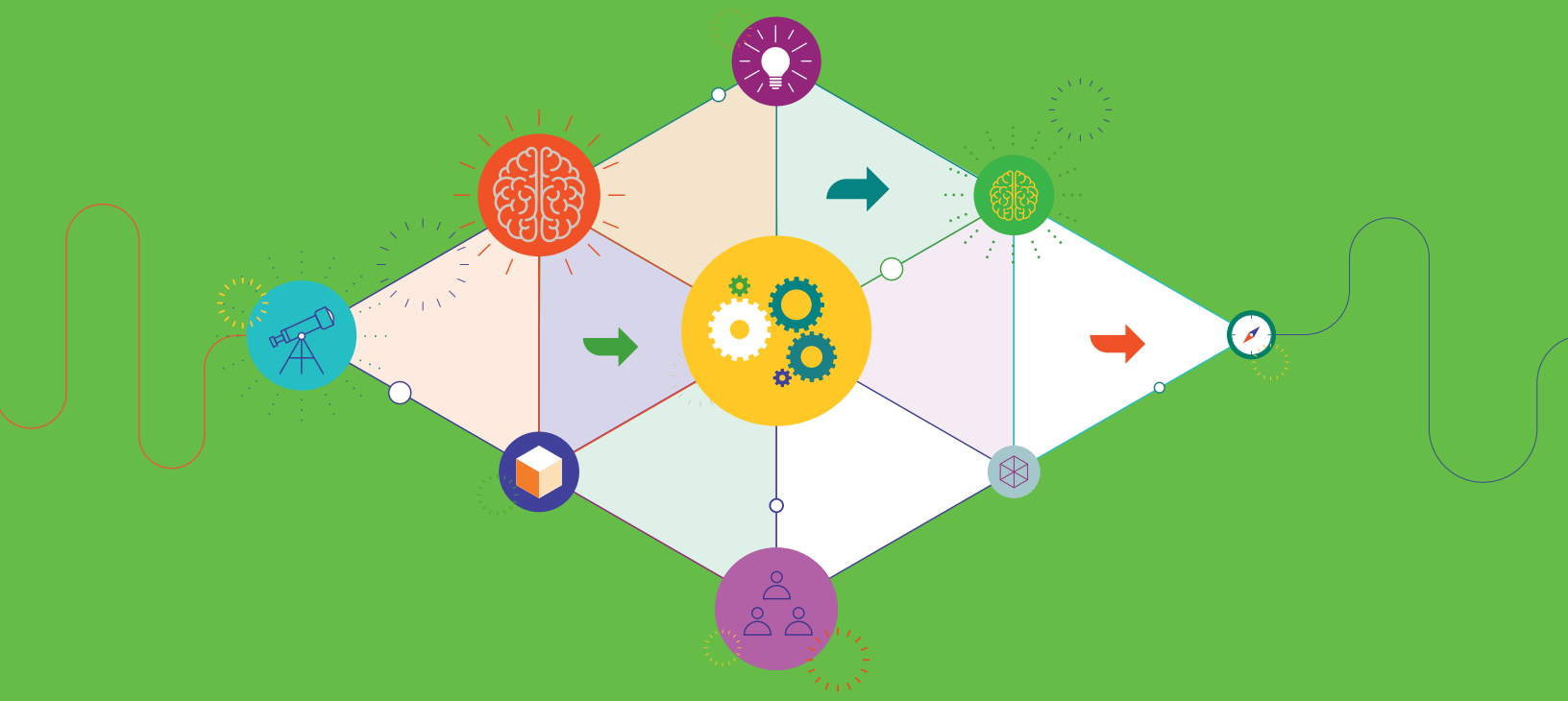

Physician Engagement, Well-being, and Organizational Culture

RESEARCH PAPER

Ontario Hospital Association

This paper was developed by the Ontario Hospital Association, in collaboration with the Institute of Health Policy, Management and Evaluation, Dalla Lana School of Public Health, University of Toronto.

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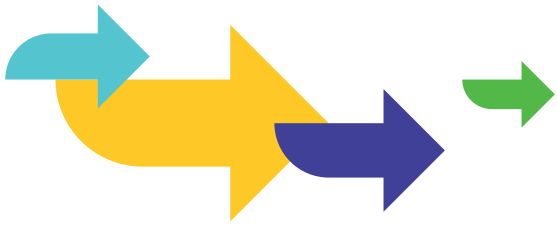


Executive Summary

Health care provider burnout and well-being have been an ongoing concern. We continue to expect physicians to do more with less. Physicians are often conflicted by the commitment to deliver high-quality humanistic care positioned against incentives for volume-based outcomes and efficiency. This has been exacerbated by the COVID-19 pandemic, which has taken a significant toll on health care workers.

The model in which physicians and hospitals work together in Ontario is unique – most physicians are not hospital employees. Instead, a basket of privileges is provided annually in exchange for access to and the use of hospital resources. In addition, physician remuneration for services provided is often offered through the provincial Ontario Health Insurance Plan. Identifying the best way for hospitals to increase physician engagement remains a challenge. Hospitals should consider providing opportunities for growth and leadership development.

Before COVID, the Ontario Hospital Association partnered with the Institute for Health Policy, Management and Evaluation (IHMPE) to better understand physician engagement in hospitals. Given the unique relationship between hospitals and physicians, many hospitals in Ontario have historically been challenged with engaging physicians consistently and continuously.

This report provides critical insights into the engagement, culture and well-being of physicians working in Ontario hospitals. This report is intended to guide hospital leaders in having an open dialogue with physicians and help identify critical barriers in their organizations within their power to change. As a result, hospital administrators can more accurately understand physician expectations, areas of importance, and factors for success.

This report discusses the following:

- The association between work environment, work attitudes and behaviours, and outcomes.
- Physician engagement as defined in the literature
- The importance of using consistent language and common measurements across hospitals
- The distinction between work engagement and participation in more organizational leadership activities
- Use of a 3-item scale for measuring work engagement in the Canadian context
- Reasons identified by physicians for not participating in administrative leadership activities
- Physician concerns regarding their working relationship with senior hospital leadership
- Generational differences in perception of senior hospital leadership by physicians
- Differences in well-being by biological sex
- The relationship between work engagement and organizational culture
- The relationship between self-care and well-being
- Opportunities for improvement in self-care identified by physicians
- The benefit of short, easy-to-view reports identifying critical areas of focus and how it is being used
- Next steps to a better understanding

Introduction

A robust relationship between hospital administration and physicians working within their organization is critical to high-quality patient care. As well, hospital-physician relationships can influence health system integration and transformation. The Ontario Hospital Association (OHA) has undertaken several initiatives, both independently and with system partners, including the Ontario Medical Association (OMA) and the Ontario College of Family Physicians, to investigate and better understand this relationship. Over the past five years, these initiatives include joint publications, a policy journal, and regional sessions. This work has helped reinforce the valuable role the OHA can fill in enhancing the relationships between hospital leaders and physicians.

The governance of physicians in hospitals is different than that of other health care professionals. Physicians are granted privileges on an annual basis to use hospital resources for patient care. The comprehensive legal and regulatory framework that governs the relationship between hospitals and physicians sets out, in detail, how physicians are appointed and reappointed, in addition to board hearing process around the restriction, suspension, and revocation of privileges and dispute resolution. The prescriptive nature of this legal model has created an "us vs. them" mentality between hospitals and physicians. It can mean using quasi-legal processes to resolve simple disputes. As a result, hospitals and physicians are often challenged with identifying innovative ways to improve engagement within this framework.

OHA members identified a need to thoroughly evaluate and subsequently address physician engagement. In addition, members identified a desire for shared learning to encourage and sustain positive engagement while improving hospital-physician alignment. This remains a long-term focus for the OHA. Five years ago, the OHA Legal, Policy and Professional Issues team partnered with the Institute of Health Policy Management and Evaluation (IHPME) at the University of Toronto's Dalla Lana School of Public Health.

A second incentive to better understand and address physician engagement is the requirement embedded in the *Excellent Care for All Act* (ECFAA), requiring health care organizations to conduct surveys of employees and other service providers within the organization every two years. The terms satisfaction, well-being, and engagement are used interchangeably in the legislation and complementary guidance materials. Unfortunately, this has resulted in hospitals utilizing disparate and sometimes home-grown and unvalidated tools to capture data regarding the relationship between organizational leadership and physicians. The use of a wide variety of assessment tools hampers inter and intra-provincial comparisons. It draws into question the robustness of some findings. Organizational feedback included complaints that survey reports were often complicated. In addition, hospital administrators were not always clear on how to address results.

Increased stress, resource constraints and efficiency drives have made it challenging for senior hospital administrators to create and sustain work environments that motivate and empower physicians. Given the significant resources being devoted to enhancing 'physician engagement,' an accurate and consistent definition of the term is an essential first step for developing and assessing tools to evaluate physician engagement. Individual hospitals currently use their own unique descriptions while academic literature on the topic is sparse. Without a clear operational/working definition of physician engagement, it is challenging to determine if actions and resources allocated by organizational leadership target relevant issues and lead to positive outcomes.

The OHA-IHPME research team identified three opportunities. First, to establish greater conceptual clarity and subsequently help hospitals develop a simple, helpful evaluation tool to measure physician engagement. Secondly, to identify which engagement improvement processes are successful at improving physician engagement. Finally, to determine the relationships between physician engagement and outcomes, including appropriate and effective use of resources, patient satisfaction, patient experience, and overall quality of care received by Ontarians.

Theoretical Foundation for this Research

The theoretical foundation for this work is the study of human behaviours in the workplace, more commonly referred to as 'work psychology.' [1] Within work, psychology is the Theory of Reasoned Action (TRA). TRA suggests that our observations influence our attitudes. Our attitudes, i.e., the way people feel towards a specific behaviour, impact our behavioural intentions. The stronger the behavioural intentions, the more likely the behaviour will occur. Therefore, one's observations and experience of their work environment, including an organization's culture, impacts one's attitudes to their work. One's attitude towards work may also be described as one's work engagement which impacts our behavioural intentions and behaviour. Our attitudes and behaviour are therefore directly associated with work outcomes.[1, 2]

A simplified version of this is presented in **Figure 1**. Modifications in the work environment can therefore impact work outcomes. and the reverse is also true.[3-5] Work outcomes can also affect the work environment. [4] Understanding physicians' attitudes and behaviour in relation to their work would provide rich insights to support the development of appropriate interventions to accurately target and improve work outcomes.

Figure 1. Relationships between work environment, attitudes, behaviours, and work outcomes

Modifications in the work environment can impact work outcomes.

Understanding Physician Engagement

Health care literature suggests that physician engagement is critical to achieving sustained health system improvement. Engagement is required at all levels; the patient, organization and system levels. This is associated with improved organizational and health system efficiency, service provision, innovation, job and patient satisfaction.[6] Physician engagement may be a robust indicator related to improved health system performance and patient outcomes.[6, 7] However, in our preliminary investigations, we identified that within Ontario, there was little evidence to support this hypothesis. Additionally, wide-ranging application of the term physician engagement was often used and vaguely defined or inappropriately utilized altogether.[8, 9]

In contrast, 'work engagement' is a well-established construct in organizational behaviour literature. Work engagement refers specifically to a positive, fulfilling, work-related state of mind characterized by vigour, dedication and absorption.[10] Individuals with high work engagement display high energy, mental resilience, persistence and a willingness to invest effort in their work. Dedication encompasses a sense of significance, pride, enthusiasm, inspiration, and challenge. Absorption involves being fully engrossed in one's work, total concentration and difficulty detaching oneself from work so that time passes quickly.[10] Work engagement further refers to the mindset of physicians regarding how they approach their work. We, therefore, focused our initial efforts on identifying and distinguishing when and how the terms work engagement and physician engagement were being employed.

Scoping Review of Hospital Physician Work Engagement

We conducted an initial scoping review to identify factors associated with and the tools currently used to measure the work engagement of physicians. Our protocol was published in *BMJ Open*; see **Appendix 1**. Our scoping review was published in *Medical Care*, see **Appendix 2**. Our findings suggest that there is very little academic research on the work engagement of hospital physicians. Only 15 studies were found, many of which were conducted overseas. The most common tool identified in our review is the Utrecht Work Engagement Scale (WES), specifically the short 9-item version of the Utrecht WES. We were able to rationalize and consolidate the factors associated with the work engagement of physicians in the studies into three overarching categories: individual characteristics, characteristics of the work environment, and work outcomes.

Factors Associated with the Work Engagement of Physicians

Individual Characteristics

Individual characteristics and personal attributes are positively and significantly associated with physician work engagement. Individual characteristics include age, sex, work experience, marital status, and the presence or absence of children. Personal attributes include resiliency, self-efficacy, optimism, agreeableness, neuroticism, and affectivity. Conversely, significant negative associations related to engagement include work-family conflict and pessimism, i.e. the more pessimistic a physician was, the lower their engagement.

Characteristics of the Work Environment

Work environment characteristics positively and significantly associated with physician work engagement include having a good work-life balance, helping patients, job control, supervisory support, possibilities for professional development, professional fulfillment, social climate, organizational support, and job resources. Protection from an emergency consultation for non-emergency symptoms would be an example of organizational support. Job resources refer specifically to the job's physical, psychological, social, or institutional aspects that reduce job demands and physiological and psychosocial costs. They are functional in achieving work goals and/or stimulate personal growth, learning, and development. Significant negative associations with their work engagement include access to information, task combinations, i.e., the combination of teaching, research, and patient care, perceived job stress, and job demands - precisely the quantity of work, emotional demands, and requirement for overtime.

Work Outcomes

Scoping review findings suggest there is very little evidence linking the work engagement of physicians with work outcomes. The only positive significant relationships with work engagement included job satisfaction and one's ability to work and manage demands successfully. Notably, a significant negative association was identified between the work engagement of physicians and medical error; specifically, the lower a physician's work engagement, the greater the likelihood of medical error.

Conceptual Analysis of the term Physician Engagement

A conceptual analysis of the term 'physician engagement' was conducted due to the lack of rigorous evidence to support a relationship between the work engagement of physicians and improved outcomes, **Appendix 3**. First, we wanted to determine how the term was used in academic literature. Subsequently, we wanted to explore the positive relationship between physician engagement and improved outcomes for physicians, patients, and organizations. Clarity regarding the definition of physician engagement could help physicians and hospital administrators more accurately measure engagement. In addition, a more accurate understanding of the type of engagement across an organization would inform hospital administrators' selection of initiatives to increase physicians' engagement.

Our results indicate that the term 'physician engagement' refers to regular participation of physicians in (1) deciding how their work is done, (2) making suggestions for improvement, (3) goal setting, (4) planning, and (5) monitoring of their performance in activities targeted at the micro (patient), meso (organization), and/or macro (health system) levels. The antecedents of 'physician engagement' include accountability, communication, incentives, interpersonal relations, and opportunity. The consequences, or result, of physician engagement include improved outcomes in data quality, efficiency, innovation, job satisfaction, patient satisfaction, and performance. This has been considered in greater detail in our op-ed in the *Canadian Journal of Physician Leaders,* **Appendix 4**.

Measuring Physician Engagement in Ontario

Existing instruments used to measure physician engagement did not capture all of the engagement facilitators identified in the literature. Examples include Worklife Pulse,[11] Well-being Index,[12] and Culture of Care Barometer.[13] Other engagement instruments, such as the Medical Engagement Survey,[14] measured constructs such as 'empowerment' and 'satisfaction' which may further contribute to ambiguity around the definition and use of the term engagement. This lack of clarity renders meaningful measurement difficult as no two instruments evaluate the same constructs. An additional concern was response burden, as many instruments are quite lengthy. The opportunity presented itself to develop a simple and efficient tool to accurately measure physician engagement and facilitate well-informed decision-making by hospital leaders based on the results.

Survey Development

Modified Delphi

Potential Delphi participants from the Ontario Medical Association, Ontario Health, and the Dalla Lana School of Public Health were contacted via email and in person. All agreed to participate. The panel was then sent an email that contained an Excel file (Microsoft, Redmond, Wash., USA) with constructs and sample questions. Participants were asked to rank questions on a Likert scale from one (not at all important) to five (very important) and to suggest additional indicators. Items included in a second round were determined by the first round.[15] The questions were then revised and recirculated to the team via email and an Excel spreadsheet. Questions with an average score of less than 3 were removed. Questions were then distributed to, and feedback was obtained from, the OHA's Physician Provincial Leadership Council (PPLC), a group of senior physician leaders from across the province. Cognitive debriefing was conducted to ensure the questions resonated with them, were actionable, were worded appropriately (e.g., not harmful or abrasive in any manner), and minimized respondent burden. This work was published in the *Canadian Journal of Physician Leaders*, **Appendix 5.**

Pilot Test

The survey was constructed using the Checkbox 7 online survey platform. The purpose of alpha testing was to assess the feasibility of the email distribution method, determine the amount of time it takes to complete the survey, and evaluate data management. A cross-sectional survey design and convenience sampling were used. Convenience sampling was used to recruit physicians from across Ontario. Several hospitals were identified through OHA's Provincial Physician Leadership Council in December 2018. An email invitation was sent from the OHA to the PPLC to represent various hospital types. Examples of specific types include community, small/rural, academic teaching, mental health, and complex continuing care/rehabilitation. Those interested in providing feedback were asked to contact the research team. Respondents were also asked to forward the link to individuals on their medical advisory committee who would complete the survey, critically assess the instrument, and provide feedback. In total, the link was distributed to 49 physicians, of which 37 completed the study for a response rate of 75.5%. This sample included 15 specialties from seven sites, with variations in hospital type. To avoid the potential identification of participants, details related to hospital type and specialty are not reported. Email distribution and data management strategies worked well. The survey took an average of five minutes and 43 seconds to complete. This work was also published in the *Canadian Journal of Physician Leaders,* **Appendix 5**.

Research Study: Measuring Physician Engagement, Well-being, and Organizational Culture

The survey used in the pilot study was expanded to include additional areas of interest to the OHA-IHPME research team. The final survey resulted in 67 questions. They were divided into four main sections: administration, work engagement, well-being, and organizational culture. The administrative section consisted of basic demographic information and included specialty, years of experience, and payment model. No personal identification data was collected. The section on work engagement consisted of three questions selected from Schaufeli's nine-item Utrecht Work Engagement Scale (UWES) to decrease

respondent burden. The UWES uses a zero (Never) to six-point (Always) Likert scale.[10] Schaufeli also trialled a shorter three-item UWES and found good reliability across five national samples.[16, 17] The remaining two sections on well-being and organizational culture in our survey each used a one (Strongly Disagree) to five-point (Strongly Agree) Likert scale.

For the well-being section of the survey, despite a lack of consensus on a single definition of well-being, there is an agreement regarding the inclusion of the presence of positive emotions (e.g., contentment, happiness), the absence of negative emotions (e.g., depression, anxiety), satisfaction with life, fulfillment and positive functioning.[18-20] To further reduce respondent burden, two single-item questions were selected to represent depersonalization and emotional exhaustion. These included "I have become more callous" and "I feel burned out." Research suggested they demonstrated results consistent with those based on the well-validated 22-item Maslach Burnout Inventory.[21] Additional well-being items include feelings of anxiety, workload, and work-life balance. The final section covered organizational culture. Organizational culture is characterized by a shared set of values, attitudes, beliefs, and expected behaviours between members of an organization.[22] Subsections include senior leadership, co-workers, work environment, and perceived quality of care.

A trial of the survey was conducted in different Canadian provinces and different clinical settings beyond hospitals. Data collection commenced on June 6th, 2019. Convenience sampling was used to recruit physicians. The OHA announced the study by distributing a message to its CEO and Chief of Staff's email distribution list. All parties were informed that this was voluntary and that both the survey and analysis were free of charge. All were told to contact our research team if they were interested in participating. Once hospitals confirmed interest, they received email templates, which contained a link to the online survey, for distribution to their physicians. Physician participation was voluntary. The Canadian Society of Physician Leaders (CSPL) also distributed an e-invitation to all members. The e-invitation appeared two times in the CSPL electronic newsletter, which is distributed at two-week intervals.

The Dillman internet methodology was used to distribute the survey, which consisted of an advance-notice email, a link to the survey distributed on day 7, and a follow-up email for day 14. Finally, on day 21, a final termination email to close the study.[23] Once participants clicked on the link, they were directed to an introduction page, explicitly stating that they were consenting to participate in this study by completing and submitting the survey. The survey closed on February 29, 2020.

Analyses and Findings

Preliminary Analysis

A preliminary analysis was conducted of 391 physicians from 9 Canadian provinces. Demographics and results are reported in **Appendix 6**.

Physicians Can Be Engaged in Their Work, but Not Necessarily Their Workplace.

In this sample, physicians had high work engagement. The work engagement scale demonstrated good reliability. Physicians in this sample were engaged in their work, enthusiastic, dedicated to and absorbed in their day-to-day activities. However, many physicians identified that they were not engaged in organizational leadership activities. They were primarily involved in 'decision-making.' The least amount participated in 'monitoring performance and planning.' Fewer in 'setting goals and suggesting improvements' with least involvement in 'monitoring performance.'

In line with our results, the literature suggests that physicians can be engaged in their clinical practice but not engaged with the organization's administration in which they practice. [24]

Work engagement is a state of mind characterized by vigour, dedication and absorption in work.[17] Physician engagement is the active participation or involvement in specific activities often associated with organizational leadership activities. These include deciding how work is done, suggesting improvements, goal setting, planning, and performance monitoring at the patient, organization, and system levels.[25, 26] Each construct provides useful but different information. Healthcare leaders must turn their attention to actively promoting physician engagement by inviting and supporting their participation. There is a clear distinction between work engagement and physician engagement. The correct terminology must be used to avoid mislabelling.

The lack of evidence related to successful interventions may be due to blurring the two concepts, work engagement and physician engagement. Once robustly measured, hospital leaders can then consider, implement, and evaluate targeted interventions to increase physician engagement at the patient, organization, and system levels.

Do We Want Physicians Engaged at the Patient, Organization, or System Level?

A robust literature review identified that the likelihood of health system improvement at all levels would increase with enhanced physician engagement.[6] Findings from this analysis suggest that currently, this is still lacking. Physicians in this sample participated most at the patient level, followed by the organization level, with minimum participation at the health system level. See **Figure 2**. Some may feel that the distribution across the three groups is appropriate. However, one should consider whether increased efforts to engage physicians at the organization and health system level would produce different results. Health care leaders need to determine the distribution that best meets their needs.

Knowing that health system improvement requires physician engagement at all levels, [6] this survey can help health care leaders obtain baseline data. This will also shed light on the number of physicians participating at each level. This data is currently not collected in Ontario, Canada. To the best of our knowledge, it is not routinely collected elsewhere in Canada. As a result, it is hard to know if efforts result in improvements in areas that are not being accurately measured. Capturing this data enables health care leaders to identify where physician engagement is occurring across all three levels. Regardless, there is very little evidence-based research on how to effectively improve physician engagement.

Top Reasons Given for Not Participating in Organizational Leadership Activities.

Findings provide insight into factors that impede 'physician engagement.' The top five reasons for not participating at any level were (1) not being asked to participate, (2) too much bureaucracy, (3) lack of opportunity, (4) no leadership support, and (5) fear of negative consequences from leadership. See **Figure 2**.

These insights can inform health care leaders as they prioritize initiatives and allocate resources. Our findings align with recent research identifying the need to improve physician-administration relationships and the importance of leadership support on physician engagement [7, 27]. Potential solutions could be as simple as leadership identifying or creating targeted opportunities for physician engagement. Based on early findings, leaders could examine engagement facilitators such as assigned accountability, improving communication channels, and enhancing interpersonal relationships. Additionally, some may want to consider trialling incentives while creating and marketing leadership opportunities. These could include monitoring performance and strategic planning activities. This could potentially enhance uptake.[26] These specific opportunities in tandem with leadership support could be communicated through various channels pending clinical setting to encourage physician engagement.

Self-care and Well-being

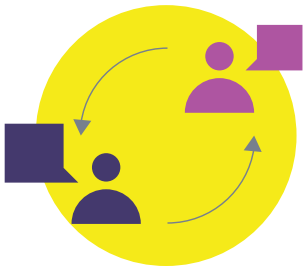
Preliminary reliability results for both self-care and well-being are promising. Approximately half the sample felt burned out. Half of the respondents also identified not feeling anxious at work, participated in things they enjoyed, exercised regularly, felt gratitude daily, and were kind to themselves. Only one-third of the sample made time to relax. This aligns with the literature. In 2017 the Canadian Medical Association (CMA) National Physician Health Survey established that approximately one-third of Canadian doctors are burned out.[28] The burnout rate was slightly higher in this sample. Almost half of the respondents 'agreed' or 'strongly agreed' to feeling burned out; however, it is three years after the CMA study. A Canadian 2020 study of 384 emergency physician respondents found that almost 90% met at least one of the criteria for burnout.[29] Concerns related to work-life balance identified in this analysis are also supported by findings in the literature. A 2013 Canadian National Physician Survey identified that almost half of the family physicians who responded were satisfied with their work-life balance.[30]

The literature suggests that self-care is a professional imperative.[31] There is not a large amount of evidence-based research explicitly related to physician self-care and well-being. Findings from this analysis suggest that there

Figure 2. Engagement Levels and Reasons for Not Participating at Any Level

is a moderate correlation between self-care and well-being at work. This, too, is supported in the literature. A study involving 57 Canadian physicians identified that self-compassionate physicians felt less emotionally, physically, and cognitively exhausted. This resulted from high work demands and greater satisfaction with their professional life than physicians who exhibited less compassion toward themselves in uncertain and challenging times.[32] In addition, a recent American study involving 1575 health care workers, including physicians and allied health, identified well-being was improved with gratitude letter writing.[33]

The data from this study is crucial as it provided baseline data immediately before the COVID-19 pandemic. Since this is a newly developed tool, additional reliability testing is required with larger samples across different clinical settings. The current COVID-19 pandemic has likely exacerbated workload, stress, and burnout. The impact of stress can compromise the compassionate care provided to patients and impact physician well-being.[34-37] Future research should include qualitative research to better understand the data and examine attitudes, behaviours, and barriers to self-care practice. A global review of the impact of COVID-19 on physicians outlined recommendations to support physician well-being, including targeted burnout reduction programs offered organizationally, telehealth to support mental health, support programs for families, and training for medical students in stress management and pandemic planning.[38] In a U.S. sample of 70 physicians, a mindful communication educational program demonstrated positive results in improving well-being.[39] Introductory mindfulness, compassion, cognitive-behavioural, and psychosocial support training programs can be adapted to address the needs of physicians across their professional careers. This programming can provide concrete strategies to engage in self-care, better manage workload demands, improve well-being, and ultimately, enhance quality care. Brief modified training programs can be integrated during and post pandemic to address the lack of time indicated by physicians as barriers to engaging in training and self-care. Health care leaders have a vital role in helping physicians, and other allied health, practice self-care. It is also critical that physicians and all allied health recognize the importance of self-care and its impact on their well-being. This has never been more important than now, as clinicians face pandemic fatigue.



Primary Analysis

An analysis was conducted of 1096 physicians from 9 Canadian provinces. For demographics and results, see **Appendix 7**.

Hospital – Physician Relationships

This sample was quite diverse in their type of work. Despite the separate organization of cancer services in many provinces, each focusing on physician engagement, relatively few respondents were from this group. There was also a noted absence of responses from public health physicians.

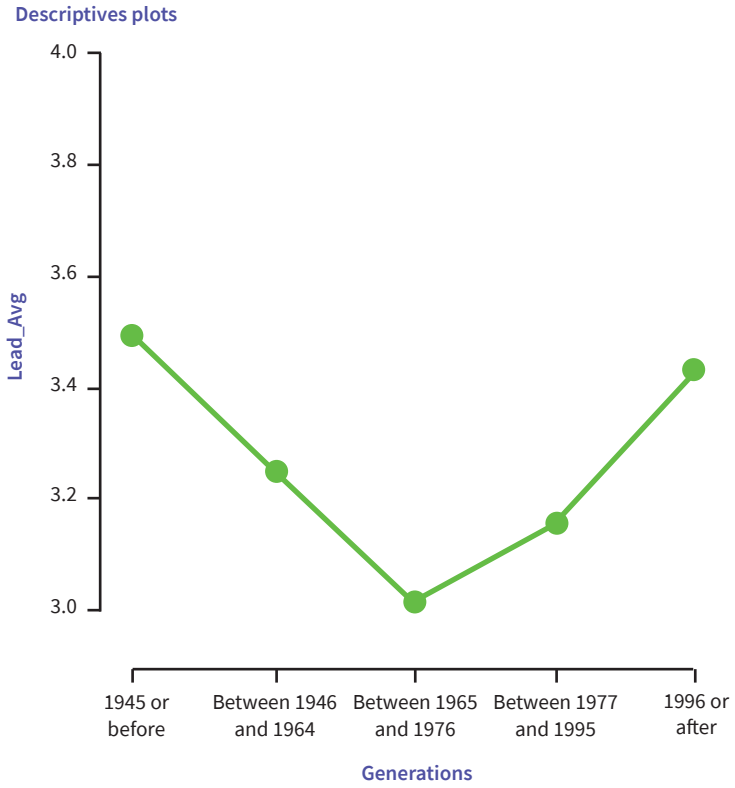
Respondents believed that they positively impacted people's lives through their work and felt that their work was meaningful. This was followed by work engagement and co-worker relationships. The scales had good reliability, well above the acceptable score of .70.[16] Respondents were enthusiastic about their job, felt like going to work, were excited to go in, and enjoyed being absorbed in their work. Overall, they felt respected by their co-workers and that their inter-professional teams functioned well together. Approximately two-thirds felt that their organization provided a high level of quality care.

Work engagement and organizational culture are moderately correlated. Respondents rated empowerment, work engagement and co-worker relationships the highest. Work environment, well-being, and senior leadership were rated the lowest. Within the work environment category, only about half the sample felt alignment between their goals and their organization's goals and identified that they were held accountable for achieving results. Within well-being, only about one-third of the sample felt that their schedule left enough time for their personal life and disagreed or strongly disagreed with feeling burned out. Within the senior leadership category, almost half the sample trusted their organization's leadership. They felt well supported, and their concerns were taken seriously. They indicated that senior leadership listened to their views and felt that unacceptable behaviour was consistently tackled. Only about one-third of the sample received constructive feedback.

Generation and Leadership

Generation X rated senior leadership the lowest. See **Figure 3**. This is not surprising and aligns with recent literature identifying complex work relations with this group. [40] Regardless, three-quarters of the sample felt that their organization provided high-quality care. Findings also support the healthcare literature on work engagement [41, 42] and burnout.[43] Physicians demonstrate high engagement in their work, and burnout remains a significant concern. Results also support recent research identifying that strained relationships between physicians and administration are still an issue.[7] Less than half of the sample trusted their organization's leadership, felt they were accountable for achieving results and that their goals did not align with those of their organization. Only about two-fifths of respondents felt well supported, their concerns were taken seriously, their views were listened to, and that unacceptable behaviour was consistently tackled. Only about one third of the sample received constructive feedback.

Figure 3. Perception of Leadership by Generation



Biological Sex and Well-being

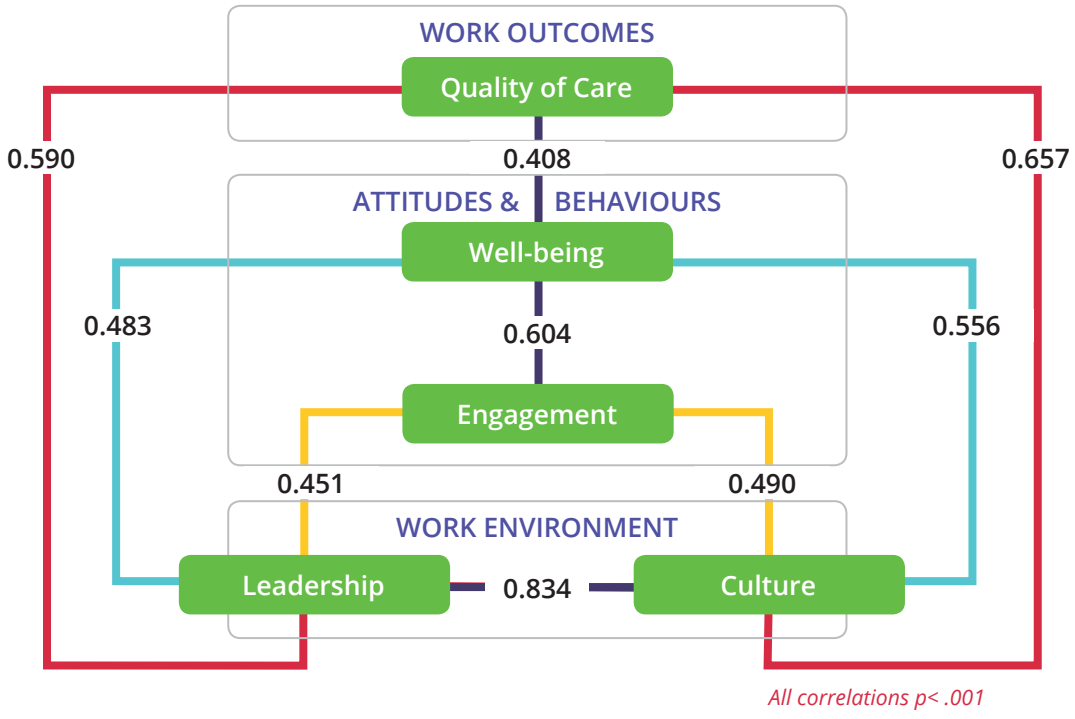
When evaluating differences between females and males, there was only one significant difference. The mean well-being score was lower for females compared to males. Anxiety is correlated with burnout and the feeling that work is piling up, unable to overcome it. Findings align with the literature,[44] [45], which suggests that women are more likely to suffer emotional exhaustion. Further inquiry is required to determine if this is due to prevalence, assessment tools, openness to report, or whether it manifests differently for women and men.[44] [45]

The literature suggests that gender differences in burnout do exist. Women physicians tend to face gender biases and discrimination, barriers to professional advancement and defer personal life decisions more than their male counterparts. [46] Physicians who are mothers tend to be impacted by work-life integration issues more since they often are responsible for household tasks and childcare arrangements.[46] Senior physician women were also primary caretakers for one or more family members. This included grandchildren and elderly parents, following lifelong societal gendered expectations. [47]

Exploring Relationships Between Constructs

Correlations between constructs were explored. The strongest relationships identified are indicated in **Figure 4**. Physicians' perceptions of senior health care leadership behaviours are strongly and positively associated with their perceptions of organizational culture. In addition, these work environment variables are positively associated with physician engagement and well-being (attitudes and behaviours) and physicians' perceptions of the quality of care delivered (work outcomes), respectively.

Figure 4. Strongest Correlations Between Constructs



All correlations p< .001

Outcome Reports and Hospital Feedback

Ontario hospitals that participated each received two colour-coded reports, an individual site report and a report that contained the data for all participating hospitals. GREEN indicated the site was doing well in a category. The average for the item was on the positive end of the Likert scale. RED identified areas of concern. The average for the item was on the negative end of the Likert scale. See sample outcome report in Figure 5.

Sites were asked to provide feedback on the format and usefulness of the report. It was well-received. Hospital administrators/senior leaders noted that they could quickly identify areas for concern. Several of the sites used their outcome reports, as we hoped, to help determine where to focus their efforts and resources in prioritizing initiatives. In addition, an amalgamated provincial report was provided to each hospital to facilitate comparison to a provincial average.

Figure 5. Sample Feedback Report

Organization Senior Leadership Statements:	Mean
There is strong senior leadership in this setting.	4.01
Senior leadership in this setting listen to my views.	4.86
I feel well supported by senior leadership.	4.90
I trust senior leadership.	4.94
I feel senior leadership treat me with respect.	4.54
I receive constructive feedback from senior leadership.	4.99
My concerns are taken seriously by senior leadership at this site.	4.88
Unacceptable behaviour is consistently tackled in this setting	2.33
I feel well informed about what is happening in this setting.	4.68
Two-way communication exists between administration and me in this setting.	4.96
I am held accountable for achieving results in this setting (e.g., reaching targets, service use, system performance, savings).	4.71

Work Environment Statements:	Mean
This site has a positive workplace culture.	4.43
Leadership opportunities are availble to me in this setting.	2.71
I have education and training opportunities in this setting.	1.13
I have the resoureces I need to do a good job.	4.17
There is alignment between my goals and the goals of my workplace.	4.28

Likert Scale: 1 = Strongly Disagree 5 = Strongly Agree

Recommendations Based on Insights Gained

Improving physician engagement, well-being, and organizational culture over time requires a concerted effort by health care leaders to continually evaluate their objectives and the methods used to achieve them. Although this is just the beginning of our work in this area, we have gained critical insight into several key areas.

1. **Use of common language and tools.** Leadership should consider the language used and how they measure engagement. A consistent approach offers an opportunity to realign and implement standardized language across the sector. This would be ideal for enabling a more comprehensive investigation and understanding of physician engagement. The use of a standard tool in this study enabled comparison across sites. No concerns were identified when used in different provinces and by other specialties outside of the hospital setting.

2. **One cannot improve what is not accurately measured.** Hospitals must determine what it is they are interested in. Is it physician work engagement – the positive psychological state of mind, or participation in leadership activities such as monitoring performance, strategic planning, or perhaps job satisfaction or commitment? Checking scale reliability and validity is also critical to ensure that the survey consistently measures what it is supposed to measure.

3. **Two-way communication is critical for success.** Having open two-way communication is essential. There was sometimes a disconnect between perceptions of frontline physicians and hospital administration regarding trust and respect. It appears that communicating available opportunities is also critical. If increased physician participation in leadership activities is what you want, ensure open and appropriately communicated opportunities.

4. **Focus on actionable items.** Individual characteristics are not modifiable by the organization. These include employee age, sex, marital status, and the number of children one has. The work environment, on the other hand, is modifiable. Hospital administration, for example, can modify schedules, divide labour, and improve supports. The administration can address poor behaviour, grant more autonomy, provide timely and constructive feedback, and create opportunities for professional development.

5. **Engaged leadership can increase survey response rates.** We learned that simply having the survey distributed is not enough. Hospital administration must actively participate in survey distribution to maximize response rates. The more active leadership was in asking physicians to complete the survey and department heads to remind staff, the higher the response rate.

6. **Use of 3-item Work Engagement Scale in the Canadian context.** The section on work engagement consisted of three questions selected from Schaufeli's nine-item Utrecht Work Engagement Scale (UWES), which used a zero to six Likert scale.[10] Only three items were used to decrease respondent burden. For those organizations wishing to measure work engagement, the three questions used in this study appear to be reliable in the Canadian context.

Next Steps

Quantitative Data Analysis: Survey Follow-Up

Sites that participated in the original study were provided with the opportunity to readminister the survey in June 2021, free of charge, enabling comparison with their pre-COVID data. Upon completing data analysis, qualitative interviews will be conducted.

Qualitative Data Analysis: Interviews

This will involve detailed discussions with hospital administrators, Chiefs of Staff, and frontline physicians. Topics for discussion will include physician engagement, well-being, and self-care practices.

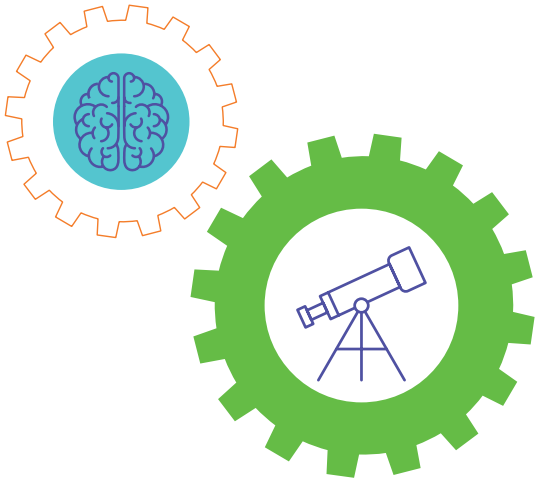
Hospital-physician relationships will also be explored. There can sometimes be a disconnect between perceptions of leadership and those of frontline workers. Leaders may feel physicians are disinterested in contributing to an organization or system improvements. However, physicians may simply feel there are no opportunities available. Like most relationships, much of the success appears to be driven by trust and communication between the parties. Historical friction between hospital administration and physician groups within hospitals can take years to overcome, even with changes in leadership on either side. In addition, while physician leaders suggest that they are well attuned to the needs and challenges of their frontline counterparts, historical experience indicates that this isn't always the case.

Finally, we hope to identify potential opportunities for senior health care leaders to enhance and sustain physician engagement at the system level. This has been identified as essential in ensuring successful system transformation. Engagement in system design and innovation is often prohibitive. Participation can take away from a physician's overall capacity to complete, and be remunerated for, their clinical work. During COVID, temporary funding provided through an agreement between the Ontario Medical Association and the Ministry of Health provided remuneration for physicians for administrative leadership roles, a first of its kind. With access to this type of funding, hospitals encouraged physicians to participate without looking to their operating budgets to try and compensate for this vital work.

Future Research

Although our survey demonstrated good reliability across all constructs, additional testing is required with larger sample sizes across different clinical settings. Longitudinal data is also necessary and will facilitate examining causal relationships, allowing us to better predict outcomes and identify solutions. Additional areas that can be contentious at times but warrant further exploration include age, sex and gender, culture and civility.

Leading a multi-generational workforce can be challenging. A deeper understanding of differences in motivational factors between generations can help leaders better manage and engage their workforce. Are younger physicians increasingly demanding a better work-life balance and more leadership opportunities? Do they expect more from their organizations than senior physicians? Or are senior physicians more engaged because they have more oversight, autonomy, and say in their work?



Sex, gender, and other socio-cultural factors remain a fruitful area for further investigation. These include discrimination, gender bias, sexual harassment, inflexibility of work schedules, work-life integration, child care and caregiver responsibilities, to name a few. The unique experiences faced by females in the workforce need to be better understood if they are to be addressed.

Finally, culture and civility. Additional research in this area is essential, but unfortunately, often overlooked. Part of having a positive workplace culture is ensuring organizational justice or perceptions of fairness in the workplace. Unacceptable behaviour not only needs to be acknowledged but also addressed. This will help to strengthen hospital-physician relationships, an area of long-term focus for the OHA.

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Appendices

APPENDIX 1

Physician Engagement in Hospitals: A Scoping Review Protocol

https://bmjopen.bmj.com/content/8/1/e018837

APPENDIX 2

Hospital Physician Engagement: A Scoping Review

https://journals.lww.com/lww-medicalcare/FullText/2018/12000/Hospital_Physician_Engagement__A_Scoping_Review.2.aspx?casa_token=yOd_wkIefLgAAAAA:bDiROuyYzqiCi27kpx7kB3b-FNs_uLmql-on0rRfP_

APPENDIX 3

Physician Engagement: A Concept Analysis

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6666374/

APPENDIX 4

What Do We Really Mean by 'Physician Engagement'?

https://cjpl.ca/engp.html

APPENDIX 5

Measuring Physician Engagement in Quality Improvement: A Pilot Study

https://cjpl.ca/pereireng.html

APPENDIX 6
Preliminary Analysis

Table 1. Respondents Demographics

Province or Territory (Canada Only) (N = 391)	**Count**	**Proportion of Sample**
Alberta	20	5.115%
B.C.	16	4.092%
Manitoba	4	1.023%
New Brunswick	2	0.512%
Newfoundland	2	0.512%
Nova Scotia	10	2.558%
Ontario	327	83.632%
Quebec	4	1.023%
Saskatchewan	6	1.535%
Total	391	100.00%
Sex		
Female	176	45.01%
Male	211	53.96%
Other	1	0.26%
Prefer not to say	3	0.77%
Total	391	100.00%
Generation (Year of birth)		
1945 or before	7	1.79%
Between 1946 and 1964	147	37.60%
Between 1965 and 1976	138	35.29%
Between 1977 and 1995	95	24.30%
1996 or after	4	1.02%
Total	391	100.00%

Table 2. Respondents Specialty

Specialty (N = 391)	**Count**	**Proportion of Sample**
Administrative (E.g., Admin. Medicine – Medical Exec.)	13	3.32%
Family Medicine & General Practice	67	17.14%
Specialty (E.g., Anaesthesiology, Emerg., Pediatrics, etc.)	244	62.40%
Surgery (E.g., General Surgery, Cardiac Surgery, etc.)	64	16.37%
Other (E.g., Dentistry, Oral/Maxillofacial Surgery)	2	0.51%
Prefer not to specify	1	0.26%
Total	391	100.00%

Table 3. Respondents Work Characteristics

Primary Work Setting (N = 391)	**Count**	**Proportion of Response**
Hospital	300	76.73%
Family Health Team/Organization	33	8.44%
Independent Practice (private office/clinic)	22	5.63%
Administration	10	2.56%
Community Health Centre	6	1.53%
College Physicians & Surgeons, Medical Society/Assoc	3	0.77%
Walk in clinic	2	0.51%
Correctional	2	0.51%
Other	13	3.32%
Total	391	100.00%
Years Practicing Medicine		
0 to 2	17	4.35%
3 to 5	37	9.46%
6 to 10	42	10.74%
11 to 20	108	27.62%
21+	187	47.83%
Total	391	100.00%
Years Worked at Current Location		
0 to 2	45	11.51%
3 to 5	59	15.09%
6 to 10	66	16.88%
11 to 20	120	30.69%
21+	101	25.83%
Total	391	100.00%
Primary Payment Method		
90+% Fee For Service	168	42.97%
90+% Other	67	17.14%
90+% Salary	65	16.62%
Not 90+% of any one method	89	22.76%
None	2	0.51%
Total	391	100.00%
Senior Leadership		
No	37	9.46%
Yes	354	90.54%
Total	391	100.00%
Co-workers		
No	9	2.30%
Yes	382	97.70%
Total	391	100.00%

Table 4. Percentage Distribution for Well-being at Work Questions

Well Being (N = 391) *M* = 3.15, *SD* = 0.33	1	2	3	4	5
I've become more callous towards people since starting my job.*	7.42	16.11	21.48	26.34	28.64
I feel burned out from my work.*	15.60	31.20	22.51	19.18	11.51
I feel anxious at work.*	6.65	21.23	21.74	24.81	25.58
I feel my work is piling up so much I am unable to overcome it.*	10.74	24.30	25.83	23.02	16.11
My work schedule leaves me enough time for personal/family life.	16.11	29.41	19.95	23.53	11.00

* Note: Negatively worded items were reverse coded
Scale: five represented 'strongly agree' and one represented 'strongly disagree.'

Table 5. Percentage Distribution for Self-care Questions

Self-care (N = 391) *M* = 3.37, *SD* = 0.26	1	2	3	4	5
I make time to participate in things I enjoy.	0.77	9.97	37.85	36.83	14.58
I feel gratitude daily.	1.79	11.51	33.25	30.43	23.02
I treat myself with kindness.	1.79	14.83	39.64	32.23	11.51
I exercise for more than 20 minutes at least 3 times per week.	16.37	12.53	18.93	20.20	31.97
I make time to relax or nap.	9.21	25.83	35.29	19.44	10.23

Note: Scale - one represented 'never' and five represented 'always.'

Table 6. Factor Loadings and Reliability

	Items	Factor Loadings	Cronbach's Alpha
Well-being			0.80
	Well_CallousR	0.509	
	Well_BurnedR	0.841	
	Well_Personal	0.581	
	Well_WorkPileR	0.723	
	Well_AnxietyR	0.680	
Self-Care			0.75
	SC_Time	0.743	
	SC_Gratitude	0.629	
	SC_Kindness	0.775	
	SC_Exercise	0.465	
	SC_Relax	0.597	
Well-being & Self-care Correlation		r = .57 (p < .001)	

Note: Promax rotation.

APPENDIX 7

Primary Analysis

Table 1. Respondents Demographics

Province or Territory (Canada Only) (N = 1096)	**Count**	**Proportion of Sample**
Alberta	20	1.82%
B.C.	16	1.46%
Manitoba	4	0.36%
New Brunswick	2	0.18%
Newfoundland	2	0.18%
Nova Scotia	10	0.91%
Ontario	1032	94.16%
Quebec	4	0.36%
Saskatchewan	6	0.55%
Total	1096	100.00%
Sex		
Female	464	45.01%
Male	625	53.96%
Other	4	0.26%
Prefer not to say	3	0.77%
Total	1096	100.00%
Generation (Year of birth)		
1945 or before	24	2.19%
Between 1946 and 1964	364	33.21%
Between 1965 and 1976	395	36.04%
Between 1977 and 1995	296	27.01%
1996 or after	17	1.55%
Total	1096	100.00%

Table 2. Respondents Specialty

Specialty (N = 1096)	**Count**	**Proportion of Sample**
Administrative (E.g., Admin. Medicine – Medical Exec.)	16	1.46%
Family Medicine & General Practice	189	17.24%
Specialty (E.g., Anaesthesiology, Emerg., Pediatrics, etc.)	729	66.50%
Surgery (E.g., General Surgery, Cardiac Surgery, etc.)	147	13.40%
Other (E.g., Dentistry, Oral/Maxillofacial Surgery)	12	1.09%
Prefer not to specify	3	0.27%
Total	1096	100.00 %

Note: Categories as per Canadian Medical Protective Association

Table 3. Respondents Work Characteristics

Primary Work Setting (N = 1096)	**Count**	**Proportion of Response**
Hospital	887	80.93%
Family Health Team/Organization	33	3.01%
Independent Practice (private office/clinic)	22	2.01%
Administration	10	0.91%
Community Health Centre	6	0.55%
College Physicians & Surgeons, Medical Society/Assoc	3	0.27%
Walk in clinic	2	0.18%
Correctional	2	0.18%
Other	131	11.95%
Total	1096	100.00%
Years Practicing Medicine		
0 to 2	55	5.02%
3 to 5	116	10.58%
6 to 10	153	13.96%
11 to 20	295	26.92%
21+	477	43.52%
Total	1096	100.00%
Years Worked at Current Location		
0 to 2	128	11.68%
3 to 5	168	15.33%
6 to 10	198	18.07%
11 to 20	334	30.47%
21+	268	24.45%
Total	1096	100.00%
Primary Payment Method		
90+% Fee For Service	459	41.96%
90+% Other	131	11.97%
90+% Salary	124	11.33%
Not 90+% of any one method	378	34.55%
None	2	0.18%
Missing	2	0.18%
Total	1096	100.00%
Senior Leadership		
No	37	3.38%
Yes	1059	96.62%
Total	1096	100.00%
Co-workers		
No	9	0.82%
Yes	1087	99.18%
Total	1096	100.00%

Table 4. Frequency Distribution for All Scale Items N = 1096

Work Engagement M = 4.14 SD = 1.24	0	1	2	3	4	5	6
I am enthusiastic about my job.	17	29	55	171	241	401	182
When I get up in the morning, I feel like going to work.	29	48	82	193	279	338	127
I feel happy when I am working intensely.	24	28	61	200	270	376	137
Well Being (N = 391) *M* = 3.15, *SD* = 0.33	1	2	3	4	5		
I've become more callous towards people since I've started this job.*	318	269	273	170	66		
I feel burned out from my work.*	125	226	275	313	157		
I feel anxious at work.*	261	297	269	195	74		
I feel that my work is piling up so much that I am unable to overcome it.*	151	293	299	241	112		
My work schedule leaves me enough time for my personal/family life.	149	309	277	252	109		
Organizational Culture (TOTAL) M = 3.34, SD = 0.91							
Senior Leadership M = 3.15, SD = 1.09	1	2	3	4	5	N/A	
There is strong senior leadership in this organization.	138	121	281	328	191	37	
Senior leadership within this organization listen to my views.	176	171	282	286	145	37	
I feel well supported by senior leadership in this organization.	180	153	287	297	154	37	
I trust this organization's senior leadership.	179	140	278	287	177	37	
I feel senior leadership within this organization treat me with respect.	138	104	240	323	254	37	
I receive constructive feedback from senior leadership within this organization.	182	183	357	231	106	37	
My concerns are taken seriously by senior leadership in this organization.	170	162	283	291	153	37	
Unacceptable behaviour is consistently tackled at this organization.	138	149	358	299	115	37	
I feel well informed about what is happening in this organization.	115	146	291	362	145	37	
Two-way communication exists between this organization's administration and me.	152	168	279	326	134	37	
Coworkers *M = 4.13, SD = 0.84*	1	2	3	4	5	N/A	
I feel respected by my co-workers.	20	27	121	462	457	9	
My interprofessional team functions well together.	32	48	142	462	403	9	
Work Environment *M = 3.32, SD = 0.88*	1	2	3	4	5	N/A	
Leadership opportunities are available to me at this organization.	89	100	264	383	233	27	
I have education and training opportunities at this organization.	110	137	253	385	190	21	
I have the resources I need to do a good job at this organization.	110	177	256	428	125	0	
There is alignment between my goals and this organization's goals.	102	157	316	384	137	0	
This site has a positive work environment.	149	150	269	369	150	9	
I am held accountable for achieving results at this organization	60	139	379	360	130	28	
Perceived Quality of Care M = 3.94, SD = 1.02	1	2	3	4	5		
My organization provides high-quality patient care.	41	61	173	471	350		

Note: Work Engagement scale was labelled 0 – Never, 3 – Sometimes, 6 – Always
All other scale responses were labelled 1 – Strongly Disagree, 3 – Neutral, 5 – Strongly Agree
* Item reverse coded because it is negatively worded.

Table 5. Factor Loadings and Reliability

	Items	Factor Loadings	Cronbach's Alpha
Work Engagement			.88
	WE_Dedication	0.891	
	WE_Vigor	0.924	
	WE_Absorption	0.728	
Well-being			0.80
	Well_CallousR	0.509	
	Well_BurnedR	0.841	
	Well_Personal	0.581	
	Well_WorkPileR	0.723	
	Well_AnxietyR	0.680	
Organizational Culture			0.96
	Lead_Strong	0.866	
	Lead_Listen	0.889	
	Lead_Support	0.908	
	Lead_Trust	0.903	
	Lead_Respect	0.878	
	Lead_Feedback	0.784	
	Lead_Concerns	0.901	
	Lead_Behaviours	0.654	
	Lead_Informed	0.771	
	Lead_Communication	0.851	
	Env_Leadership	0.703	
	Env_Training	0.673	
	Env_Resources	0.656	
	Env_Goals	0.799	
	Env_Accountability	0.784	
	Env_Culture	0.489	
	CoWk_Respect	0.499	
	CoWk_Function	0.681	
	Qual_Care	0.784	

Table 6. Pearson's Correlations

Variable		Work Engagement		Well-Being		Leadership		Organizational Culture	
Work engagement	n	—							
	Pearson's r	—							
Well-Being	n	1096		—					
	Pearson's r	0.604	***	—					
Leadership	n	1059		1059		—			
	Pearson's r	0.493	***	0.451	***	—			
Organizational Culture	n	1030		1030		1030		—	
	Pearson's r	0.558	***	0.498	***	0.974	***	—	

* p < .05, ** p < .01, *** p < .001

Differences Between Groups (Sex)

The average well-being score (α = .797) was compared by sex. Results showed a statistically significant difference, $t(1087) = 4.29$, $p < .001$, $d = 0.26$ with a lower average well-being score for females ($M = 3.04$, SD = 0.86) compared to males ($M = 3.27$, $SD = 0.91$).

This pattern of difference was consistent across all individual items on the well-being scale. Anxiety had the highest average raw difference by sex (Females: $M = 3.20$, $SD = 1.17$ and Males: $M = 3.62$, SD = 1.21).

Anxiety is correlated with burnout ($r = .56$, $p < .001$) and the feeling that work is piling up, unable to overcome it ($r = .53$, $p < .001$).

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