new phase 2 for some aspects, such as more autonomous capabilities. For health care, one can argue, we are further behind, as most efforts have been in other domains, and most AI health articles still refer to theoretical models instead of real applications.

Phase 1: **Innovation Trigger** is the period of initial breakthrough that creates excitement in scientific circles and often leads the mainstream media to celebrate it as the one thing that will change everything. This creates Phase 2: **Peak of Inflated Expectations**, where hype about the potential of the technology amplifies, often overestimating its current capabilities. This leads to Phase 3: **Trough of Disillusionment.** As more people have direct experience with the technology, there's a realization that it doesn't

Figure 1. The Gartner Hype Cycle for innovative technologies.[3]



yet do all that people expected and this leads to disappointment as the limitations, challenges, and failures become apparent. Although most abandon the domain for a new invention entering its Phase 1, many work to make the technology deliver on its potential through a usually lengthy and quiet Phase 4: **Slope of Enlightenment**. Lessons are learned, and improvements are made. Finally, the technology reaches a stable level of maturity and sufficient solid examples of success, and enters Phase 5: **Plateau of Productivity**, where it hits the mainstream news cycle again. It then becomes widely adopted, as it is now reliable and its practical applications and benefits are clear and well understood.

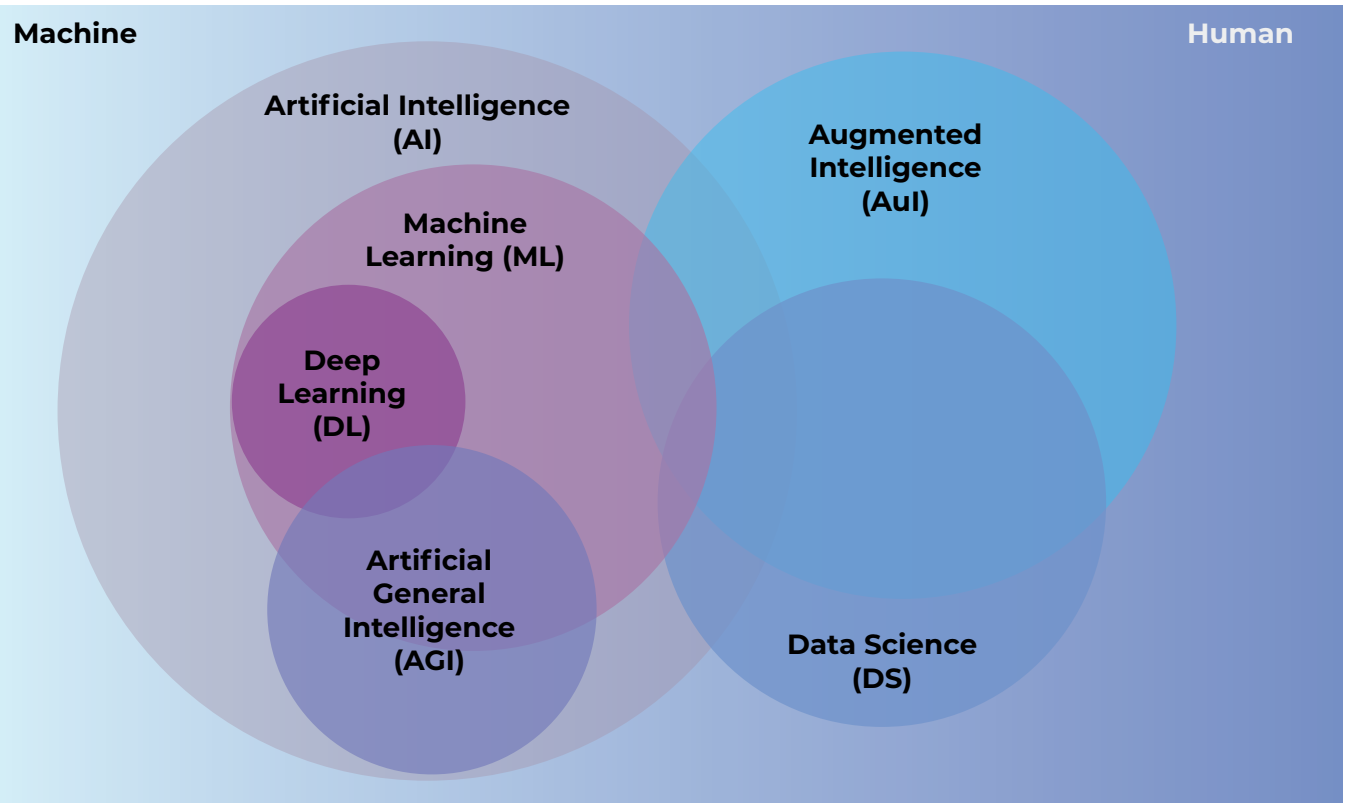
A state of confusion — when you hear AI, what is meant by that?

It's important to always clarify what is meant by the term AI in a particular instance, as it can refer to anything related to software-driven automation and complex algorithms (Figure 2). The abbreviation itself is unclear, as AI can refer to augmented intelligence (AuI), also known as artificial narrow intelligence or weak AI, algorithms that support the work of humans with additional insights (also known as human-in-the-loop), as well as true artificial general intelligence (AGI), the capability of a machine to think independently.

For example, the American Medical Association decided to use AI as an abbreviation for augmented intelligence to emphasize its assistive role, in which it enhances human intelligence rather than replaces it.[4] Health Canada and Canada's Drug and Health Technology Agency have defined AI as a broad term for a category of algorithms and models that perform tasks and exhibit behaviours, such as learning and making decisions and predictions.[5,6] Similarly, the US Food and Drug Administration (FDA) uses a very broad definition of AI as a device or a product that can imitate intelligent behaviour or mimic human learning and reasoning.[7]

The most common current use of AI is to designate something called **machine learning (ML)**, i.e., the application of sets of algorithms to analyze a given situation and the ability to learn from the outcome of

Figure 2. Visual representation of various types of AI from most machine-like to most human-like.[1]



the analysis to self-adjust and improve accuracy. Often called "smart algorithms," they are more than simple **statistical learning (SL)** outputs or "if this, then that" simple automation. **Natural language processing (NLP)** is a subset of ML that enables computers to understand, analyze, and generate human language. **Deep learning (DL)** is the next generation of ML. While ML uses algorithms to parse data, learn from that data, and make informed decisions based on what it has learned, DL structures algorithms in layers to create an **artificial neural network (ANN)**, or simply neural network, that can learn and make intelligent decisions on its own.

Generative AI, like ChatGPT for text or DALL-E for images, is where the software, trained on large data sets, generates new original content, data, or outputs that mimic or resemble human-created content. Unlike traditional AI systems that analyze and process existing data to make predictions or classifications, generative AI can produce original content, such as images, text, music, or even entire pieces of code, that didn't previously exist. However, it's not AGI or even AuI.

Even as all of these solutions fall under the category of AI, they differ vastly in the extent of how capable and how independent they are: they can be simply executing what they are told versus continuously learning versus creating their own approaches that are usually incomprehensible to humans versus **explainable AI (XAI);** hence, the importance of asking what is meant by AI in the specific situation.

One additional important definition: AI can be run on real data or on something called "digital twin," an idea that started during the US National Aeronautics and Space Administration's Apollo project in the late 1960s. NASA assembled two identical spacecraft using a "twin" on Earth to imitate its counterpart's action in real time and guide decisions. Digital twin is now used, usually, but not always, as an anonymized copy of a real data set to enable testing of ideas, but it is not an AI solution per se.[8]

Confirm whether there is a need for AI

One of the biggest challenges with the current hype period is the "shiny object syndrome," as people focus on how AI can be used to solve all problems,

instead of adding AI as an option along with other tools and then choosing a solution that makes sense. In simple terms, even if you have access to a helicopter, it makes no sense to use it to get to the park or the local store.

1. **What problem are we trying to solve?**
2. **Are there other ways of solving this problem?**
3. **How do the different options compare in terms of:**
   - Will it work? Accuracy, risks, biases, and ethical considerations
   - Will the output be useful and actionable? Real direct and/or indirect benefit to care
   - What will be its impact beyond? Compatibility with existing workflows and technologies
   - What does it take? Cost, effort, and timeline to deploy and then to run

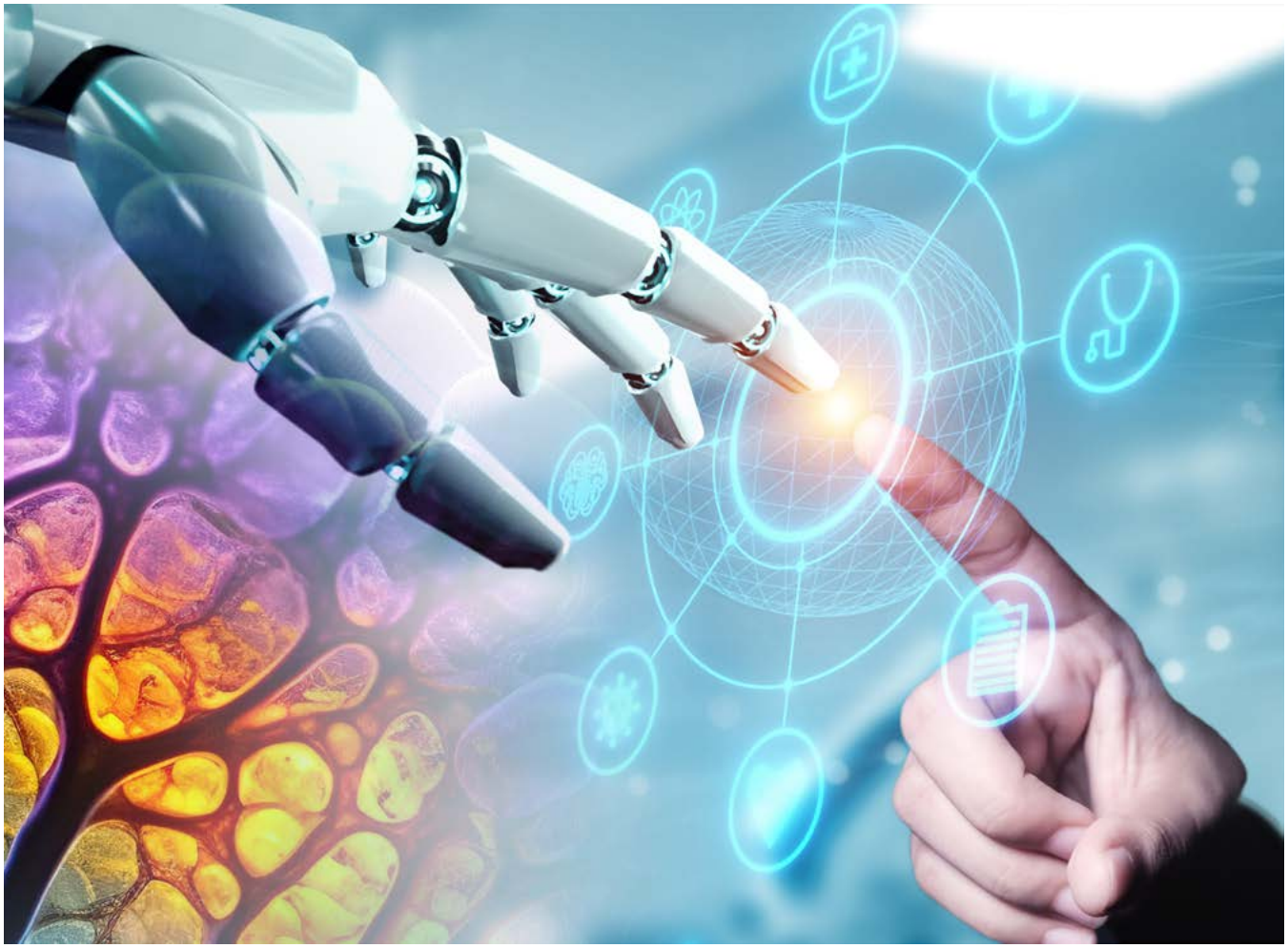
A great example of using AI where it makes sense would be review of vast numbers of patient charts to find patients with treatable conditions that are not currently being treated. It's poor use of AI to power a chat bot to answer simple questions on a website, such as when is the clinic open and how does one get to it.

Examples of promising AI uses and key caveats

Drug-drug interactions (DDIs) cause adverse effects in patients, with serious consequences and increased costs. Almost two-thirds of patients receiving critical medical care in hospital develop at least one possible DDI. Manual detection is time consuming and expensive. However, AI can review the records of hundreds of thousands of patients to identify known DDIs and help generate hypotheses about new unknown DDIs that humans can then review and make decisions about. Models for this are promising, but they need considerable additional development before they can be implemented.

However, all the excitement about AI's potential needs to be balanced. For example, sepsis is the third leading cause of death in hospitals in the United States.[10] Thus, when one of the largest US developers of electronic health record (EHR) software,

Epic Systems, developed the proprietary Epic Early Detection of Sepsis Model, which uses AI to help physicians diagnose and treat sepsis sooner, it was rapidly adopted by 170 hospitals. Like many other AI tools, it did not have to undergo FDA review, and there is no formal system in place to monitor its safety or performance. A study published in *JAMA Internal Medicine* in 2021 found that it failed to predict sepsis in 67% of patients who developed it, and it generated false sepsis alerts for thousands of patients who did not.[11] Without this external study, these outcomes would not have been known, and an opportunity would have been missed to improve the tool and ensure that it works.



Deciding to use AI: powerful additional questions to ask

Physician leaders need to know the right questions to ask when guiding the selection and integration of AI and ensuring that the various dimensions are covered: clinical usefulness, quality and safety of patient care, strategy, and ethics. In addition to the questions listed in the previous sections intended to help understand what kind of AI is being discussed and determine whether AI should be considered at all, the following set of 10 questions focuses on practicalities.

1. **Regulatory approval:** Is such approval required or may it soon be required? Are there standards to be met?
2. **Accuracy and performance:** What are the false positives and negatives? What are the stakes of the predictions? Is there a human in the loop?
3. **Usability and effectiveness:** What has been the end user experience and feedback?
4. **Data training and use:** What data are used in the AI training? How are data collected, cleaned, and labeled? How much data do you need to make initial predictions? How does the system handle uncertain or incomplete data? How much data do you need to make personalized predictions? How are your data at scale different from your data starting up?
5. **Data and intellectual property ownership:** Who owns the data, algorithms, and output?
6. **Ethical and bias considerations:** What assumptions are embedded in the data and AI?
7. **Interpretability and explainability:** How transparent is the AI's decision-making process?
8. **Data security and privacy:** What are the policies and practices?
9. **Scalability and long-term viability:** Can the AI system handle increasing amounts of data or expanding health care needs? What is the roadmap for future improvements and support?

10. **Impact:** Do we have real-world examples of the AI's performance? Are there any third-party evaluations or studies?

Without becoming experts in AI, physician leaders can, thus, ensure that AI serves as a powerful tool in advancing health care while prioritizing patient well-being and maintaining the integrity of health care. The onus should be on the AI technology providers to offer clear and easy-to-follow answers to the questions above. If they are unable to do so, that may be a strong red flag over the proposed project.

Where next?

This quote from the father of modern medicine, Sir William Osler: "The philosophies of one age have become the absurdities of the next, and the foolishness of yesterday has become the wisdom of tomorrow," is a great reminder that we live in a special moment in time where the actions we take today will define the decade, if not the century ahead. The creative destruction of what we believe and do today is underway, and physicians in general, but especially physician leaders, need to become better at understanding the opportunities and challenges of AI for health care if we are to make quick and effective gains.

This is the first in a series of articles focused on demystifying AI. Future articles will cover clinician and patient attitudes toward using AI in health care; review of some successful and unsuccessful uses of AI in health care; how to successfully deploy AI solutions in health care; and how to address the creative challenges between innovation and learning and the need for control and regulations.

References

1.Greenhill AT, Edmunds BR. A primer of artificial intelligence in medicine. *Tech Innov Gastrointest Endosc* 2020;22(2):85-9. **https://doi.org/10.1016/j.tgie.2019.150642**

2.Byrne MF, Parsa N, Greenhill AT, Chahal D, Ahmad O, Bagci U. Editors. *AI in clinical medicine: a practical guide for healthcare professionals*. Hoboken, NJ: Wiley-Blackwell; 2023.

3.Blosch M, Fenn J. Understanding Gartner's hype cycles. Ottawa: Gartner Research; 2018. **https://www.gartner.com/en/documents/3887767**

4.Augmented intelligence in medicine. Chicago: American Medical Association; 2018. **https://tinyurl.com/bdjkys33**

5.Guidance document: software as a medical device (SaMD): definition and classification. Ottawa: Health Canada; 2019. **https://tinyurl.com/mw7k5ntn**

6.An overview of clinical applications of artificial intelligence. Ottawa: Canada's Drug and Health Technology Agency; 2022. **https://tinyurl.com/3mvxraxb**

7.Artificial intelligence and machine learning in software as a medical device. Silver Spring, Md: US Food and Drug Administration; 2021. **https://tinyurl.com/2e6d2fzf**

8.Sun T, He X, Li Z. Digital twin in healthcare: recent updates and challenges. *Digit Health* 2023;9:20552076221149651. **https://doi.org/10.1177/20552076221149651**

9.Han K, Cao P, Want Y, Xie F, Ma J, Yu M, et al. A review of approaches for predicting drug–drug interactions based on machine learning. *Front Pharmacol* 2022;12:814858. **https://doi.org/10.3389/fphar.2021.814858**

10.What is sepsis? Atlanta: Centers for Disease Control and Prevention; 2023. **https://www.cdc.gov/sepsis/what-is-sepsis.html**

11.Wong A, Otles E, Donnelly JP. External validation of a widely implemented proprietary sepsis prediction model in hospitalized patients. *JAMA Intern Med* 2021;181(8):1065-70. **https://doi.org/10.1001/jamainternmed.2021.2626** Erratum in: *JAMA Intern Med* 2021;181(8):1144.

Author

Alexandra T. Greenhill, MD, is CEO and chief medical officer at Careteam Technologies and associate clinical faculty in the Department of Family Medicine, University of British Columbia. She is also co-editor of AI in Clinical Medicine: A Practical Guide for Healthcare Professionals (2023).

Correspondence to: **agreenhill@getcareteam.com**

This article has been peer reviewed.

REFLECTION

Co-leadership in health services: a dyad case study

Abraham Rudnick, MD, and Patrick Daigle, MSW

Providing health services is complex. In the Canadian public sector, such services commonly involve formal co-leadership dyads of physicians and administrators, yet not much is published about these arrangements. This article aims to address this gap in knowledge by briefly reviewing related publications and then describing and reflecting on a co-leadership dyad in specialized mental health services. The article illustrates associated quality assurance and improvement activities and their outputs and presents reflections on pertinent challenges and opportunities for co-leadership, concluding with suggestions for related progress across mental and other health services.

KEYWORDS: co-leadership, dyad, mental health, services

Rudnick A, Daigle P. Co-leadership in health services: a dyad case study. *Can J Physician Leadersh* 2023;9(3):78-83
https://doi.org/10.37964/cr24773

Health services address complex issues. For example, patients often experience comorbidities and other complicating factors (such as social disadvantage) that require a combination of various types of health care (and sometimes social) services. Such multiple services are ideally integrated or at least collaborative. As a result, health services – particularly public health services, such as those in Canada – commonly involve formal co-leadership dyads pairing physicians and administrators, who are expected to be person-centred, evidence-informed, and socially responsible.[1]

Such dyads typically divide labour, with the physician leader most responsible for quality of clinical care and the administrator more responsible for the service budget, human resources (other than physicians), and more. The physician and administrator are expected to collaborate fully with each other. For example, in terms of quality improvement (QI), the physician may lead the safety assurance part of the initiative, the administrator may lead its efficiency enhancement part, and both may jointly lead its culture change part.[2]

Co-leadership of physicians and administrators seems important in health services. Yet not much is published about it, at least not the dyad aspects involved, with a few exceptions that do not involve rigorous inquiry.[3] For example, co-leadership activities and their outcomes are implied yet not focused on in much work related to clinical practice standards[4] and health care technology.[5] Furthermore, physicians (and administrators) are often not formally trained in co-leadership.[6,7]

This article aims to address this gap in knowledge by describing and reflecting on a particular co-leadership dyad in specialized mental health services. We illustrate associated QI activities and their outputs, and then reflect on pertinent challenges

and opportunities for co-leadership, concluding with suggestions for related progress across mental and other health services.

Background

The co-leadership dyad discussed here is based at the Nova Scotia Operational Stress Injury Clinic (NSOSIC), which is part of the Nova Scotia Health Authority (NSHA) and is affiliated with Dalhousie University. This federally funded specialized mental health service is part of a national network and provides mental health related assessments and interventions to members of the Canadian Armed Forces (CAF) who are soon leaving the military, CAF veterans, and Royal Canadian Mounted Police members and retirees.

The NSOSIC provides clinical biopsychosocial care, including nursing intake, psychiatric and psychological evaluation, psychotropic medications management, individual and group psychotherapy (trauma focused and other), occupational therapy (e.g., for daily functioning, neurocognition, pain, and sleep), and physical care for Veterans Affairs Canada clients with operational stress injury).[8] Its services are evidence-based/informed and person-centred.[9] It also provides training to medical learners and other health care professionals and leads as well as collaborates in research.[10-12] The NSOSIC started offering services in 2016. Its clinical director (AR, who is a psychiatrist and a physician leader) and program leader (PD, who is a social worker and an administrator) have been co-leading it since 2018.

Since its inception, the NSOSIC has been federally mandated to provide core services, such as disability (re)assessments and trauma-focused (psycho) therapies. As well, it has been federally mandated to use standardized mental health outcome measures for clinical monitoring and program evaluation. The NSOSIC is permitted to add clinical interventions at its initiative, such as other evidence-based/informed psychotherapies, and it is expected to collaborate with its clients' other health care providers, such as primary care providers, private-sector psychotherapists, and residential mental health care facilities.

Quality improvement activities and outputs

Soon after we started co-leading the NSOSIC, it became clear that we had to formalize a collaborative division of leadership labour as well as develop processes and structures to support NSOSIC in

Table 1. Co-leadership division of labour among the program leader (social worker/administrator), clinical director (psychiatrist), and clinical team lead (clinical social worker) at the Nova Scotia Operational Stress Injury Clinic.

Clinic workers' need or concern	Program Leader	Clinical Director	Clinical Team Lead
I have clinical mentoring needs		X*	X
I have clinical practice questions		X	X
I have questions about documentation		X*	X
I have questions about making referrals		X	X
I need help to develop my clinical skills		X	X
I need clinical feedback and/or advice regarding a client, situation, or session		X	X
I have clinical questions about facilitating groups		X	X
I need to debrief after a challenging session		X	X
I have concerns about the way a referral has been handled or responded to internally or externally	X		X
I have questions about Information Technology, data, or reporting (hardware, software and more)	X		
I need to report an incident related to patient safety	X		X
I need to report a client's death	X		
I need to discuss a bullying or respectful workplace concern	X		X
I need to report a staff safety or workplace safety issue	X		X
I need help dealing with a partner organization	X		X
I have concerns about a change in my workplace or a leadership decision	X	X*	
I have concerns about group spaces, locations, timing, numbers, etc.			X
I have questions or concerns about my workload	X	X*	X
I have questions or concerns about my job description/role	X	X*	
I have human resource-related questions (time capture, benefits, time off, vacation, smoothing, leaves, pay, long assignments, resignation, performance reviews, etc.)	X	X*	
I want to attend a conference, training session, workshop	X	X*	X
I want to develop a career advancement plan/learning plan	X	X	
I have facility, environmental or office space questions/concerns	X		
A client, whose clinician is off for an extended period (i.e., vacation or unexpected illness), requires a reply		X*	X
A request is being made for a client seen by former clinician		X*	X
There is a need for front desk coverage that cannot be addressed by clerical staff	X		X
I have an ethical dilemma I need to discuss.	X	X	X

*For physicians.

continuous QI. As part of this, we recruited a half-time clinical team lead (a clinical social worker) to further support the non-physician clinicians (the clinical director supervises the physicians). We then clarified the division of labour (and partial overlaps) between the NSOSIC's program leader, clinical director, and clinical team lead (Table 1).

We also re-configured and formalized standing committees and ad hoc task forces, including a quality assurance and improvement committee, an education committee, a research committee, and a client and family advisory council. We initially each chaired or co-chaired some of these committees and their task forces, but, over time, we delegated some chairpersonship to other team members with ongoing guidance by us as needed. We also initiated a logic model with the team and other stakeholders

and completed its first version, which is revised as needed. These and more were general QI activities and their outputs helped the NSOSIC prepare well for more specific QI initiatives.

A specific QI activity that we led was a rapid shift to online/virtual health care soon after the COVID-19 pandemic started. As in the first stage of the pandemic no in-person care was allowed by the NSHA other than what was absolutely necessary, we provided and arranged clinical guidance and practical support for all the clinicians to work from home. PD was the main lead for this process, as the main challenges were administrative. Before the pandemic, few NSOSIC clients received remote care, but during the first stage of COVID-19 the vast majority received this remote care.[5] Subsequently, more NSOSIC clients have been choosing to return to in-person care, although a small majority of clinical encounters are still remote.

Another specific QI activity that we led was peer review of clinical documentation by the psychiatrists. AR was the main lead for this process, considering that the main issues involved were primarily clinical. Another NSOSIC psychiatrist contributed considerably to this process, for example by adapting a pre-existing template to document the peer reviews, and all NSOSIC psychiatrists contributed to planning with input from all other interested team members. This activity was implemented as a pilot project and met the expectations of the psychiatrists involved. Unfortunately, it was paused because of a temporary reduction in the number of NSOSIC psychiatrists and, hence, their increased clinical workload (to be reviewed in 2024).

A QI activity that we led equally was enhancement of outcome measurement completion and review by NSOSIC clients and clinicians, respectively. This is a federal requirement with related periodic national comparisons of operational stress injury clinics across Canada, as outcome measurement has been shown to improve mental health care and its outcomes.[13] The NSOSIC had historically not done well (< 50% implementation) on this metric. Hence, we engaged an external facilitator for a year to increase the level of implementation, and we also tasked the clinical team lead to address implementation regularly with each clinical team member (other than the psychiatrists as AR is their clinical supervisor). To date, the NSOSIC has made considerable improvements in terms of clinicians' reviews of outcome measures completed by clients, but not yet in relation to clients' completion of outcome measures. A change for clients may be more complex than for clinicians, perhaps because they are busy with many other things in their lives, and, hence, a more complex approach may be needed to improve their rate of completion of outcome measures.

To date, our experience in co-leadership has been satisfying and successful. We may have learned from past dyads to prevent unnecessary conflict between us while challenging each other to address our individual and joint blind spots and other biases.

Finally, a QI activity that we led equally but differently is a multi-year education/training plan for NSOSIC clinicians (with less focus on the psychiatrists who typically have less time and less need for such clinical capacity upgrading compared with other clinicians). Turnover of clinicians is expected at the NSOSIC, and the evidence base of care for people with operational stress injury continues to change. Hence, the NSOSIC must plan education and training in core practices as well as in emerging and promising practices for the clinicians. In this activity, AR focused primarily on the clinical practices involved, whereas PD focused on the administrative process. Together we engaged the NSOSIC's clinical team and some of its clients and family members, as well as external content experts, to develop this plan, which is has been put into practice and will be revisited periodically as needed.

Although we have led other QI as well as quality assurance activities as a dyad, those noted above illustrate our co-leadership, especially our QI activities

and their outputs. For the purpose of this article we particularly addressed activities and outputs, recognizing that other aspects of leadership, such as inputs, outcomes, and costs, are also important to report for other purposes.

Reflections

To date, our experience in co-leadership has been satisfying and successful. We may have learned from past dyads to prevent unnecessary conflict between us while challenging each other to address our individual and joint blind spots and other biases. We also complement each other's strengths. Yet, there are opportunities for us and others to develop further as a dyad. A few examples are noted below in relation to such expected growth.

First, either of us can sometimes act without sufficiently consulting the other on matters that are pertinent to both of us in our NSOSIC leadership roles. This may be related to emergent situations, although it may help to keep in mind the adage that urgent issues are not necessarily important, as that may help to prevent unnecessarily acting in the moment in some of these situations.

Second, having a more pre-planned agenda for our dyad meetings may help too. To date, we have held regular dyad meetings (usually weekly) as well as ad hoc meetings as needed. We would benefit from a more structured agenda for our regular meetings, including standing items, while also protecting time in those meetings for other matters as they arise. PD has been structuring our meetings, and we hope this will help address gaps in our joint work.

Third, our co-leadership division of labour (including with the NSOSIC clinical team lead) has some overlaps that could be reduced. That said, such redundancy is not necessarily harmful and can even be beneficial, e.g., to provide more than one leadership view on a matter as well as to co-decide on high priority issues of strategic and operational importance. This division of labour is documented (Table 1), but is also a "work in progress" that can be revised as needed.

Fourth, continuous learning (education and training) about co-leadership for health services is needed, especially in the public sector which is particularly complex. This learning is not readily available, even in formal leadership learning programs and especially for dyads. Hence, evidence-informed solutions for such learning can be developed, such as communities of practice of physician leaders and administrative co-leaders. Physician leadership associations such as the Canadian Society of Physician Leaders could facilitate such learning opportunities, preferably in collaboration with relevant partners, such as the Canadian College of Health Leaders.

Co-leadership dyads of physicians and administrators are needed in health care services and are commonly used, particularly in the public sector. Yet, not much knowledge has been published about them, including how to optimize their joint work.

Conclusion

Co-leadership dyads of physicians and administrators are needed in health care services and are commonly used, particularly in the public sector. Yet, not much knowledge has been published about them, including how to optimize their joint work. This article illustrates and reflects on our experience as such a dyad in specialized mental health services. In particular, we illustrate our co-leadership's quality improvement activities and their outputs and reflect on related challenges and opportunities for co-leadership growth. Related progress across mental and other health services may include more rigorous research on co-leadership, including more structured implementation and evaluation of it, as well as more

formal education and training in it for both physicians and health services administrators, preferably jointly, at least in part.

References

1.Rudnick A. Principled physician (and other health care) leadership: introducing a value-based approach. *Can J Physician Leadersh* 2014;1(1):7-10.

2.Scott T, Mannion R, Davies HTO, Marshall MN. Implementing culture change in health care: theory and practice. *Int J Qual Health Care* 2003;15(2):111-8.

3.Zismer DK, Brueggemann J. Examining the "dyad" as a management model in integrated health systems. *Physician Exec* 2010;36(1):14-9.

4.Corring DJ, Speziale J, Desjardins N, Rudnick A. Relentless incrementalism: shifting front-line culture from institutional to recovery-oriented mental healthcare. *Healthc Q* 2016;18(special issue):17-21. **https://doi.org/10.12927/hcq.2016.24477**

5.Daigle P, Rudnick A. Shifting to remotely delivered mental health care: quality improvement in the COVID-19 pandemic. *Psychiatry Int* 2020;1(1):31-5. **https://doi.org/10.3390/psychiatryint1010005**

6.Pallaveshi L, Rudnick A. Development of physician leadership: a scoping review. *Can J Physician Leadersh* 2016;3(2):57-63.

7.Rudnick A. Building blocks or connecting dots: steps toward physician leadership. *Can J Physician Leadersh* 2017;4(1):24-5.

8.Rudnick A, Shaheen A, Lefurgey S, Nolan D. Operational stress injury. *Encyclopedia* 2023;3:1332-44. **https://doi.org/10.3390/encyclopedia3040095**

9.Akhtar N, Forchuk C, McKay K, Fisman S, Rudnick A. *Handbook of person-centered mental health care*. Boston: Hogrefe; 2021.

10.Rudnick A, Nolan D, Daigle P. Sharing of military veterans' mental health data across Canada: a scoping review. *J Mil Veteran Fam Health* 2022;8(2):7-17. **https://doi.org/10.3138/jmvfh-2021-0064**

11.Ryk J, Simpson R, Hosseiny F, Notarianni M, Provencher MD, Rudnick A, Upshur R, Sud A. Virtually-delivered Sudarshan Kriya Yoga (SKY) for Canadian veterans with PTSD: a study protocol for a nation-wide effectiveness and implementation evaluation. *PLoS One* 2022;17(10):e0275774. **https://doi.org/10.1371/journal.pone.0275774**

12.Taillefer S, Nolan D, Rudnick A. Other specified trauma- and stressor-related disorder: challenges in differential diagnosis and therapeutics. *Psynopsis* 2019;41(2):13-14,29. Available: **https://cpa.ca/docs/File/Psynopsis/2019/Psynopsis_Vol41-2.pdf**

13.Roe D, Slade M, Jones N. The utility of patient-reported outcome measures in mental health. *World Psychiatry* 2022;21(1):56-7. **https://doi.org/10.1002/wps.20924**

Authors

Abraham (Rami) Rudnick, MD, PhD, FRCPC, CCPE, MCIL, DFCPA, mMBA, is the clinical director of the Nova Scotia Operational Stress Injury Clinic at the Nova Scotia Health Authority and a professor in the Departments of Psychiatry and Bioethics and in the School of Occupational Therapy, Dalhousie University. He is the incoming Editor-in-Chief of the *Canadian Journal of Physician Leadership*.

Patrick Daigle, MSW, RSW, CHE, is the program leader of the Nova Scotia Operational Stress Injury Clinic. He has led other services and has published with Dr. Rudnick on administrative aspects of the Nova Scotia Operational Stress Injury Clinic.

Authors' attestation: AR originally conceived this article; both authors contributed to the draft and approved the final version.

Disclosure: The authors declare no related conflicts of interest.

Ethics: Research ethics review and informed consent were not required for this article.

Correspondence to: **harudnick@hotmail.com**

This article has been peer reviewed.

PERSPECTIVE

Leadership lessons learned

Geneviève Moineau, MD

As I come to the end of my tenure as president and CEO of the Association of Faculties of Medicine of Canada, I have had time to reflect on the last 12 years of my career and things I have learned about leadership. Here are my top 10.

1. Look after yourself and those you love. This has always been important, and we realized it even more during the COVID-19 pandemic. Put your own oxygen mask on first and then help others with theirs. Remember that, of the many balls you juggle in life, your loved ones are the crystal ball: if you drop it, you usually can't put the broken pieces back together.

2. Be kind. The most important aspect of any work is the people. Treat everyone around you with respect and be kind to those for whom you are responsible. Be generous, believe in them, and be the wind beneath their wings.

3. Be curious. Always try to figure out how you might improve what you are doing and how you're doing it. Ask hard questions and seek feedback. Learn from people who are different from you, have different knowledge, expertise and lived experience. Seek diverse opinions, so that you find more ways for betterment and innovative thinking.

4. Be courageous. Doing the right thing isn't always easy. Be brave and remember the saying about leaders: if half the people aren't upset with you, you're not working hard enough. If you fail at something, get back up, dust yourself off, and try a new angle to get to success. No one ever accomplished anything worthwhile without setbacks, barriers, and failures.

5. Follow your passion. Spend time on the things that really matter to you and be proud of your efforts to make positive change. This will help you maintain your sense of purpose and meaning in your work.

6. Be true to yourself. You are going to have to live with your decisions for the rest of your life. Make sure you take time to consider that when you have big decisions to make.

7. It's all about trust. Relationships, collaborations, and partnerships are about trust between people. This takes time to build and establish. Take that time. And remember, as long as it takes to build, trust can be lost in an instant.

8. Mentor and be mentored. This may be the most impactful way to advance your own self-improvement and to pay it forward to those who come after you.

9. You can do it all because you don't have to do it all at once. We usually have more options than we think to shape and advance our professional lives in a way that makes sense for our personal and family realities.

10. Never underestimate opportunities for new adventures. While respecting your priorities, passion, and purpose, you would be amazed at all the ways you can make the world a better place. Don't box yourself in. Dream big.

I look forward to staying connected with many of you as I move to the next chapter of my professional adventure.

Author

Geneviève Moineau, BSc, MD, FRCPC, ICD.D, is chief medical workforce advisor to Health Canada; professor of pediatrics and emergency medicine at the University of Ottawa; and vice-president of the World Federation for Medical Education. Correspondence to: **vice-president@wfme.org**

This article appeared on LinkedIn in June 2023. We reproduce it here with Dr. Moineau's permission.

PROFILE

Dr. Gary Ernest

This Liverpool, Nova Scotia, family physician aims to use decades of experience and a new PhD to make a far-reaching impact on the health system.

Jessica Long

Dr. Gary Ernest has been a dedicated family physician in Liverpool for more than four decades. Throughout his career, he has demonstrated an unwavering commitment to his patients, community, and the broader health care system in Nova Scotia. Despite running a thriving and busy practice, Dr. Ernest's hunger for growth and learning never wavers. He is currently pursuing an executive doctorate in business administration (EDBA) to contribute to health care transformation in the province and have a positive impact on the system.

Originally from Montréal, Dr. Ernest completed his undergraduate studies at McGill University. Although becoming a doctor wasn't initially his ambition, his desire to pursue medicine was solidified during those years. He graduated from Dalhousie Medical School in 1980, completed his family medicine residency in 1982, and has been practising in Liverpool ever since. "I was always drawn to the idea of practising medicine in a rural setting, where I could provide care to a diverse range of patients from all walks of life. Practising in Liverpool offered the opportunity to be fully engaged in all aspects of my patients' well-being, from the very beginning of their lives to the very end," explained Dr. Ernest.

Dr. Ernest has also held various roles at multiple health care organizations, including Doctors Nova Scotia, the College of Physicians and Surgeons of Nova Scotia, and the Canadian Medical Association, and he has served as chief of staff at his local hospital. Recently, Dr. Ernest received the prestigious Queen Elizabeth II Platinum Jubilee Medal, an honour that humbled him. Although he says that he doesn't expect recognition for his work, the medal serves as a heartwarming acknowledgement of his dedication and commitment to his patients, community, and Nova Scotia physicians.

Being a family doctor in a rural area hasn't been without challenges. Dr. Ernest has had to face the burden of long working hours, especially during the early years of his practice when he was involved in delivering babies, assisting major surgeries, and attending to emergency cases in the hospital. Over the years, the landscape of family medicine changed, and Dr. Ernest has witnessed a transition from the front lines. He said that the shift in family medicine practice is leading to a more balanced and healthier lifestyle for physicians.

For medical students considering family medicine, Dr. Ernest advises them to choose a practice that aligns with their interests and to create a balanced approach to prevent burnout. He emphasizes that family medicine offers a rewarding and satisfying career, but it's crucial to find a practice that suits one's preferences and values. He believes that the key to keeping the passion alive for family medicine lies in finding a practice that allows you to concentrate on areas that interest you.

"It's essential to have control over your work–life balance and ensure that you don't get burned out," said Dr. Ernest.

But what Dr. Ernest has cherished most about being a family doctor has been the deep connection he has built with his patients.

"I've had the joy of knowing the patients so well that they became like an extended family, and it has been the most rewarding aspect of my career. It is a privilege to treat generations of families," he said.
More recently, Dr. Ernest found himself contemplating the next chapter of his life. Many of his colleagues are retiring, but he has no plans to slow down anytime soon. Instead, he enrolled in the EDBA program at Saint Mary's University.

By obtaining this professional PhD, he aims to contribute to health care transformation, address challenges in the system, and engage in consulting work to improve health care delivery and patient outcomes. Driven by his passion for helping others and his desire to positively influence the health care landscape, Dr. Ernest believes that his PhD studies – paired with his diverse health care experience – will equip him with valuable insights and skills to create meaningful change in the province.

"The curriculum focuses on the practical application of concepts and research to solve complex management problems and emphasizes an evidence-based approach. It lends itself well to addressing the many challenges presented by the changing landscape of our health care system," he said.
Dr. Ernest is now working three days a week in his practice and is gradually reducing his patient load to make it more manageable. Notably, he has retained every patient in his practice and remains steadfast in his decision not to add any of his patients to the province's Need a Family Practice Registry.

When asked about the biggest changes he has seen in the health care system, Dr. Ernest emphasized the issue of access to care.

"Many people are struggling to find primary care providers, leading to delays in diagnosis and treatment. Emergency room closures and staff shortages are also becoming more prevalent, adding to the strain on health care services," said Dr. Ernest.
Despite these challenges, Dr. Ernest is optimistic about the future and is committed to making a difference. He remains hopeful and actively seeks ways to make a positive impact on the lives of patients and the community. He is keen to play a part in addressing the issues faced by the health care system. His passion for helping people and contributing to the improvement of health care in Nova Scotia drives him to continue his efforts.

Dr. Ernest's story is one of perseverance, compassion, and dedication. He remains a pillar of the Liverpool community, enriching the lives of countless individuals and families. As he embarks on his academic pursuit, Liverpool and the entire province will benefit from his contributions and expertise for years to come.

Author

Jessica Long is communication advisor, Physician Relations and Medical Affairs, Nova Scotia Health.

Correspondence to: Gary Ernest, MD, at **gernest@nsmd.ca**

This article originally appeared on Nova Scotia Health's Physician Information and Wellness Portal. It is reproduced here with permission.

ADVICE

New Year's resolutions: from SMART to FUN

Mamta Gautam, MD, MBA, FRCPC, CPE, CCPE

The start of a new year always brings new hope. We take time to reflect on the past year, what we had hoped to do and how successful we were, and endeavour to do better. Many of us make New Year's resolutions, setting specific goals that we hope to achieve in the coming year. Perhaps we start off with great enthusiasm and motivation. However, as we return to work after the holidays, we often get caught up in our usual responsibilities and behaviours. Despite our best intentions, our resolutions fall to the side, waiting until we have time and energy to attend to them.

The first people to make New Year's resolutions are said to be the ancient Babylonians, some 4000 years ago. During Akitu, their major 12-day religious festival, they would crown a new king or reaffirm their loyalty to the reigning king. They also made promises to their gods to pay their debts and return any objects they had borrowed, hopeful that the gods would bestow favour on them during the coming year if they followed through. These promises can be considered the forerunners of our New Year's resolutions.

Similar practices occurred in ancient Rome. About 46 BC, Julius Caesar set January 1 as the start of the new year. January was named for Janus, the two-faced god whom the Romans believed symbolically looked backward into the previous year and ahead into the future. Thus, they offered sacrifices to Janus, with promises of good conduct for the coming year. In some religions, the first day of the new year has become the traditional time to think about one's past mistakes and resolve to do and be better in the future.

Today, New Year's resolutions are most often a secular practice. Instead of making promises to the gods, most people make resolutions only to themselves, focusing primarily on self-improvement. Recent research by Forbes Health[1] found that, while 37% of the population sets goals, the average resolution lasts just 3.74 months. Only 8% of respondents tend to stick with their goals for one month, while 22% last two months, 22% last three months and 13% last four months. Physician leaders are similarly successful.

Over the years, colleagues have shared their own experiences with New Year's resolutions with me. Last year, I received a meme that made me laugh out loud: "I can't believe that it has been an entire year since I haven't lost weight or become a better person."

Another colleague shared an Instagram post from Emily Ladau,[2] author of *Demystifying Disability* and host of The Accessible Stall podcast, who thinks it's about time that we rethink this whole idea of setting SMART (specific, measurable, achievable, realistic, timely) goals. "It's time we acknowledge that given the state of everything, we could all benefit from being kinder to ourselves," she wrote. "So, I'm not setting 'SMART' goals this year, despite all the 'expert' advice to the contrary. I know this won't be everyone's vibe, and that's okay. But for me, this is the year for

FUN goals." Ladau outlined her new FUN strategy for goals:

- **Flexible** – Life happens, things change, goals shift.
- **Uplifting** – Bettering myself isn't a punishment. It's a process that should feel good, even when it's challenging.
- **Numberless** – Nothing will be radically different if I read 29 books this year instead of 30.

"I'm still going to be just as focused on progress and committed to social justice activism as I've always been," she wrote. "But this year, I'm doing it in a way that takes off some of the pressure and actually serves me so that in turn, I may better serve others."

At the start of another year, with all our responsibilities and increased risk of burnout, this mindset is one to consider adopting. Let's set FUN goals. We need to acknowledge and free ourselves from external pressures and expectations. To help us develop and grow, let's shift our focus from being perfect by societal (especially medical culture!) standards, and aim to discover and commit to what brings us the most joy and fulfillment in our life.

Here are seven tangible tips to start off the new year and maintain a positive and healthy outlook:

1. Take care of yourself first. This is important! There will always be other urgent things to do. Shift your mindset to recognize taking care of you is not a luxury; rather it is an investment. Remember that you are a role model for those you lead. Modeling healthy habits inspires others to do the same.

2. Identify at least five things that bring you joy and fulfillment – things you enjoy doing and help you care for yourself. Here are some examples to get you thinking: commit to regular exercise even (especially!) when things are busy; read a book for 20 minutes; plan coffee with a friend; do not check your emails on at least one day over the weekend; play tennis or shoot a bucket of balls at the golf range; plan and enjoy healthier meals; allow yourself to sleep for 7–8 hours at night; commit to undistracted time with family members; try a new sport or hobby.

3. Schedule them. Decide when these activities can fit into your schedule and put them in your calendar like any other event. Follow through, just like you would with an important meeting that you have scheduled.

4. Use the Tarzan rule. Just like Tarzan swings through the jungle, not letting go of one vine until he has the other in hand, do not end any of these activities until you determine when you will do it next. If something comes up and you have to cancel, reschedule. This will ensure momentum and enable all these positive activities to be maintained and continued throughout the year.

5. Add mindfulness moments to your day. Mindfulness is a way of thinking that enhances focus and clarity despite the pressures of a busy day. It involves being fully present in the moment, being non-judgemental, maintaining a moment-by-moment

awareness of your thoughts, emotions, body sensations, and surrounding environment with openness and curiosity. Some mindfulness courses teach us how to be mindful for 20–60 minutes. However, you can easily add brief mindful moments to your day. For example,

- When you wake up: spend two minutes in your bed simply noticing your breath. As thoughts about the day pop into your mind, let them go and return to your breath.
- While drinking your morning coffee, be mindful of its temperature, the smell of coffee, its taste in your mouth.
- In your office, take a pause at your desk or in your car to boost your brain with a short mindfulness practice before you dive into activity. Close your eyes, relax, and sit upright. Place your full focus on your breathing.
- Be mindful even when sitting, and while you are eating.
- Walk to a meeting mindfully. Focus on the meeting, people, goals.
- When your hand is on the doorknob of an examination room, stop to think of the patient you will be seeing.
- Focus on each patient/person; actively listen to them in the present moment.
- As you start your commute home, take a moment to be mindful of who awaits and what is ahead

6. Offer yourself self-compassion. Self-compassion involves giving yourself the same kindness and care that you would give to a good friend, especially when you are having a difficult time, fail, or notice something you don't like about yourself. Here are the three components:

- Self-kindness vs. self-judgement. Extend the same support and encouragement to yourself that you would to others, understand and embrace your failures instead of condemning them.
- Common humanity vs. isolation. Connecting to common humanity means understanding that pain and failure are part of the shared human experience; normalizing this makes us feel more connected to others.
- Mindfulness vs. over-identification. Be aware of moment-to-moment experiences in a clear, balanced, non-judgemental manner. When stressed, do not get caught up in focusing on problem-solving. Instead, allow yourself to acknowledge the struggle and suffering, but not over-identify with feelings or react negatively.

7. Let go of the guilt. Guilt is the number one reason we don't do the things that we know will be good for us. Here is my rule about guilt: if you are thinking of doing something that you know will be good for you, but you feel guilty, it's the very thing you should do. So do it!

As leaders, it is our job to set a healthy culture and support the well-being of our team. By prioritizing our self-care, we can lead by example, encourage others to look after themselves, and remain engaged and effective.

References

1.Davis S. New year's resolutions statistics 2024. *Forbes Health*; Dec. 2023. **http://tinyurl.com/4xzmkmp7**
2.Mazzo L. This activist reframed 2022 goal setting in the most genius way. *Shape: Mental Health*; 21 Jan. 2022. **http://tinyurl.com/42n2v2p9**

Author

Mamta Gautam, MD, MBA, FRCPC, CPE, CCPE, is an internationally renowned psychiatrist, consultant, certified coach, author, and speaker based in Ottawa, Canada. Her areas of expertise include physician well-being and physician leadership development. She is president and CEO of Peak MD and founder of The Raft, an accredited online continuing leadership course and community for women in medicine.

Correspondence to: **mgautam@peakmd.ca**

Part of this article was adapted and updated from one of Dr. Gautam's blog posts on The Raft (January 2023), which is available only to Raft members.

Evolution of women physician leadership at the Ottawa Hospital, 2011–2022: a mixed method study by the Women Physician Leadership Committee

Eliana Wolfe, Kathleen Gartke, MD, FRCSC, Lara Khoury, MD, FRCPC, Jasmine Gandhi, MD, FRCPC, Jean M. Seely, MD, FRCPC, Camille Munro, MD, CCFP (PC)

Purpose: To assess the evolution of women physician leadership after implementation of initiatives introduced by the Women Physician Leadership Committee (WPLC) from 2011 to 2022 at The Ottawa Hospital (TOH). Methods: We conducted a mixed-methods study using a transformative sequential research design. During phase 1 (2011–2022), we held three rounds of semi-structured interviews with division and departments heads. The results were organized into eight themes, providing insight into TOH's work environment and culture. In phase 2, we determined the number of women physicians holding privileges and leadership positions at TOH in 2011, 2016, and 2022. **Results:** Despite an increase in the number of women physicians over the last decade (from 30% (255/862) in 2011 to 42.5% (486/1144) in 2022), the number of women division and department heads did not change significantly. In fact, only one of 12 department head positions has been held by a woman. We compiled comments from division and department heads to capture various perspectives and provide concrete examples of efforts and barriers to women physician leadership. **Interpretation:** We attribute the progress we have achieved in the last 11 years to the WPLC's initiatives. Among other positive changes, there has been an increase in the number of formal mentoring opportunities, as well as the number of leaders who consider bringing in a locum when needed to balance the workload. Although progress toward achieving gender parity at TOH is encouraging, it has not eliminated barriers that women in medicine face. Further intentional change is required to counteract deeply rooted societal constructs within TOH culture.

KEYWORDS: barriers, culture, equity, leadership, policy, women

Wolfe E, Gartke K, Khoury L, Gandhi J, Seely JM, Munro C. Evolution of women physician leadership at the Ottawa Hospital, 2011–2022: a mixed methods study by the Women Physician Leadership Committee. *Can J Physician Leadersh* 2023;9(3):92-102
https://doi.org/10.37964/cr24774

Despite the increase in the number of female medical students over the last 20 years[1] – leading to gender parity among physicians in Canada under age 40, and projected for all ages by 2030[2] – the percentage of women physicians who hold medical leadership roles remains disproportionately low.[3] In short, "women in academic medicine are not reaching the same levels of career advancement [or] leadership responsibility" as men.[4]

The disparities in leadership are not attributable to a lack of leadership aspirations: women and men faculty members share similar ambitions.[8] However, women more commonly work in undervalued areas of medicine, are less likely to have their professional title acknowledged, and receive less supportive reference letters for positions of leadership in medical schools.[5] As a result, academic medicine lags behind other STEM (science, technology, engineering, mathematics) professions in eliminating gender differences in job promotion.[6] The barriers to the progression of women physicians in leadership – financial inequities, gender bias, microaggressions, familial responsibilities – remain unsolved despite being well documented.[7] It is important for institutions to continually observe the barriers they have yet to eliminate to decrease the gap between women and men physicians in leadership because achieving gender equity in leadership improves the making of health policies and patient care.[5]

The Women Physician Leadership Committee

The Ottawa Hospital's (TOH's) Women Physician Leadership Committee (WPLC) was founded by Dr. Virginia Roth in 2011. The committee aims to overcome gender inequities by identifying and supporting women physician leaders.[9] The central construct of the WPLC is to interview division and department heads to assess the leadership opportunities for women physicians at TOH. The results inform initiatives that foster an environment conducive to gender-balanced leadership (see Table 1 for an overview of the WPLC's initiatives since 2011).

Subsequent surveys assess the impact of these initiatives. This cycle has been performed three times: in 2011, 2016, and 2022. The purpose of our current study was to assess the evolution of women physician leadership since the implementation of our initiatives, i.e., from 2011 to 2022. We sought to document the growth in the proportion of women physicians holding privileges and leadership positions at TOH, as well as the impact of the WPLC's initiatives.

Table 1. Initiatives of the Women Physician Leadership Committee, 2011–2022

Initiative	Year
World Café* to examine gender impacts of existing hospital values, policies, and mechanisms for physician recognition.	2011
First round of interviews with TOH leaders.	2011
Creation of the Physician Leadership Award (in conjunction with the Physician Engagement Committee) for the annual Compass Awards (now the Excellence Awards).	2012
Development of the MED RR033 Leave Policy following Dr. Roth's presentation to the Senior Medical Team earlier that year.	2013
Establishment of a short-term child-care provider to provide reliable, convenient emergency care for children of all medical staff and peace of mind for working parents.	2016
Second round of interviews with TOH leaders.	2016
Initiation of #GoSponsorHer campaign.	2017
Approval of proposed amendments to TOH by-laws to reflect the gender balance of the TOH medical staff and specify the minimum number of female physicians (two) who sit on a selection committee.	2017
Opening of the first Breast Lactation Room at TOH's General Campus.	2019
Approval of proposed amendments to the Medical Advisory Committee's by-laws such that both men and women must be nominated for either president or vice-president. †	2020
Approval by the Medical Advisory Committee for a position statement on accessibility, inclusion, and action for physicians with disabilities.	2020
Third round of interviews with TOH leaders.	2022

*A facilitated day-long roundtable with CEO, WPLC founder, and other leaders to discuss barriers for women and brainstorm solutions
†If a female nominee does not receive the most votes for either office, then the female nominee who receives the highest percentage of votes (relative to the other female nominees) shall be elected to the office for which she received such votes. This ensures that either the president or vice-president of the MAC is a woman.

Please note that, in our article, the term "women" encompasses all groups that identify as women and/or biologically female for inclusivity.

Methods

We conducted a mixed-methods study using the transformative sequential research design.[10] Phase 1 extended from 2011 to 2022; during these years, we held three rounds of semi-structured interviews with the division and departments heads at TOH. The study prioritized qualitative research (phase 1); a subsequent quantitative component (phase 2) developed and supported the findings from our interviews. Phase 2 involved determining the number of women physicians holding privileges and leadership positions at TOH in 2011, 2016, and 2022.

Phase 1: Survey results and the impact of the WPLC's initiatives

The theoretical framework of phase 1 was ethnography, using the participant observation research strategy.[11] This framework was fitting given that it aims to capture a picture of people's perceptions and behaviours[12] to explain the dynamics within a culture.[10] Although the committee members conducted these interviews to examine the culture in the divisions and departments (according to the leaders' perspectives) and to determine whether opportunities for women leadership have evolved, their active roles and individual experiences as women physicians at TOH enabled them to conduct these interviews from an already rich perspective.

Participants were purposely selected based on their TOH division head or department head role. The WPLC members conducted the interviews. These committee members belong to a variety of divisions and departments at TOH; some are division heads. In 2011, each committee member was asked to interview their own department head. In 2016 and 2022, committee members did not interview their own division or department head. Often, WPLC members had not met their interviewee before the study. Participants were informed of the purpose of the interviews by email and were told that the interviewer would be a WPLC member. There are 12 departments and 39 divisions (in 2011, there were 42 divisions), and each physician lead of division and department was expected to complete one survey. In 2022, we had 49 participants, as two division heads (nephrology and midwifery) were unavailable.

Interviews were conducted in person, by telephone, or by virtual online meeting. The TOH leaders and WPLC members were the only people present during the interviews. WPLC members were provided an interview guide (Appendix A) detailing the questions to ask. Except for a few minor adjustments, the guide has remained the same since 2011. The first survey was designed following an article published by Dr. Gartke et al.[13] on work-life balance at Canadian medical schools. No repeat interviews took place. Meetings were not recorded. WPLC members completed their field notes during and after the interviews. Transcripts were not returned to participants for revision. Each meeting lasted approximately one hour. Data saturation was not discussed. Data collection was complete once all available division and department heads were interviewed (within one year) for each round of interviews.[14]

Phase 2: Growth in the proportion of women physicians holding privileges and leadership positions at TOH

The quantitative component of our study was retrospective, given that we sought to examine the same group of people (women physicians holding privileges and leadership positions at TOH) over the past decade.[10] We identified the number of women physicians holding privileges in 2011, 2016, and 2022 from TOH's internal database, filtering the query to eliminate cross-appointments and non-active/associate privilege categories. We determined the number of women physicians holding leadership positions in 2011, 2016, and 2022 from Roth et al.,[15] an unpublished WPLC report from 2016, and TOH's June 2022 medical head of department/division list, respectively.

Analysis

A university student from TOH's Department of Medical Affairs coded the data. Interview results were organized into eight themes (Table 2) derived

from the interview questions examining TOH's work environment and culture. Participant quotations were anonymized by assigning a number to each division and department; this ensured that responses remained confidential. We used a spreadsheet to manage the data and allow easy comparisons. We calculated growth in the number of women physicians holding privileges and leadership positions in percentages. At TOH's October 2022 Medical Advisory Committee meeting, we presented our findings to senior leadership (including department heads). This enabled leaders to compare leadership opportunities for women physicians in their department with other departments of the hospital. Feedback focused on the next steps for TOH to promote change (e.g., targeting women for the leadership skills development courses sponsored by Medical Affairs).

Results

Phase 1: Survey results and the impact of the WPLC's initiatives

The three sets of interviews of division and department heads provided insight into TOH's work environment and culture (Table 2). Although the WPLC's initiatives have contributed to fostering an environment that promotes women physician leadership, barriers remain. We recorded comments from interviewees to illustrate the various perspectives and provide concrete examples of barriers to women physician leadership at TOH (Table 3).

Even though most interviewees did not mention any specific initiatives to encourage women physicians to advance into leadership roles over the past decade (other than general encouragement and equal opportunities for both men and women), some of these leaders have made commendable efforts. Initiatives include leadership courses, increasing representation of women on committees, and encouraging women to participate in division recruitment activities, succession planning, and mentorship.

Table 2. Overview of interview responses arranged under eight identified themes

Current initiatives to encourage women physicians to advance into leadership roles		
2011	**2016**	**2022**
Most leaders do not have specific initiatives to encourage women physician leadership, though it was defined as a priority	70% (36/51) of leaders indicated there is no specific initiative other than general encouragement and equal opportunities for both men and women.	84% (41/49) of leaders did not mention any specific initiatives other than general encouragement and equal opportunities for both men and women.
Mentoring opportunities for women physicians		
2011	**2016**	**2022**
Only one department has a formal mentorship program; however, many mentioned that informal mentorship takes place, e.g., one department established an informal women's dinner club that meets a few times a year to discuss issues relevant to their practices and another intends to build a coaching program for all department members.	68% of leaders (35/51) indicated there are no formal mentoring opportunities; however, there is extensive informal mentoring within each division and department.	55% of leaders (27/49) indicated there are no formal mentoring opportunities. Two mentioned the challenge of finding mentors and not overburdening them. Most formal mentoring opportunities are specifically for new hires. Most of the divisions and departments have informal mentoring.
Leave policy for medical staff (formalized in 2014 and updated in 2017)		
2011	**2016**	**2022**
	Most heads expressed familiarity with the formal leave policy. Aside from a few leaders who said that the policy was circulated via email, most indicated that it was likely division members were unaware.	Most heads expressed familiarity with the formal leave policy. 51% (25/49) doubt their members are familiar with this policy.

Table 2. Overview of interview responses arranged under eight identified themes cont'd

Financial support for members requesting leave		
2011	**2016**	**2022**
	31% of leaders (16/51) indicated that there was no financial support for long-term leaves. 14% (7/51) said there is financial support for short-term leave or maternity leave. Some divisions and departments use alternative forms of leave policies for financial support than the 2014 policy.	45% of leaders (22/49) indicated there is some form of financial support for medical staff leaves. Not all 22 divisions and departments use the 2014 leave policy for medical staff for financial support; some use alternative forms of leave policies.
Redistribution of workload when a physician goes on leave		
2011	**2016**	**2022**
Most leaders described redistribution of the workload to others in the department; four departments used locums to fill the gaps.	43% of leaders (22/51) indicated that the workload of doctors is typically redistributed among internal staff. 20% (10/51) said they would hire external locums on a case-by-case basis.	51% of leaders (25/49) indicated that they would consider bringing in a locum or currently do so if a physician is on leave for an extended period or if their absence substantially increases the workload of others. Multiple leaders expressed how difficult it is to find locums and thus the tendency to simply redistribute the workload.
Scheduling of division and department meetings		
2011	**2016**	**2022**
Most departmental meetings are held in late afternoon or early evening. Two leaders said they hold meetings at noon and one at 0745. One department does not hold meetings on Mondays or Fridays. Four leaders said they survey to determine the time when most people can attend; one did an initial survey to determine timing, but this is not done on an ongoing basis.	35% of leaders (18/51) indicated that divisional meetings are usually held early in the morning or late in the evening. For 27% (14/51) scheduling is determined through a consensus of division members; for 16% (8/51) it is determined by the division or department head.	59% of leaders (29/49) said their meetings are usually held before 8 a.m. or after 5 p.m. 43% (21/49) indicated that scheduling is determined through a consensus of their members. 12% (6/49) said that scheduling is determined by the division or department head or chair. A couple of heads indicated that virtual meetings have improved attendance.
Potential barriers to women physician leadership		
2011	**2016**	**2022**
	33% of leaders (17/51) did not see any barriers to women physicians. Overall, most leaders said the risk of losing familial time is a barrier to both men and women.	35% of leaders (17/49) did not see any barriers to women physician leadership. Overall, most leaders said that the risk of losing familial time is a barrier to both men and women.
Opportunities for leadership role advancement or promotion and flexible work hour schedules		
2011	**2016**	**2022**
Many leaders indicated that part-time work would not specifically affect opportunities for advancement and leadership roles; however, that would depend on the role. One	2% of leaders (21/51) indicated that leadership advancement would not be impacted by participation in a flexible work schedule. 16% (8/51) said there may be informal barriers to leadership	8% of leaders (4/49) indicated that leadership advancement would be negatively impacted by participation in a flexible work schedule. 24% (12/49) were unsure whether a flexible schedule would

Table 2. Overview of interview responses arranged under eight identified themes cont'd

depend on the role. One head felt that leadership positions require a full-time presence, "or to be around" and reduced working hours would probably affect career progression. More than one leader pointed out that academic promotion is a function of academic priority, so the number of hours worked is not necessarily the criterion you are judged on, but rather your academic output. The criteria for advancement are publications and teaching, and part-time work might lengthen the time to achieve these goals.	barriers to leadership advancement based on a flexible work schedule. 4% (2/51) thought that a lack of physical presence informally demonstrated a lack of enthusiasm. Most leaders did not express concern over lack of physical presence impacting leadership advancement.	a flexible schedule would affect leadership advancement. Most leaders said that what matters is that the physician produces results and can do the job, not the number of clinical hours worked.

Phase 2: Growth in the proportion of women physicians holding privileges and leadership positions at TOH

Since 2011, there has been a steady increase in the number of women physicians holding privileges (active and associate staff): from 30% (255/862) in 2011 to 42.5% (486/1144) in 2022. Since 2016, the largest increases in the proportion of women leaders have been in the Departments of Pathology and Laboratory Medicine (9.4%), Mental Health (8.1%), and Ophthalmology (7.8%). There was no significant improvement in the number of leadership positions

Table 3. Notable comments from the 2022 interviews regarding obstacles to women physician leadership and proactive initiatives to encourage women physician leadership at TOH

Obstacles	Initiatives
"Maybe some women are reluctant to put their name out there… they need to know it's okay to put their name out and not get the job. Need to find ways to reassure women that they are up to the bigger jobs." – Division 15	"Accommodating the needs of potential female leaders is seen as a collaborative process, with an emphasis on good communication. Increased support (stipend, protected time, admin support) has been utilized to facilitate the ability of female candidates to take on important roles." – Division 5
"Trying hard to get more female leadership, and it's hard. Women need a 'tap on the shoulder'… Barriers include stereotypes built in at home, especially in two doctor families. Women just don't have the bandwidth, and the time to do things. One woman had a husband who threatened to leave her if she worked too much." – Dept 6	"Encourages all physicians to take leadership courses. Fosters spirit of collaboration and tries to be aware of feedback and concerns." – Division 19 "New female physician committee XX led by physician X (volunteer position). Advocacy for women for gender equity, academic, clinical and scheduling to prevent biases." – Dept 4
"1. Lack of history/prior female leaders within the department. 2. Because the departmental head role also carries the role of university chair, the university expectation of a candidate being at the level of associate or full professor is a barrier. To reach this level currently requires extensive publication and invited speakerships. These can be barriers for young women. Having publications and invited speakerships do not necessarily share the same skill sets as a good leader." – Dept 10	"Leadership courses and training, targeting women specifically to be in a position to apply for leadership positions. Currently targeting a female physician to be the replacement department chief." – Dept 5 "Actively encourage women to apply for upcoming leadership positions. Support professional development opportunities. Mentor/groom interested women for future leadership roles. Dept 7's EDI working group is currently working on policy to ensure promotion is equitable and inclusive." – Dept 7

held by women physicians at TOH. In fact, although the number of women division heads has increased slightly, from 7 in 2011 and 2016 to 10 in 2022, the number of women department heads (1 in 12) has remained the same since 2011. (Table 4). Figure 1. Percentage of women physicians holding privileges at TOH by department in 2011, 2016, and 2022 (active and associate staff).

Interpretation

Overall, we attribute the progress we have achieved in the last 11 years to the WPLC's initiatives or, simply put: intentionality. However, despite steady progress, our results illustrate that obstacles to women physician leadership at TOH remain, as the increase in the number of women physicians at TOH is disproportionate to the increase in the number of women division and department heads.

Our findings support the notion that "gender parity [among medical students] does not correspond to gender equality,"[16] and thus gender parity in leadership.[17] Overall, the percentage of leaders (35%) who recognize potential barriers to women physician leadership at TOH has not changed since 2016. The barriers identified in our study (e.g., women physicians' familial responsibilities) are consistent with other studies.[7,18] The lack of women division and department heads suggests that the culture for leadership at TOH is predominantly viewed from a man's perspective. Because a man's experience differs from a woman's, some obstacles encountered by women may have been neglected. We suggest this might be one reason why barriers still exist.

This ties into the concept of unintentional gender bias, according to Gawad and colleagues.[18] Tricco and colleagues, on the other hand, argue that gender inequities in leadership are largely a result of "socially constructed gender norms, roles and relations"[5] (e.g., that doctors are men).[16] These designated gender norms, roles, and relations support Khoury's observation that "the biggest barrier women face

Table 4: Proportion of women physicians holding privileges (active and associate staff) and leadership positions (division and department heads) at TOH in 2022, 2016, and 2011

Department	2011, no. (%)	2016, no. (%)	2022, no. (%)
Anesthesiology and Pain Medicine	27 (29.3)	30 (35.7)	37 (37.0)
Critical Care	3 (27.3)	5 (31.3)	5 (33.3)
Emergency	6 (20.0)	18 (32.1)	26 (32.9)
Family Practice	34 (43.6)	38 (58.5)	47 (58.0)
Medical Imaging	18 (24.7)	19 (27.9)	25 (31.6)
Medicine	84 (30.0)	119 (40.9)	179 (46.4)
Mental Health	16 (44.4)	26 (50.0)	43 (58.1)
Obstetrics, Gynecology and Newborn Care	40 (52.6)	42 (55.3)	57 (62.6)
Ophthalmology	4 (11.1)	7 (18.4)	11 (26.2)
Otolaryngology/Head and Neck Surgery	1 (9.1)	3 (25.0)	4 (26.7)
Pathology and Laboratory Medicine	12 (35.3)	11 (34.4)	21 (43.8)
Surgery	10 (9.5)	20 (18.2)	31 (23.1)
Total	**255 (30.0)**	**338 (38.0)**	**486 (42.5)**
Leadership positions held by women	**2011**	**2016**	**2022**
Division heads (*n* = 39)	7 (16.7)*	7 (17.9)	10 (25.6)
Department heads (*n* = 12)	1 (8.3)	1 (8.3)	1 (8.3)
Total	**8 (14.8)**	**8 (15.7)**	**11 (21.6)**

*In 2011, *n* = 42

when contemplating leadership positions is the fact that women do not perceive themselves as leaders,"[3] otherwise known as "imposter syndrome."[19] Evidently, ongoing intentional initiatives are still required to counteract deeply rooted societal constructs in Canadian culture.

Further studies are needed to examine the gender inequities within institutions, as this helps increase awareness and promote public accountability.[5,20] Within the context of TOH, it is important that the WPLC continues its surveys at regular intervals to prevent stagnation. Studies show that the most efficient way to oppose the barriers to women in medicine is to adopt a "top-down" approach, as opposed to a "bottom-up" approach. The former requires change to first be implemented by higher management,[18,21] which includes division and department heads. TOH's division and department heads wish to support their women physician leaders but seek direction. Suggestions on ways we can promote opportunities for women leadership and reduce barriers exist (e.g., see *Harvard Business Review*'s list[22] or box 3 in Tricco and colleagues[5]), but they need to be advertised, implemented, and assessed. In the most recent 2022 interviews, multiple leaders requested a "best practice guide," in response to the question: How could the TOH Women Physician Leadership Committee assist your division/department to further develop and support its women physician leaders? As a start for possible next steps, we have encouraged TOH leaders to consider the proactive initiatives within their neighbouring TOH departments as an unofficial guide for their division or department (see Table 3). Other institutions are also encouraged to consider these recommendations to promote women physician leadership in their centre.

What are the next steps for the WPLC? In addition to the request for a "best practice guide," leaders identified four main targets for the WPLC: leadership skills, well-being, networking, and recognition. Recommendations to develop the leadership skills of their female physicians included offering courses on leadership, crucial conversations, and just culture training. To foster the well-being of female physicians, some leaders advised providing strategies for work-life balance as well as advocating increased administrative support for the positions of leadership. Some leaders also requested that the WPLC establish a formal mentorship program (outside of the departments) and organize talks with guest speakers (e.g., on how to get promoted), to promote networking. Finally, with the intention of recognizing their female physicians, some leaders suggested expanding award systems and emphasizing the fact that positions are given on merit, not gendered-based quotas.

Limitations

Our study had several limitations. As the third round of interviews was conducted during a series of COVID-19 waves, leaders were forced to turn their focus away from leadership promotion initiatives and toward COVID-related issues, such as staffing gaps, burnout, and the shift to a virtual environment. This may have overshadowed some of the areas of progress at TOH since 2016. In addition, the possibility for turnover in the division and department head roles over the past 10 years was limited by 5-year terms. It was not feasible to determine how many roles were vacant, because contract terms end and begin at different dates and roles evolve over time with structural and funding changes. Furthermore, because the interviews took a year to complete, some of the data collected in 2010, 2015, and 2021 may have changed by 2011, 2016, and 2022. Limited meeting times restricted the number of interview questions and also resulted in not getting answers to all the survey questions, creating data gaps. Moreover, our study results may have been affected by interviewer variability, considering the number of interviewers, as well as interviewer bias (inherent to semi-structured interviews). Because the interviews were performed without recordings and with informal note taking, without returning the transcripts to the interviewees for revision, interpretation of the results could have been impacted by interviewer bias. The study was performed without funding, and the time to perform the study was limited by availability of the WPLC members. Finally, since many of the interviewees were men, we were unable to specifically document what women leaders want and need from TOH.

Women Physician Leadership Committee (as of June 2022)

Co-chairs	
Lara Khoury, MD *(geriatrics)*	Camille Munro, MD *(palliative care)*
Members	
Leslie Hamilton, MD *(anatomical pathology)* Miriam Mottiar, MD *(anesthesiology)* Jacky Parker, MD *(emergency)* Ayesha Zia, MD *(emergency)* Krista Wooller, MD *(general internal medicine)* Nathalie Fleming, MD *(general ob/gyn)* Karine Lortie, MD *(general ob/gyn)* Catherine Caron, MD *(general surgery)* Erin Cordeiro, MD *(general surgery)*	Erin Kelly, MD *(gastroenterology)* Jean Seely, MD *(medical imaging)* Jasmine Gandhi, MD *(mental health)* Chloe Gottlieb, MD *(ophthalmology)* Kathleen Gartke, MD *(orthopedic surgery)* Tracy Wrong *(medical affairs)* Cindy Pollock *(medical affairs)* Eliana Wolfe *(medical affairs, report editor)*

Conclusion

Although there has been an increase in the number of women physicians holding privileges at TOH since 2011, it is disproportionate to the increase in the number of women division and department heads. This illustrates that significant obstacles to women physician leadership remain. Women are reluctant to put their name forward, they lack role models in previous women leaders, and they must overcome stereotypical views. Studies like this one are important, as painting a picture of the work culture may be a step toward bringing about change.[4] Continuing to eliminate barriers to promoting women physicians[15] will make consistent progress achievable.

Recently, the WPLC was instrumental in the notable achievement of changing the TOH bylaws, so that one woman must always be nominated to be president or vice-president of the Medical Staff Association.[23] Such intentional changes pave the way for future women leaders. However, work to improve gender parity at TOH appears to fall back to the WPLC versus the institution itself, which signals that the organization's culture is underdeveloped in its ability to address diversity. We encourage open conversations on women physician leadership with co-workers and aspiring physicians to increase awareness of the barriers that exist and address them.

Acknowledgement

We thank Dr. Virginia Roth for pioneering this committee, as well as the committee members for their ongoing investment in developing women leaders.

References

1. Waugh E, Schipper S, Ross S. *Female doctors in Canada*. Toronto: University of Toronto Press; 2019.
2. Addressing gender equity and diversity in Canada's medical profession: a review. Ottawa: Canadian Medical Association and Federation of Medical Women of Canada; n.d. Available: **http://tinyurl.com/5t3fb3xm**
3. Liu A, Rhee G. Promoting female leadership in healthcare: an interview with Dr. Lara Khoury, co-chair of the Female Physician Leadership Committee. *Univ Ottawa J Med* 2017;7(2):9-11. **https://doi.org/10.18192/uojm.v7i2.2185**
4. Westring AF, Speck RM, Sammel MD, Scott P, Tuton LW, Grisso JA, et al. A culture conducive to women's academic success: development of a measure. *Acad Med* 2012;87(11):1622-31. **https://doi.org/10.1097/ACM.0b013e31826dbfd1**
5. Tricco AC, Bourgeault I, Moore A, Grunfeld E, Peer N, Straus SE. Advancing gender equity in medicine. *CMAJ* 2021;193(7):E244-50. **https://doi.org/10.1503/cmaj.200951**
6. Richter KP, Clark L, Wick JA, Cruvinel E,

Durham D, Shaw P, et al. Women physicians and promotion in academic medicine. *N Engl J Med* 2020;383(22):2148-57. **https://doi.org/10.1056/NEJMsa1916935**

7. Ramas ME, Webber S, Braden AL, Goelz E, Linzer M, Farley H. Innovative wellness models to support advancement and retention among women physicians. *Pediatrics* 2021;148(Suppl 2):e2021051440H. **https://doi.org/10.1542/peds.2021-051440H**

8. Pololi LH, Civian JT, Brennan RT, Dottolo AL, Krupat E. Experiencing the culture of academic medicine: gender matters, a national study. *J Gen Intern Med* 2012;28(2):201-7. **https://doi.org/10.1007/s11606-012-2207-1**

9. Decade of success: committee fights inequality and supports female physicians. Ottawa: The Ottawa Hospital; n.d. Available: **http://tinyurl.com/yc8p6apz**

10. Fortin MF, Gagnon J. *Fondements et étapes du processus de recherche : méthodes quantitatives et qualitatives*. 4th ed. Montréal: Chenelière Éducation; 2016.

11. Silverman D. *Qualitative research*. 4th ed. Los Angeles: Sage; 2016.

12. Reeves S, Kuper A, Hodges BD. Qualitative research methodologies: ethnography. *BMJ* 2008;337:a1020. **https://doi.org/10.1136/bmj.a1020**

13. Gropper A, Gartke K, MacLaren M. Work–life policies for Canadian medical faculty. *J Womens Health (Larchmt)* 2010;19(9):1683-703. **https://doi.org/10.1089/jwh.2009.1809**

14. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care* 2007;19(6):349-57. **https://doi.org/10.1093/intqhc/mzm042**

15. Roth VR, Gartke K, Parai J, Khoury L. Unlocking the leadership potential of women in medicine. *Can J Physician Leadersh* 2018;5(1):27-32.

16. Raj A, Kumra T, Darmstadt GL, Freund KM. Achieving gender and social equality: more than gender parity is needed. *Acad Med* 2019;94(11):1658-64. **https://doi.org/10.1097/ACM.0000000000002877**

17. Azam TU, Oxentenko AS. Gender parity in medical school does not equal gender parity in medical school leadership. *J Womens Health (Larchmt)* 2019;28(5):563-4. **https://doi.org/10.1089/jwh.2019.7762**

18. Gawad N, Tran A, Martel AB, Baxter NN, Allen M, Manhas N, et al. Gender and academic promotion of Canadian general surgeons: a cross-sectional study. *CMAJ Open* 2020;8(1):E34-40. **https://doi.org/10.9778/cmajo.20190090**

19. Health care leadership in action: overcoming impostor syndrome. Ottawa: Canadian Medical Association; 2020. Available: **https://www.cma.ca/physician-wellness-hub/content/health-care-leadership-action-overcoming-impostor-syndrome**

20. Casadevall A. Achieving speaker gender equity at the American Society for Microbiology general meeting. *mBio* 2015;6(4):e01146. **https://doi.org/10.1128/mBio.01146-15**

21. Laver KE, Prichard IJ, Cations M, Osenk I, Govin K, Coveney JD. A systematic review of interventions to support the careers of women in academic medicine and other disciplines. BMJ Open 2018;8(3):e020380. **https://doi.org/10.1136/bmjopen-2017-020380**

22. What's holding women in medicine back from leadership. *Harv Bus Rev* 2018;19 June (updated 7 Nov.). Available: **http://tinyurl.com/32e2fwy9**

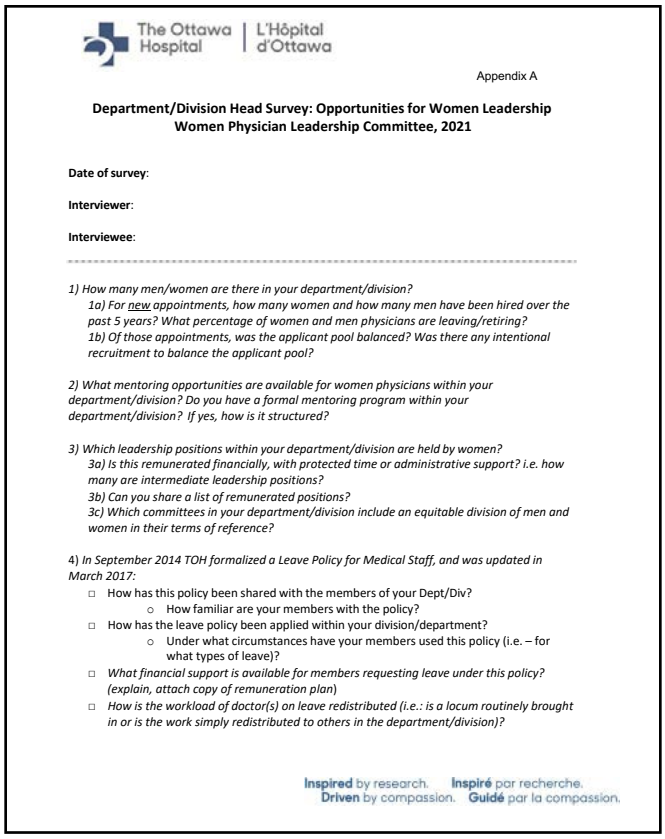
23. Medical staff by-law of The Ottawa Hospital. Ottawa: Ottawa Hospital; 2022. Available: **http://tinyurl.com/3j59453b**

Authors

Eliana Wolfe is a fourth-year BScN student at the University of Ottawa and student/clerk in the Department of Medical Affairs, The Ottawa Hospital.

Kathleen Gartke, MD, FRCSC, is senior medical officer, The Ottawa Hospital, and assistant professor, Division of Orthopaedic Surgery, University of Ottawa.

Lara Khoury, MD, FRCPC, is head of the Division of



The Ottawa Hospital | L'Hôpital d'Ottawa

Appendix A

Department/Division Head Survey: Opportunities for Women Leadership
Women Physician Leadership Committee, 2021

Date of survey:

Interviewer:

Interviewee:

---

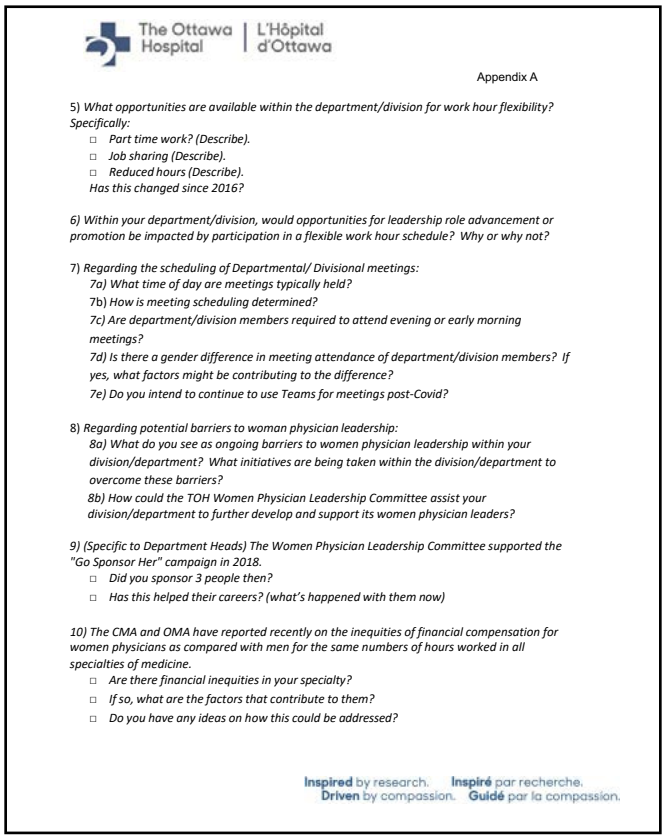
1) How many men/women are there in your department/division?
1a) For new appointments, how many women and how many men have been hired over the past 5 years? What percentage of women and men physicians are leaving/retiring?
1b) Of those appointments, was the applicant pool balanced? Was there any intentional recruitment to balance the applicant pool?

2) What mentoring opportunities are available for women physicians within your department/division? Do you have a formal mentoring program within your department/division? If yes, how is it structured?

3) Which leadership positions within your department/division are held by women?
3a) Is this remunerated financially, with protected time or administrative support? i.e. how many are intermediate leadership positions?
3b) Can you share a list of remunerated positions?
3c) Which committees in your department/division include an equitable division of men and women in their terms of reference?

4) *In September 2014 TOH formalized a Leave Policy for Medical Staff, and was updated in March 2017:*
- How has this policy been shared with the members of your Dept/Div?
  - How familiar are your members with the policy?
- How has the leave policy been applied within your division/department?
  - Under what circumstances have your members used this policy (i.e. – for what types of leave)?
- *What financial support is available for members requesting leave under this policy? (explain, attach copy of remuneration plan)*
- *How is the workload of doctor(s) on leave redistributed (i.e.: is a locum routinely brought in or is the work simply redistributed to others in the department/division)?*

Inspired by research. Inspiré par recherche.
Driven by compassion. Guidé par la compassion.



The Ottawa Hospital | L'Hôpital d'Ottawa

Appendix A

5) *What opportunities are available within the department/division for work hour flexibility? Specifically:*
- *Part time work? (Describe).*
- *Job sharing (Describe).*
- *Reduced hours (Describe).*

Has this changed since 2016?

6) Within your department/division, would opportunities for leadership role advancement or promotion be impacted by participation in a flexible work hour schedule? Why or why not?

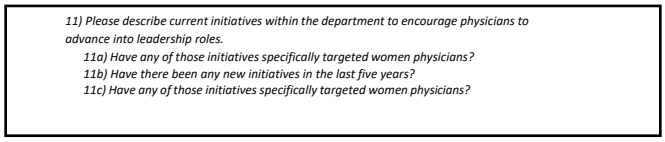
7) *Regarding the scheduling of Departmental/ Divisional meetings:*
7a) What time of day are meetings typically held?
7b) How is meeting scheduling determined?
7c) Are department/division members required to attend evening or early morning meetings?
7d) Is there a gender difference in meeting attendance of department/division members? If yes, what factors might be contributing to the difference?
7e) Do you intend to continue to use Teams for meetings post-Covid?

8) *Regarding potential barriers to woman physician leadership:*
8a) What do you see as ongoing barriers to women physician leadership within your division/department? What initiatives are being taken within the division/department to overcome these barriers?
8b) How could the TOH Women Physician Leadership Committee assist your division/department to further develop and support its women physician leaders?

9) (Specific to Department Heads) The Women Physician Leadership Committee supported the "Go Sponsor Her" campaign in 2018.
- *Did you sponsor 3 people then?*
- *Has this helped their careers? (what's happened with them now)*

10) The CMA and OMA have reported recently on the inequities of financial compensation for women physicians as compared with men for the same numbers of hours worked in all specialties of medicine.
- *Are there financial inequities in your specialty?*
- *If so, what are the factors that contribute to them?*
- *Do you have any ideas on how this could be addressed?*

Inspired by research. Inspiré par recherche.
Driven by compassion. Guidé par la compassion.



11) Please describe current initiatives within the department to encourage physicians to advance into leadership roles.
11a) Have any of those initiatives specifically targeted women physicians?
11b) Have there been any new initiatives in the last five years?
11c) Have any of those initiatives specifically targeted women physicians?

Geriatric Medicine, The Ottawa Hospital, and assistant professor in the Division of Geriatric Medicine, University of Ottawa.

Jasmine Gandhi, MD, FRCPC, is medical director, Perinatal Mental Health, Department of Mental Health, The Ottawa Hospital, and assistant professor, Department of Psychiatry, University of Ottawa.

Jean M. Seely, MD, FRCPC, is a professor in the Department of Radiology, University of Ottawa Head Breast Imaging Section, The Ottawa Hospital.

Camille Munro, MD, CCFP (PC) is assistant professor, Division of Palliative Medicine, Department of Medicine, University of Ottawa, The Ottawa Hospital.

Funding: This study had no funding.

Competing interests: None of the authors has a financial relationship with any organization that may have interest in the submitted work or relations or activities that could appear to have influenced the submitted work. They declare no competing interests.

Correspondence to: **camunro@toh.ca**

This article has been peer reviewed.

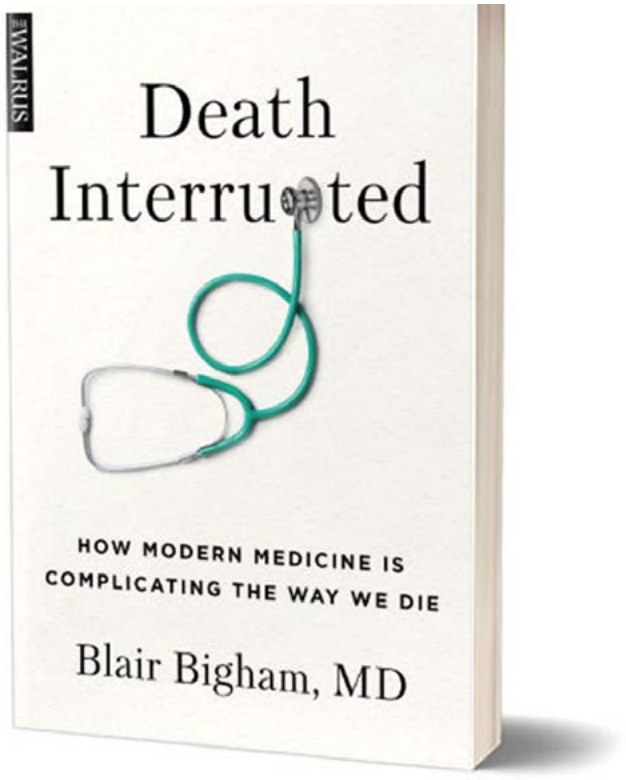
BOOK REVIEW

Death Interrupted: How Modern Medicine Is Complicating the Way We Die

Blair Bigham, MD
House of Anansi Press, 2022

Reviewed by Johny Van Aerde, MD, PhD

In *Death Interrupted*, Dr. Blair Bigham tries to define what death is and when it occurs. The closer the place of death to intensive care settings, the more difficult it becomes.



In his journey from EMS to ER physician to practising intensive care, Bigham discovered that death is no longer black or white; it has become a grey zone as a result of fundamental changes in societal thinking and the never-ending increase in technology. Death is not an on/off switch, it is a process.

Bigham's skills as a journalist shine throughout the entire book as he explains difficult concepts in simple, clear language. This book is about the twilight zone between life and death, the agonizing space for ICU staff, families, and, most of all, patients, even though they are often kept unconscious. By interviewing experts in intensive care, palliative medicine, the law, philosophy, and ethics, by reading extensively, and by adding his own personal experiences and reflections, Bigham explores our society's understanding and perception of death.

It is Western society and our understanding of ourselves as humans and as individuals that have made the process of dying so opaque and controversial. Brigham concludes that ego, hope, and entrenched beliefs cloud the judgement of physicians and families, leading to well-intentioned actions with disastrous consequences for the dying patient, who, supported by machines and technology, becomes an innocent bystander, left in limbo by those empowered to end their suffering. Perhaps, it is not the meaning of life that needs to be understood, but our fear of death and how to turn the process into a potentially good thing.

The boundaries between life and death are socially and culturally determined, and they are always shifting. The rise of technology and the loss of death as a common human experience with people dying at home in their own bed are only partly responsible for the "death dilemma," as Bigham calls it. The current culture also encourages people more than ever to feel special, so that death seems unacceptable and every individual feels deserving of continued life. It is part of general unrest in which society is facing a crisis of authority, an assault on knowledge and expertise, and an erosion of trust in government,

medicine, and technology. Add to that unfamiliarity with death, the extreme denial that the self can and will be discontinued, the burgeoning individualism of our modern-day egos, combined with increasing secularization and lost belief in the afterlife.

Education about death is needed and has been shown to help in making better decisions and accepting death. As for the medical profession, we too need to change our perception of death as failure. That includes disconnecting our self-worth and self-esteem from always having to push the envelope by looking at numbers and organs, rather than the person and their future.

According to Bigham, there are three players in the death dilemma and none of them is technology or equipment. First, there is the patient who has the responsibility to arrive in the ICU with clear, written wishes to guide care in line with their values and beliefs. Second, the family must be ready to make difficult decisions. Families often don't know the wishes of their loved ones and, because of that gap, they put their own beliefs and interests before those of the patient. Thinking about the best interests of the patient should start before the event that brought them to the ICU. Third, the physicians and ICU team have to step back and distinguish the forest from the trees. ICU workers and physicians become focused on numbers and equipment without seeing the big picture, the entire patient.

To make dying a better process, Bigham suggests, "When ICU docs care for their patients and understand their families, and when families understand the limits of medicine at the end of life, an alliance can be formed to honor the patient's life with a loving end." Everyone in Canada who is alive and plans to die at some point needs to read this book.

Author

Johny Van Aerde, MD, PhD, FRCPC, is former executive medical director of the Canadian Society of Physician Leaders and founding editor of the *Canadian Journal of Physician Leadership*.

Correspondence to: **johny.vanaerde@gmail.com**