

Rapid Evidence Profile #34

(23 September 2022)

Question

What is the type, nature, and scale of mental-wellness challenges facing Canadian physicians (particularly coming out of the pandemic), what physician-targeted mental-wellness supports have what types of supporting evidence (and are underway across Canada and in provincial and territorial health systems) to address these challenges, and what broader health-system initiatives are underway into which any such supports would need to fit?

What we found

To inform current knowledge related to physician wellness and physician-targeted mental-wellness supports, we identified evidence, as well as experiences from Canadian provinces and territories (See Box 1 for a description of our approach). We organized our findings using the framework below.

Organizing framework

- Type of mental-wellness challenges affecting Canadian physicians
 - Prior to or irrespective of the impact of the COVID-19 pandemic
 - During the COVID-19 pandemic
- Nature of the mental-wellness challenges affecting Canadian physicians
 - Who is affected (e.g., specific populations of physicians)?
 - How they are affected (e.g., types of conditions)?
 - For how long are they affected (e.g., time-limited vs. long-term)?
- Scale of mental-wellness challenges affecting Canadian physicians
- Physician-targeted wellness initiatives underway across Canada and/or other settings
 - Level of initiatives
 - National
 - Provincial/territorial
 - local/municipal
 - Other international settings
 - Types of physicians targeted by wellness initiatives

Box 1: Our approach

We searched for evidence from 2000 onwards to capture any evidence addressing the question by searching Health Evidence, Health Systems Evidence (HSE), and PubMed. We identified jurisdictional experiences by hand searching government and stakeholder websites.

We searched for guidelines, full systematic reviews (or review-derived products such as overviews of systematic reviews), rapid reviews, protocols for systematic reviews, and titles/questions for systematic reviews or rapid reviews that have been identified as either being conducted or prioritized to be conducted.

We appraised the methodological quality of full systematic reviews and rapid reviews that were deemed to be highly relevant using AMSTAR. Note that quality appraisal scores for rapid reviews are often lower because of the methodological shortcuts that need to be taken to accommodate compressed timeframes. AMSTAR rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to delivery, financial or governance arrangements within health systems or to broader social systems. We appraised the quality of the highly relevant guidelines using three domains in AGREE II (stakeholder involvement, rigour of development, and editorial independence) and classified guidelines as high quality if they were scored as 60% or higher on each domain.

This rapid evidence profile was prepared in the equivalent of three days of a ‘full-court press’ by all involved staff.

- Students
- Residents
- Family physicians
- Specialists
- Broad system-transformation initiatives into which physician-wellness initiatives would need to fit using the same taxonomy as above

We identified 42 evidence documents in our searches that were relevant to the scope of the rapid evidence profile and addressed one or more categories of the organizing framework:

- 26 systematic reviews;
- one rapid review; and
- 15 single studies

We outline in narrative form below our key findings related to the question from highly relevant evidence documents, and based on our scan of initiatives across Canada. This is accompanied by Table 1 which provides more details about the key findings from evidence documents on the type, nature and scale of mental-wellness challenges affecting Canadian physicians, and Tables 2a and 2b which provide more details about key findings from evidence documents and new insights from the jurisdictional scans, respectively, about physician-targeted wellness initiatives underway across Canada.

A detailed summary of our methods is provided in Appendix 1, and the full list of newly identified evidence documents (including those deemed of medium and low relevance) in Appendix 2. We included the hyperlinks of excluded documents (at the final stage of reviewing) in Appendix 3. We provide descriptions of the physician-targeted wellness initiatives identified at the national and provincial/territorial levels in Appendix 4.

Key findings from highly relevant evidence sources

Type, nature and scale of mental-wellness challenges

We identified research evidence that focused on a number of challenges facing physicians, including: physician burnout both prior to and during the COVID-19 pandemic; suicide and self-harm; and mental unwellness during infectious disease outbreaks. A number of similar and related challenges were also reflected in the recently released 2021 National Physician Health Survey by the Canadian Medical Association which reported worse mental health outcomes, increased administrative workload, bullying and harassment, dissatisfaction with work-life integration, and lack of professional fulfillment among physicians since the start of the COVID-19 pandemic.(1)

Physician burnout prior to the COVID-19 pandemic was described in three systematic reviews and four single studies, with a particular focus on the factors associated with burnout, prevalence of burnout, and examples of the specialities affected most by burnout. A [medium-quality scoping review](#) from March 2020 and a [low-quality systematic review](#) reported similar factors for burnout, such as increased administrative duties and paperwork, malpractice concerns, patient safety culture, long work hours, financial barriers, lack of health benefits, frequent call shifts, and high patient volume as structural causes of burnout among obstetricians and gynecologists.(1;2) A [2017 low-quality systematic review](#) found an over 50% rate of significant burnout risk among physicians at the time, and a [2020 study](#) that found that 86% of the 384 emergency medicine physicians surveyed for the study met at least one of the criteria for burnout.(3;4) Significant burnout was also identified among Canadian emergency medicine residents in a [survey issued in December 2018](#) by the

Canadian Royal College of Physicians and Surgeons of Canada and among Canadian orthopedic surgeons and trainees in a [2020 survey](#).(5;6)

We identified one systematic review and four single studies that examined physician burnout during the COVID-19 pandemic that focused on the prevalence of burnout and related inequities. A [low-quality systematic review](#) identified eight stages of burnout (i.e., hyperactivity, exhaustion and fatigue, reduced activity, emotional reactions, breakdown, degradation, psychosomatic, and despair). The authors recommended proactive policies and programs for work-related anxiety and depression and destigmatizing help-seeking behaviour, especially among populations who are more susceptible to worse mental health outcomes (i.e., women, younger workers, those with less clinical experience).(7) We found evidence in a [2021 primary study](#) indicating that, during the pandemic, significant burnout was identified amongst internal medicine physicians between August and October 2020 at two hospitals in Vancouver.(8) The study also found that racialized physicians were more likely to report feeling lower personal accomplishment compared to white physicians, and women were more likely to report emotional exhaustion and feelings of low personal accomplishment compared to men. Comparatively, a [mixed-methods study from October 2020](#) identified that in 143 Canadian hospitals, burnout levels did not change significantly during the first weeks of the pandemic, but being tested for COVID-19 and the number of shifts worked were associated with high emotional exhaustion and high depersonalization.(9) According to a [primary study from 2022](#), during the second wave of the COVID-19 pandemic, emergency physicians' age was associated with lower emotional exhaustion and depersonalization, female or nonbinary gender emergency physicians were found to have higher emotional exhaustion than their male counterparts, and emergency physicians living with children at home were associated with lower depersonalization.(10)

In relation to the mental-wellness challenge of suicide and self-harm, an [observational retrospective cohort study](#) from 2022 that compared the risk of suicide and self-harm among newly registered physicians and non-physicians in Ontario, Canada found that physicians with a history of an anxiety or mood disorder and a psychiatry visit in the preceding year were associated with the composite outcome of suicide or self-harm.(11) Finally, physicians' mental-wellness was also found to be negatively impacted by large-scale infectious disease outbreaks as evidenced by both a [2020 medium-quality systematic review](#) and a [low quality rapid review from 2020](#) that identified increased risk for depression, anxiety, fear of infection (of themselves and their loved ones), and trauma or stress-related disorders as psychological impacts of large-scale infectious disease outbreaks on healthcare workers.(12;13)

Physician-targeted wellness initiatives

Our review of highly relevant evidence sources identified physician-targeted wellness initiatives that focused on the individual-level, organizational-level or a combination of individual- and organizational-level. Findings related to the physician-targeted wellness initiatives targeted at these levels are summarized below. In the jurisdictional scan, we outline the specific types of initiatives identified in Canada, many of which are a combination of individual- and organizational level initiatives.

Individual-level initiatives

Seven systematic reviews examined the effects of individual-level initiatives (e.g., resilience training, emotional-supportive coping interventions, mindfulness interventions, cognitive-behavioural therapy) on physical and mental health outcomes for physicians (prior to the COVID-19 pandemic).

All the reviews reported positive outcomes such as reduced stress, anxiety, depression and burnout, and improved empathy and well-being.(14-19)

Organizational-level initiatives

The research evidence suggests that organizational-level initiatives (e.g., addressing administrative load and developing support programs) can be effective to enhance the mental-wellness of physicians. A [high-quality systematic review](#) reported that the strongest evidence for effectiveness was related to organizational-level initiatives for burnout (e.g., schedule and reductions in the intensity of workload). However more intense organizational-level initiatives (e.g., changes to organizational practices) were rare and were not evaluated widely. Similarly, a [medium-quality systematic review](#) found that organization-level initiatives (e.g., changes in workload and schedules, and improving team communication, collaboration, and leadership, was associated with decreases in physician burnout and depersonalization, and improving a physician's sense of personal accomplishment when compared to compared to individual-level initiatives.(20;21)

Related to implementing support programs at the organizational level, a [high-quality systematic review](#) from 2016 found that facilitated discussion forums and progressive exercise programs helped to improve healthcare employee health and well-being, particularly in the form of mindfulness-based stress reduction (MBSR) and cognitive behavior therapy (CBT)-based courses.(22) Similarly, a [medium-quality systematic review](#) described the effects of wellness programs (including physical and mental well-being lectures, team -building activities, cultural excursions, and exercises) for neurosurgical trainees and reported that trainees positively perceived these programs.(23) A [recent study](#) describing organizational-level physician-wellness initiatives within a large mental-health teaching hospital in Ontario, Canada (the Centre for Addictions and Mental Health) identified a mentorship program, a peer-support program, enhanced leadership and training opportunities, an office of professionalism to streamline onboarding processes and provide feedback, and optimization of electronic health records to enhance efficiency of practice were useful strategies to address burnout and related stressors that impact physicians.(24) More than half of the wellness programs at 17 Canadian medical schools that were reviewed in a [2020 environmental scan](#) had a form of sabbatical or extended vacation program as well as daily wellness initiatives, including consistent availability of food, access to childcare, sleep rooms, and a debriefing process after critical incidents.(25) A [low-quality systematic review](#) examined important enablers for successful educational programs to reduce physician burnout such as having the program led by faculty or certified instructors/facilitators, integrating three or more different teaching styles (e.g., discussion groups, didactic sessions, small group learning, and coaches/mentors), and operating on a predetermined schedule (e.g., weekly sessions across several weeks/months).(26)

In terms of other types of organizational-level supports, a [medium-quality systematic review](#) described that psychological debriefing provided physicians with a safe and welcoming place for further reflection and discussion and access to stress management strategies.(27) A [high-quality scoping review](#) reported that increasing self-efficacy, creating positive changes to the work environment, and increasing incentives were potential mitigation strategies for burnout among Canadian oncologists.(28)

Combined individual- and organizational-level initiatives

We identified four systematic reviews that examined initiatives that combined individual- and organizational-level physician-targeted wellness initiatives. A [high-quality systematic review](#) indicated that the implementation of individualized (e.g., mindfulness-based approaches, stress management and self-care training, and small group discussions), and structural (e.g., shortened rotation lengths

and shifts, and the adoption of duty hour limitations) initiatives were able to significantly reduce overall burnout among physicians, decrease high emotional exhaustion, and lower depersonalization scores.(29) A [high-quality systematic review from 2020](#) assessed the positive psychology conceptual framework (PERMA) and found both group activities (e.g., debriefing sessions), and individualized practices (e.g., exercise, role-play, self-care activities, and communication skill training) as positive indicators for well-being.(30) A combination of mindfulness techniques, support groups, and debriefing sessions were also identified as preventive measures against mental disorders, work-related stress, and burnout among clinicians in a [2020 medium-quality systematic review](#).(31) The review also found that collective interventions (e.g., reductions in workload and work hours), adoption of electronic communication systems, and individualized interventions (e.g., self-care competency and clinician-focused training) were effective preventive strategies. However, according to a [medium-quality systematic review](#), there is limited evidence to support mindfulness interventions to improve physicians wellbeing, especially related to organizational and system-level factors.(32)

Key findings from the jurisdictional scan

Our jurisdictional scan of experiences from Canadian provinces and territories identified a range of physician-targeted wellness initiatives at the national and provincial/territorial levels that aim to address physician mental-wellness. Specifically, we found online resources and tools, peer support groups and programs, physician health programs, and educational programs that were in place prior to the pandemic, but that had been an area of re-focused attention and expanded activities in response to the pandemic as the difficulties facing physicians were amplified at the national and provincial/territorial levels. Our findings are organized below by these types of initiatives.

Online resources and tools

There are a number of online resources and tools developed by both national and provincial organizations to support and improve physician wellness. At the national level, the Canadian Medical Association provides online [tools](#) based on groups, including tools for physicians, medical learners, leaders, and educators, and the Occupational Medicine Specialists of Canada provides a number of mental health and safety [resources](#) on their website. At the provincial level, the Saskatchewan Health Authority posted a number of physician wellness and support [resources](#) during the COVID-19 pandemic, and now offers courses on mental health and well-being, and chronic conditions. Additionally, a range of wellness support systems for physicians are offered by the Newfoundland and Labrador Medical Association, including health [videos](#) to promote mental health and well-being, self-help [resources](#), and wellness [support lines](#), and in Alberta, the initiative [Well Doc Alberta](#) provides educational sessions, podcasts, newsletters, and other support services and resources to support physician wellness.

Peer support groups and programs

Peer support programs offer mental health and social support from fellow healthcare providers through individual or group discussions in an online or in-person format. At the national level, the [Canadian Anesthesiologists' Society](#) and the [Canadian Society of Palliative Care Physicians](#) have physician-wellness committees that develop goals related to physician wellness and burnout, and the [Canadian College of Emergency Physicians](#) has a wellness interest group that also advocates for personal and professional well-being across Canada. At the provincial level, the [Ontario government](#) provides internet-based therapy and online peer discussion groups to frontline healthcare workers experiencing anxiety, burnout or PTSD, and the [Physician Peer Support Network](#) in B.C. serves as a knowledge sharing connection point between various stakeholders of the network to strengthen

collaboration and relationship-building. The [Physicians for Physicians](#) (P4P) program in Alberta provides a confidential network of family physicians to provide peer-to-peer support by taking on fellow colleagues as patients in their clinics. Similarly, the Newfoundland and Labrador Medical Association offers a wellness support system for physicians called [MDLink](#) which connects physician-providers with physician-patients who are seeking care. Finally, to promote equity for healthcare providers in rural areas, the [Isolated Medical Provider Aftercare Team \(IMPACT\)](#) initiative in the Northern Health Region of B.C. offers peer-to-peer support for rural health care providers (e.g., physicians and nurses).

Physician health programs

In terms of physician health programs, we found a range of initiatives at both the national and provincial/territorial level. The [Canadian Medication Association](#), [Alberta Medical Association](#), [Ontario Medical Association](#), [Physician Health BC](#), [Doctors Manitoba](#), and [Doctors Nova Scotia](#) all offer free, 24/7, confidential helplines for physicians, residents, medical students, and their immediate family members where they can access professional help to address career and life transitions and wellness challenges. Doctors Manitoba also offers its physicians the [MDCare](#) program, which provides both adult and adolescent psychiatry and psychological assessments and treatments for practicing physicians and their immediate families, and the [Physician and Family Support Program](#) that offers confidential counselling services. The [Physician Health BC Program](#) as well as Saskatchewan Medical Association's [Physician Health Program](#) and the University of Saskatchewan's [Employee and Family Assistance Program](#) all offer short-term counselling, referrals to personalized therapists, and coaching for physicians and residents. We also found that the [Quebec Physicians' Health Program \(QPHP\)](#) supports knowledge sharing and scientific research in physician health and develops well-being strategies for physicians, while the [Yukon Medical Association](#) provides physician health services through a contract with the Alberta Medical Association Physician and Family Support Program.

Educational programs

Several programs that we identified focused on providing education to physicians and residents to enhance their skills in managing their mental wellness while on the job. At the national level, the [Royal College of Physicians and Surgeons of Canada](#) developed five guiding principles and 15 evidence-informed [recommendations](#) that focus on the implementation of educational programs that raise awareness of physician wellness, enhance physician leadership skills in promoting wellness, and create policies and resources that promote a culture of wellness amongst physicians. Provincially, [Doctors of BC](#) offers cognitive behavioural therapy (CBT) skills training to support the health of physicians, and received [funding in October 2021](#) to expand its services over the next four years. CBT is also offered by Doctors Manitoba through the [Cognitive Behaviour Therapy with Mindfulness](#) (CBTm) program which consists of a set of courses that can help to educate and provide self-management strategies for physicians. The [Alberta Medical Association](#) and the [Professional Association of Residents of Ontario](#) (PARO) both organize Resident Wellness Events to help residents explore and develop practical self-care strategies and techniques, and the Newfoundland and Labrador Medical Association offers a weekend retreat called [Safe Harbour](#) for physicians to rediscover the “joys of being a physician.” Lastly, we found that healthcare workers of the Centre for Addiction and Mental Health (CAMH) that are impacted by the COVID-19 pandemic are provided with access to [didactic lectures and case-based discussions](#) on mental health and addiction as well as a self-referral program for individuals in need of psychiatric services.

Table 1: Key findings from relevant evidence documents about the type, nature and scale of physician-wellness challenges in Canada

Type of physician-wellness challenge	Evidence
Burnout (pre-COVID-19 pandemic)	<ul style="list-style-type: none"> • A medium-quality scoping review from March 2020 identified structural causes of burnout among obstetricians and gynecologists that included increased administrative duties and paperwork, malpractice concerns, patient safety culture, long work hours, financial barriers, lack of health benefits, frequent call shifts, and high patient volume • A 2017 low-quality systematic review of evidence on physician burnout found that the workforce of physicians at the time (including medical students, residents, and practicing clinicians) was at a significant risk of experiencing burnout at a rate of over 50% • A low-quality systematic review indicated that leading contributors of burnout among residents included: 1) difficulty achieving a desired work-life balance; 2) a lack of operative exposure; and 3) poor working environments, while faculty listed psychological, relationship, and financial stressors • In a 2021 study, more than a third of the respondents (22 of 57) in Northern Canada indicated burnout due to the use of electronic medical records, inadequate financial remuneration, perceived lack of influence to create changes in policy and workplace culture, administrative burden, and physician turnover • A study from 2020 described the rates of burnout, depression, and suicidality in emergency medicine physicians in Canada right before the COVID-19 pandemic, indicating that 86.1% of the 384 respondents to the study's survey met at least one of the criteria for burnout, 42% scored between mild and severe on a depression screening tool, 14.3% had contemplated suicide during their career in emergency medicine, and of those, 5.9% had actively considered suicide in the past year • In a 2020 study that surveyed burnout amongst Canadian Royal College of Physicians and Surgeons of Canada emergency medicine residents in December 2018, it was found that 62% of residents met the threshold for burnout and 14% contemplated suicide during their training • A 2020 survey focused on Canadian orthopedic surgeons and trainees reported that half of respondents had experienced distress
Burnout (during the COVID-19 pandemic)	<ul style="list-style-type: none"> • A low-quality systematic review identified eight stages of burnout (i.e., hyperactivity, exhaustion and fatigue, reduced activity, emotional reactions, breakdown, degradation, psychosomatic, and despair), where the authors recommended proactive policies and programs for work-related anxiety and depression and destigmatizing help-seeking behaviour, especially among populations who are more susceptible to worse mental health outcomes (i.e., women, younger workers, those with less clinical experience) • In a survey from a 2022 primary study that reported on the associations between emergency physicians' characteristics and burnout during the second wave of the COVID-19 pandemic, researchers found that amongst participants from each Canadian province and territory, except Nunavut: <ul style="list-style-type: none"> ○ increasing age was associated with lower emotional exhaustion and depersonalization

	<ul style="list-style-type: none"> ○ compared with the male gender, female or nonbinary gender was associated with high emotional exhaustion ○ living with children at home was associated with lower depersonalization ○ there was no association between training route and either depersonalization or emotional exhaustion ○ In this study, burnout was defined as a serious work-related syndrome involving depersonalization and emotional exhaustion which leads to depression, suicide, and workforce depletion ● In a 2021 primary study that aimed to determine the prevalence of internal medicine physician burnout during the COVID-19 pandemic at two hospitals in Vancouver, Canada, the prevalence of burnout was found to be 68%, feelings of low personal accomplishment was 22%, and 21% of physicians surveyed considered quitting the profession or had quit a position <ul style="list-style-type: none"> ○ The study also found that visible ethnic minority physicians were more likely to report feeling lower personal accomplishment compared to white physicians, and women were more likely to report emotional exhaustion and feelings of low personal accomplishment compared to men ● A mixed-methods study from October 2020 that reported burnout time trends and described the psychological effects of working as a Canadian emergency medicine physician during the first weeks of the COVID-19 pandemic found that in 143 Canadian hospitals, burnout levels did not change significantly over time but being tested for COVID-19 and the number of shifts worked were associated with high emotional exhaustion and high depersonalization <ul style="list-style-type: none"> ○ Other impacts on physician wellness included personal safety, academic and educational work, PPE, the workforce, patient volumes, work patterns, and work environment ● A mixed-methods study from August 2020 reported that being tested for COVID-19 associated with high depersonalization and the number of shifts worked were associated with high emotional exhaustion among emergency medicine physicians during the first few weeks of the COVID-19 pandemic
Suicide and self-harm	<ul style="list-style-type: none"> ● An observational retrospective cohort study from 2022 that compared the risk of suicide and self-harm among newly registered physicians and non-physicians in Ontario, Canada found that physicians with a history of an anxiety or mood disorder and a psychiatry visit in the preceding year were associated with the composite outcome of suicide or self-harm <ul style="list-style-type: none"> ○ The study also found that one in 1,300 physicians died by suicide over a 26-year period, a rate that was similar to non-physicians, and that self-harm and the composite outcome of self-harm and suicide were lower in physicians when compared to non-physicians ○ It is noteworthy that the study was limited by the timeframe that was used (January 1990 to December 2015, and followed until 2016), limitations in the statistical data that was sourced, and the fact that their self-harm outcome only captured severe presentations and not ambulatory visits
Mental unwellness during infectious disease outbreaks	<ul style="list-style-type: none"> ● In a 2020 medium-quality systematic review that investigated the psychological impacts of large-scale infectious disease outbreaks (e.g., pandemics and epidemics) on health care workers' mental health, increased risk for depression, anxiety, and trauma or stress-related disorders were reported as psychological impacts, as well as the fear of infection (of themselves and their loved ones)

	<ul style="list-style-type: none"> ○ The importance of social support and regular family contact was viewed as a primary contributor to improving one's mental health ● A 2020 rapid review of low quality found that after analyzing 94 studies on the mental health sequelae for health care workers following the severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS), Ebola virus disease (EBVD), and swine flu outbreaks, up to 90% of health care providers reported that responding to infectious disease outbreaks adversely affected their mental health ● The most reported outcomes were heightened/the onset of stress, anxiety, post-traumatic stress disorder, and depression, and the most frequently reported fear of frontline workers was the fear of transmitting the disease to their loved ones
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Table 2a: Key findings from highly relevant evidence documents about physician-targeted wellness initiatives

Types of physician-targeted wellness initiatives underway across Canada	Evidence from included documents (e.g., systematic reviews, single studies)
Individual-based initiatives	<ul style="list-style-type: none"> ● A high-quality systematic review reported that resilience training reduced levels of depression, stress, and stress perception among healthcare professionals ● A medium-quality systematic review found that emotional-supportive coping interventions (e.g., solutions-focused techniques, experiential exercises, group-based techniques) provided small but significant improvements compared with mindfulness interventions for physicians ● A medium-quality systematic review reported that mindfulness and cognitive-behavioural therapy-based interventions were effective in reducing stress, anxiety, and depression for physician mental health, well-being, physical health, and lifestyle behaviours <ul style="list-style-type: none"> ○ Initiatives included deep breathing and gratitude exercises, and health coaching ● A medium-quality systematic review examined the effects of psychological interventions with mindfulness to reduce burnout, and found positive impacts on empathy, wellbeing, and reduction of burnout <ul style="list-style-type: none"> ○ Initiatives involved discussion groups, stress management and resilience training, wellness curriculum, mobile application to train mindfulness ● A medium-quality systematic review examined the effects of mindfulness-based interventions on physician wellbeing and performance (e.g., mindfulness theory, didactic information, self-awareness practices, group-based formats), and found improvements in interpersonal domains such as improving one's empathy skills

	<ul style="list-style-type: none"> • A medium-quality systematic review found significant improvements to mental health outcomes due to cognitive behavioural management, a work-life balance retreat, mindfulness-based group activities, and the use of general health questionnaires • A 2017 low-quality systematic review reported that aligning personal and organizational values and allowing physicians to dedicate a portion of their practice towards an area of interest that is meaningful to them to be potential strategies to improve wellbeing
Organizational-level initiatives	<ul style="list-style-type: none"> • A 2016 systematic review of high-quality that identified interventions to improve healthcare employee health and well-being found that facilitated discussion forums, progressive exercise programs, and improved nutrition resulted in positive outcomes, and that relaxation therapy was a promising complementary technique • A high-quality systematic review reported that the strongest evidence for effectiveness was related to organizational-level interventions for burnout (e.g., schedule and reductions in the intensity of workload) <ul style="list-style-type: none"> ◦ More intense organizational-level interventions (e.g., changes to the operations of practices to improve teamwork, work evaluation, increased level of decision-making) were rare and were not evaluated widely • A high-quality scoping review that identified approaches to mitigate burnout in the clinical oncology profession highlighted an observational study that included Canadian oncologists that found increasing self-efficacy, creating positive changes to the work environment, and increasing rewards as mitigation strategies for burnout <ul style="list-style-type: none"> ◦ The delivery of an eight-week mindfulness-based stress reduction (MBSR) course was also found to result in significant improvements in outcomes, similar to the cognitive behavior therapy (CBT)-based five-week course for employee health and well-being • A medium-quality systematic review described the effects of wellness programs (including physical and mental well-being lectures, team -building activities, cultural excursions, and exercises) for neurosurgical trainees and reported that trainees positively perceived these programs but faced barriers such as lack of institutional support, time constraints, fatigue, and feelings of guilt • In a medium-quality systematic review assessing the benefit of psychological debriefing for clinical staff exposed to different forms of trauma, some key factors that were noted to be beneficial included having a safe place for further reflection and discussion, having an appropriate facilitator, access to stress management strategies, an open invitation to participate where everyone is welcome • A medium-quality systematic review examined the effectiveness of resident wellness initiatives, and found positive health improvements (e.g., reduced burnout, improved morale and wellness) due to interventions involving meditation, resilience skills training, mentorship, and formal curriculums • A low-quality systematic review examined educational programs in medical schools to reduce physician burnout and reported that 1) having the program led by faculty or certified instructors/facilitators; 2) integrating three or more different teaching styles (e.g., discussion groups, didactic sessions, small group learning, and coaches/mentors); and 3) operating on a predetermined schedule (e.g., weekly sessions across several weeks/months) were successful components of the programs • A medium-quality systematic review found that organization-directed interventions (e.g., changes in workload and schedules, and improving team communication, collaboration, and leadership), was associated with a significant, but

	<p>moderate decrease in burnout, and was effective in decreasing depersonalization and improving a physician's sense of personal accomplishment when compared to individual-directed interventions</p> <ul style="list-style-type: none"> • One recent study describing the development and implementation of physician wellness initiatives within CAMH in Ontario, Canada identified several initiatives that were implemented, including a mentorship program, a peer support program, enhanced leadership and training opportunities, an office of professionalism to streamline onboarding processes and provide feedback, and optimization of electronic health records to enhance efficiency of practice • A 2020 environmental scan of wellness initiatives and programs at 17 Canadian medical schools identified a variable level of established leadership positions within these programs and limited tracking of physician wellness <ul style="list-style-type: none"> ◦ More than half of programs had a form of sabbatical or extended vacation program, and daily wellness initiatives that were identified included consistent availability of food, access to childcare, sleep rooms, and a debriefing process after critical incidents
Both	<ul style="list-style-type: none"> • A high-quality systematic review indicated that the implementation of individualized (e.g., mindfulness-based approaches, stress management and self-care training, and small group discussions), and structural (e.g., shortened rotation lengths and shifts, and the adoption of duty hour limitations) interventions were able to significantly reduce overall burnout among physicians, decrease high emotional exhaustion, and lower depersonalization scores • A 2020 systematic review that examined the current preventive measures against mental disorders, work-related stress, and burnout among clinicians identified mindfulness techniques, support groups, collective interventions (e.g., reductions in workload and work hours), debriefing sessions, adoption of electronic communication systems, and individualized interventions (e.g., self-care competency and clinician-focused training) as effective preventive strategies • A high-quality systematic review from 2020 assessed a positive psychology conceptual framework, PERMA, for enhancing physician performance and well-being and found that of the physician-directed interventions that were identified, five studies used mindfulness exercises, six used group activities (e.g., debriefing sessions), and eight involved individualized practices (e.g., exercise, role-play, self-care activities, and communication skill training) • According to a medium-quality systematic review, there is limited evidence to support mindfulness interventions to improve physicians wellbeing, especially related to organizational and system-level factors

Table 2b: Key findings from highly relevant jurisdictional experiences about physician-targeted wellness initiatives underway across Canada

Types of physician-targeted wellness initiatives underway across Canada	Experiences from jurisdictional scan
Online resources and tools	<p><i>National</i></p> <ul style="list-style-type: none"> • The Canadian Medical Association (CMA) developed the Physician Wellness Hub, which provides resources and tools based on different groups (e.g., physician and medical learners, leaders, and educators) • The Occupational Medicine Specialists of Canada provides a number of mental health and safety resources on their website <p><i>Provincial</i></p> <ul style="list-style-type: none"> • Well Doc Alberta is an education-focused initiative that provides guidance on ways to advance physician wellness across the province and includes education sessions, podcast episodes, newsletters, and a compilation of support services/resources • The Saskatchewan Health Authority posted a number of physician wellness and support resources during the COVID-19 pandemic, which include online courses and physician wellness presentations <ul style="list-style-type: none"> ○ Current offerings include courses on mental health and well-being, and chronic conditions • The Newfoundland and Labrador Medical Association offers a range of wellness support systems for physicians, including health videos to promote mental health and well-being, self-help resources, and wellness support lines
Peer support groups and programs	<p><i>National</i></p> <ul style="list-style-type: none"> • We reviewed all national specialty societies listed by the Royal College of Physicians and Surgeons of Canada, where we found publicly available information about wellness committees within four national specialty societies <ul style="list-style-type: none"> ○ The Canadian Anesthesiologists' Society has a physician wellness committee that aims to be responsive to member needs and develop goals related to physician well-being and burnout, in addition to providing a list of available resources on their webpage ○ The Canadian Association of Emergency Physicians has a wellness special interest group that advocates for personal and professional well-being of Emergency Medicine across Canada ○ The Canadian Society of Palliative Care Physicians has a wellness committee that focuses on the promotion of wellness and prevention of burnout of their members, and contains a members-only list of wellness resources <p><i>Provincial</i></p>

	<ul style="list-style-type: none"> • The B.C. Physician Peer Support Network is a newly launched network, organized by the Physician Health Program, that has a primary aim of serving as a knowledge sharing connection point between various stakeholders to strengthen collaboration and relationship-building • The Isolated Medical Provider Aftercare Team (IMPACT) offers peer-to-peer support for rural health care providers (e.g., physicians and nurses) in the Northern Health Region in British Columbia • The University of British Columbia's resident wellness office operates a confidential peer support program to connect residents seeking care with faculty or other senior residents • Physicians for Physicians (P4P) is a subset of Alberta Medical Association's Physician and Family Support Program, and it allows for a confidential network of family physicians to take on fellow colleagues as patients in their clinics (if possible); this primarily serves as a peer-to-peer support element • The Ontario government provides online iCBT and online peer discussion groups to frontline healthcare workers experiencing anxiety, burnout or PTSD • The Newfoundland and Labrador Medical Association offers a range of wellness support systems for physicians, including MDLink, which connects physician-providers with physician-patients who are seeking care
Physician health programs	<p><i>National</i></p> <ul style="list-style-type: none"> • The Canadian Medical Association also highlight that physician wellness is a core component of their priority strategic initiatives of their Impact 2040 strategic plan • The Canadian Medication Association provides a 24/7, free, confidential and bilingual wellness support line for physicians, residents, medical students and their families <p><i>Provincial</i></p> <ul style="list-style-type: none"> • The Physician Health Program of British Columbia provides a range of support services for physicians, such as short-term counselling, referrals to personalized therapists, coaching, addressing career and life transitions, and strengthening relationships <ul style="list-style-type: none"> ○ A key feature of this program is that it allows for physicians to connect with other physician colleagues if they wish, while still having 24-hour confidential helplines available for all physicians, retirees, residents, medical students, and family members' use ○ As a result of the COVID-19 pandemic, in 2021, the Physician Health Program noted a 93% increase in the use of these services by physicians when compared to 2019 • The Alberta Medical Association offers the Physician and Family Support Program (PFSP), which consists of 24/7, private and confidential support helplines for physicians, residents, medical students, and their immediate family members <ul style="list-style-type: none"> ○ This service can be used to discuss a range of problems, including relationship challenges, stress and mental health issues, substance misuse, and more • The Saskatchewan Medical Association provides a Physician Health Program, which aims to help clinicians, physicians in training (residents and medical students), and their families navigate difficult situations <ul style="list-style-type: none"> ○ This service includes confidential referrals, assessments, interventions, and on-going support as needed

	<ul style="list-style-type: none"> • The University of Saskatchewan provides confidential counselling services for resident physicians within the province through their Employee and Family Assistance Program • Doctors Manitoba offers a variety of physician wellness support programs, including the Physician and Family Support Program, which offers confidential counselling services, and the MDCare program, which provides both adult and adolescent psychiatry and psychological assessments and treatments for practicing physicians and their immediate families <ul style="list-style-type: none"> ○ The Physicians at Risk Program is also offered by Doctors Manitoba as a help line that can be used by practicing physicians, residents, medical students, and retirees for social, relationship, financial, behavioral, or substance-use issues • The Ontario Medical Association Physician Health Program is a 24/7, free, confidential & bilingual wellness support line for physicians, residents, and medical students and their families where they are taken through a needs and risk assessment to help determine the type of support that best suits their needs, and they are offered an appointment within five business days with a counselor, psychotherapist, or psychologist • The Quebec Physicians' Health Program (QPHP) is a non-profit organization that offers confidential support to all physicians, residents, and medical students who are facing psychological or other health issues <ul style="list-style-type: none"> ○ Services are provided by physician advisors who understand the challenges of medicine ○ The QPHP provides counselling for individuals to help colleagues, group interventions in the workplace ○ The program also develops well-being strategies for physicians, knowledge sharing and supports scientific research in physician health • Doctors Nova Scotia's Professional Support Program (PSP) provides confidential peer support for members and their families who are dealing with personal or professional issues at no cost <ul style="list-style-type: none"> ○ The PSP program responds to mental health and wellness needs and also supports initiatives and resources promoting wellness, resiliency, and balanced living ○ Members can call the 24-hour helpline in crisis situations and others will be referred to the appropriate PSP counsellor and will receive a call back within 48 hours • The Yukon Medical Association provides physician health services through a contract with the Alberta Medical Association Physician and Family Support Program • The Northwest Territories Medical Association is currently in the process of negotiating their own contract to support physicians
Educational programs	<p><i>National</i></p> <ul style="list-style-type: none"> • The Royal College of Physicians and Surgeons of Canada conducted an environmental scan and scoping review of physician health programming across Canada from 2018-2021 and developed five guiding principles and 15 evidence-informed recommendations under the themes of awareness, development, sustainability, and support <ul style="list-style-type: none"> ○ The recommendations focus on the implementation of educational programs that raise awareness of physician wellness at every stage of a physician's life cycle, enhance physician leadership skills in wellness, and create policies and resources that promote a culture of wellness amongst physicians

Provincial

- [Doctors of BC](#) supports the health of physicians by offering a range of wellness programs, including cognitive behavioural therapy skills training
 - On [8 October 2021](#), Doctors of BC announced that it will be expanding their existing support services over the next four years after receiving \$1,000,000 in funding from the Canadian Medical Association, Scotiabank, and MD Financial Management's Physician Wellness+ Initiative
- In collaboration with the Professional Association of Resident Physicians of Alberta, and the University of Alberta and University of Calgary's wellness centres, the Alberta Medical Association sponsors a [Resident Wellness Conference](#) every two years in order to explore and develop practical self-care strategies and techniques
 - A few of the strategies and techniques include team building, mindfulness, emotional intelligence, communication, family planning, nutrition, and substance use disorders
- [Professional Association of Residents of Ontario](#) (PARO) Resident Wellness Events and Assistance organizes wellness events for residents
- Doctors Manitoba offers [Cognitive Behaviour Therapy with Mindfulness](#) (CBTm) program, which is a set of courses that can help to educate and provide self-management strategies to support the well-being of physicians (course delivery and length can vary depending on the selected session)
- The [Centre for Addiction and Mental Health \(CAMH\)](#) provides access to mental health and addiction supports for healthcare workers impacted by the COVID-19 pandemic through didactic lectures and case-base discussions
 - For healthcare workers in an acute care hospital or long-term care facility, there is a self-referral program for individuals in need of psychiatric services
- The Newfoundland and Labrador Medical Association offers a range of wellness support systems for physicians including [Safe Harbour](#), which is a weekend retreat that allows for physicians to rediscover the "joys of being a physician"

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Appendix 1: Methodological details

We use a standard protocol for preparing rapid evidence profiles (REP) to ensure that our approach to identifying research evidence as well as experiences from Canadian provinces and territories are as systematic and transparent as possible in the time we were given to prepare the profile.

Identifying research evidence

For this REP, we searched [HealthEvidence](#), [Health Systems Evidence](#), [PubMed](#) for:

- 1) guidelines (defined as providing recommendations or other normative statements derived from an explicit process for evidence synthesis);
- 2) full systematic reviews;
- 3) rapid reviews;
- 4) protocols for reviews or rapid reviews that are underway;
- 5) titles/questions for reviews that are being planned; and
- 6) single studies (when no guidelines, systematic reviews or rapid reviews are identified).

In each database we used the open search function for (physician OR doctor) AND (“mental health” OR well-being OR “well-being” OR wellness).

Each source for these documents is assigned to one team member who conducts hand searches (when a source contains a smaller number of documents) or keyword searches to identify potentially relevant documents. A final inclusion assessment is performed both by the person who did the initial screening and the lead author of the rapid evidence profile, with disagreements resolved by consensus or with the input of a third reviewer on the team. The team uses a dedicated virtual channel to discuss and iteratively refine inclusion/exclusion criteria throughout the process, which provides a running list of considerations that all members can consult during the first stages of assessment.

During this process we include published, pre-print and grey literature. We do not exclude documents based on the language of a document. However, we are not able to extract key findings from documents that are written in languages other than Chinese, English, French or Spanish. We provide any documents that do not have content available in these languages in an appendix containing documents excluded at the final stages of reviewing. We excluded documents that did not directly address the research questions and the relevant organizing framework.

Identifying experiences from other countries and from Canadian provinces and territories

For each REP, we collectively decide on what countries to examine based on the question posed. For other countries we searched relevant government and stakeholder websites. In Canada, we search websites from relevant national and provincial governments, ministries and agencies (e.g., Public Health Agency of Canada).

While we do not exclude countries based on language. Where information is not available in English, Chinese, French or Spanish, we attempt to use site-specific translation functions or Google translate.

Assessing relevance and quality of evidence

We assess the relevance of each included evidence document as being of high, moderate or low relevance to the question. We then use a colour gradient to reflect high (darkest blue) to low (lightest blue) relevance.

Two reviewers independently appraised the quality of the guidelines we identified as being highly relevant using AGREE II. We used three domains in the tool (stakeholder involvement, rigour of development and editorial independence) and classified guidelines as high quality if they were scored as 60% or higher across each of these domains.

Two reviewers independently appraise the methodological quality of systematic reviews and rapid reviews that are deemed to be highly relevant. Disagreements are resolved by consensus with a third reviewer if needed. AMSTAR rates overall methodological quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. High-quality reviews are those with scores of eight or higher out of a possible 11, medium-quality reviews are those with scores between four and seven, and low-quality reviews are those with scores less than four. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to health-system arrangements or to economic and social responses to COVID-19. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered 'high scores.' A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1):S8.

Preparing the profile

Each included document is hyperlinked to its original source to facilitate easy retrieval. For all included guidelines, systematic reviews, rapid reviews and single studies (when included), we prepare a small number of bullet points that provide a brief summary of the key findings, which are used to summarize key messages in the text. Protocols and titles/questions have their titles hyperlinked given that findings are not yet available. For this profile, we only prepared bulleted summaries of key findings for documents deemed to be of high relevance. For those classified as medium or low relevance, we list the title with a link to the primary source for easy retrieval if needed. We then draft a brief summary that highlights the total number of different types of highly relevant documents identified (organized by document), as well as their key findings, date of last search (or date last updated or published), and methodological quality.

Appendix 2: Key findings from evidence documents that address the question, organized by document type, and sorted by relevance to the question of physicians' mental wellness and physician-targeted mental-wellness initiatives

Type of document	Relevance to question	Key findings	Recency or status
Guidelines	None identified		
Full systematic reviews	<ul style="list-style-type: none"> Physician-targeted wellness initiatives underway across Canada 	<ul style="list-style-type: none"> This review assessed physician wellness interventions within the PERMA framework (a positive psychology conceptual framework) that looks at the role of positive emotion, engagement, relationships, meaning, and achievements in enhancing performance and well-being in reducing physician burnout and improving well-being Of the ten studies that demonstrated positive outcomes, four were physician-directed and six were system-directed Of the physician-directed interventions, five studies used mindfulness exercises, six used group activities such as debriefing sessions and discussions, and eight involved individualized practices including exercise, role-play, self-care activities, and communication skill training A majority of the 21 included studies reported some level of positive outcome with regards to reducing burnout or improving well-being by using a physician or system-directed intervention Source 7/10 (AMSTAR rating from McMaster Health Forum) 	Published 25 November 2021
	<ul style="list-style-type: none"> Physician-targeted wellness initiatives underway across Canada 	<ul style="list-style-type: none"> This scoping review outlines how to address burnout in clinical oncology The 17 included studies reported educational interventions (psychosocial and mindfulness-based courses), art therapies and entertainment, team-based training, group meetings, motivational packages and rewards, effective leadership and policy change, and staff support as ways to address burnout 	Published 1 October 2021

		<ul style="list-style-type: none"> Individual interventions include providing training to oncologists such as communication skills, well-being and stress management, burnout education, relaxation, self-efficacy, resilience, hobby adoption, and work-life balance Artificial intelligence was also used to enhance productivity and performance of the oncologists, reduce workload and increase job satisfaction, and foster teamwork between caregivers <p>Source 7/9 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> Physician-targeted wellness initiatives underway across Canada 	<ul style="list-style-type: none"> A Cochrane review assessed the effects of psychological interventions focused on mindfulness on the mental well-being of medical students and junior doctors The review included 10 studies involving 731 participants in the quantitative analysis Compared with no intervention, mindfulness interventions did not result in a substantial difference post-intervention for anxiety and depression A secondary analysis on the effects of stress found small but substantial difference post-intervention The meta-analysis did not find any differences for burnout The authors concluded that there is not enough evidence to conclude on the effects of mindfulness interventions or the long-term effects of the interventions <p>Source 11/11 (AMSTAR rating from McMaster Health Forum)</p>	Literature last searched October 2021
	<ul style="list-style-type: none"> Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> Prior to or irrespective of the impact of the COVID-19 pandemic Coming out of the COVID-19 pandemic 	<ul style="list-style-type: none"> This systematic review aimed to investigate the psychological impacts of large-scale infectious disease outbreaks (e.g., pandemics and epidemics) on health care workers' mental health 	Published 17 September 2020

	<ul style="list-style-type: none"> • Nature of the mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ Who is affected? ○ How they are affected? 	<ul style="list-style-type: none"> • A total of 55 studies were included in the review, of which, two were qualitative and the remaining 53 were quantitative studies • There are a range of psychological impacts that can result from health care workers responding to pandemic and epidemics, including increased risk for depression, anxiety, and trauma or stress-related disorders • Participants from across 17 of the studies reported the fear of infection (of themselves and their loved ones) as the most prevalent mental health stressor • The importance of social support and regular family contact was viewed as a primary contributor to improving one's mental health • The authors suggest that further action be taken at the policy-level to enhance support systems for health care workers during outbreaks (e.g., increased collaboration, training, and education, development of prevention programs, enhanced staff mental health awareness, and clear communication from health authorities/leadership) <p>Source 4/10 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> • Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ Prior to or irrespective of the impact of the COVID-19 pandemic ○ Coming out of the COVID-19 pandemic • Nature of the mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ Who is affected? ○ How they are affected? • Physician-targeted wellness initiatives underway across Canada 	<ul style="list-style-type: none"> • The following scoping review described the evidence base for interventions related to the prevention and treatment of burnout in obstetrics and gynaecology • The authors included 20 studies, which found a combination of preventive interventions (e.g., yoga, nutritional programs, narrative medicine initiatives) and treatments (e.g., counselling, debrief sessions) at the individual-level • The review identified structural causes of burnout including increased administrative duties and paperwork, malpractice concerns, patient safety culture, long work hours, financial barriers, lack of 	Literature last searched 17 March 2020

		<p>health benefits, frequent call shifts, and high patient volume</p> <ul style="list-style-type: none"> There was very little information found at the structural and organizational level except for a brief mention of work hour restrictions <p>Source 6/10 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> Physician-targeted wellness initiatives underway across Canada 	<ul style="list-style-type: none"> A systematic review identified interventions to improve employee health and well-being with healthcare organizations The review identified that facilitated forums for the discussion of solutions to problems was beneficial Positive findings were found in progressive exercise programs and improved nutrition There are limited conclusions on the use of complementary and alternative medical techniques, however the most promising evidence was within relaxation therapy during a five-week training program in imagery and meditation MBSR was frequently reported and found that the delivery of an eight-week MBSR course has led to significant improvements in outcomes, similar to the CBT-based five-week course for employee health and well-being <p>Source 8/10 (AMSTAR rating from McMaster Health Forum)</p>	Literature last searched 29 January 2016
	<ul style="list-style-type: none"> Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> Prior to or irrespective of the impact of the COVID-19 pandemic Coming out of the COVID-19 pandemic Nature of the mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> Who is affected? How they are affected? Physician-targeted wellness initiatives underway across Canada 	<ul style="list-style-type: none"> The primary objective of this systematic review was to examine the current preventive measures against mental disorders, work-related stress, and burnout among clinicians Upon analysis of the 36 studies included within the review, there was evidence to suggest that work-related stress and mental disorders are widespread among physicians. The most effective preventive strategies include mindfulness techniques, support groups, collective interventions (e.g., reductions in workload and 	Published 24 January 2020

	<ul style="list-style-type: none"> ○ Level of initiatives <ul style="list-style-type: none"> ▪ National ▪ Provincial/territorial ▪ Regional/municipal ○ Types of physicians targeted by wellness initiatives <ul style="list-style-type: none"> ▪ Generalists ▪ Specialists 	<p>work hours), debriefing sessions, adoption of electronic communication systems, while individualized interventions (e.g., self-care competency and clinician-focused training) have also proven to be beneficial</p> <ul style="list-style-type: none"> • However, it is worth noting that the evidence base on preventive measures is currently scarce and further research needs to be undertaken to learn how to best support medical practitioners <p>Source 5/9 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> • Physician-targeted wellness initiatives underway across Canada 	<ul style="list-style-type: none"> • The systematic review analyzed RCTs that tested interventions designed to improve physician and nurse mental health, well-being, physical health, and lifestyle behaviours • Mindfulness and cognitive-behavioural therapy-based interventions are effective in reducing stress, anxiety, and depression • Deep breathing and gratitude exercises were also beneficial • Visual triggers, pedometers, and health coaching with texting increased physical activity <p>Source 5/10 (AMSTAR rating from McMaster Health Forum)</p>	Literature last searched 1 May 2018
	<ul style="list-style-type: none"> • Physician-targeted wellness initiatives underway across Canada 	<ul style="list-style-type: none"> • The objective of this systematic review was to analyze psychological interventions with mindfulness to reduce burnout and foster empathy and wellbeing • Of the 18 studies included in the review, psychological interventions with elements of mindfulness demonstrated positive impacts on empathy, wellbeing, and reduction of burnout • Interventions included discussion groups, stress management and resilience training, the “Art of Seeing” course which introduced individuals to formal art analysis and mindful movement, a 	Literature last searched 31 May 2019

		<p>wellness curriculum, and a mobile application to train mindfulness</p> <ul style="list-style-type: none"> • It is important to note that in eight studies that reported on burnout using the Maslach Burnout Inventory (MBI), there was improvement in burnout for physicians, but the change was statistically insignificant for residents, likely due to the greater workload regarding patient counseling and treatment that residents have • The duration of intervention effect was sustained as the studies suggested benefits many months after completion of the intervention; one RCT reported significant improvement in mindfulness and reduction in heart rate <p>Source 5/10 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> • Physician-targeted wellness initiatives underway across Canada 	<ul style="list-style-type: none"> • This review assessed the effects of interventions that foster resilience in healthcare professionals • Post-intervention, low certainty evidence indicated that healthcare professionals who received resilience training reported higher levels of resilience, lower levels of depression and stress or stress perception compared to the control group • There was little evidence of effect of resilience training on anxiety, well-being, or quality of life • There is need for higher quality replications and study designs to analyze whether resilience training has a positive effect on the above outcomes <p>Source 11/11 (AMSTAR rating from McMaster Health Forum)</p>	Literature last searched June 2019
	<ul style="list-style-type: none"> • Physician-targeted wellness initiatives underway across Canada 	<ul style="list-style-type: none"> • This systematic review identified how to best maintain and support the wellbeing, satisfaction and flourishing of general practitioners (GPs) • From the 19 included studies, individual mindfulness interventions were the most common with medium to large within-group and between-group effect sizes for mindfulness outcomes, and 	Literature last searched 13 January 2020

		<p>small-to-medium effect sizes for other positive outcomes including resilience, compassion, and empathy</p> <ul style="list-style-type: none"> • Studies that assessed wellbeing and satisfactions were of limited size and quantity • There is little evidence to improve GPs wellbeing beyond mindfulness interventions, especially regarding organizational or systems-level factors, which is further undermined by inconsistent reporting and high risk of bias; more robust research is needed in this area <p>Source 5/10 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> • Physician-targeted wellness initiatives underway across Canada 	<ul style="list-style-type: none"> • This systematic review identified factors that impact the effectiveness of resident wellness interventions and provided a framework to guide future interventions • Of the 18 studies included, interventions using peer support and individual meditation enhanced well-being • Effective wellness interventions used educational theory to guide program development, surveyed participants to guide design, incorporated programming into curricula, and recruited voluntary participants • The two meditation interventions improved emotional exhaustion, burnout, and emotional wellness; the two resilience skill interventions improved levels of depersonalization, emotional exhaustion, and traumatic stress; the mentorship intervention improved stress, morale and wellbeing, with a high certainty of evidence; the formal curriculum intervention improved burnout scores and compassion satisfaction scores • Other interventions had mixed findings: four of the six stress management interventions had positive effects on emotional exhaustion, self-efficacy, stress, and mindfulness, but two showed no 	<p>Literature last searched November 2019</p>

		<p>improvements; of the four discussion-based interventions, only one decreased depression, burnout, and exhaustion</p> <ul style="list-style-type: none"> • The reflection-based intervention increased exhaustion scores and decreased emotional concern scores, while the other yielded no change in empathy, compassion or overall mindfulness, but showed improved mindfulness in non-judgment of inner experiences and self-expression • The quality for most included studies were poor, but can be improved using standardized wellness assessments supported by validity evidence <p>Source 6/9 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> • Physician-targeted wellness initiatives underway across Canada and/or other settings <ul style="list-style-type: none"> ○ Level of initiatives <ul style="list-style-type: none"> ▪ Other international settings • Types of physicians targeted by wellness initiatives <ul style="list-style-type: none"> ○ Residents 	<ul style="list-style-type: none"> • The review identified and described wellness programs for neurosurgical trainees and related outcomes • Six studies conducted in the U.S. were included, which described key components of the program such as physical and mental well-being lectures, team-building activities, and cultural excursions, and exercises • Most trainees perceived the programs as generally positive but reported barriers such as lack of institutional support, time constraints, fatigue, and feelings of guilt, thus resulting in mixed responses in validated surveys <p>Source 5/10 (AMSTAR rating from McMaster Health Forum)</p>	Published 16 June 2021
	<ul style="list-style-type: none"> • Physician-targeted wellness initiatives underway across Canada and/or other settings <ul style="list-style-type: none"> ○ Level of initiatives <ul style="list-style-type: none"> ▪ Other international settings 	<ul style="list-style-type: none"> • The review focused on evaluating the effectiveness of interventions in promoting resilience among physicians • Emotional-supportive coping interventions had small but significant improvements compared with mindfulness-meditation-relaxation interventions <ul style="list-style-type: none"> ○ Components of the intervention that was beneficial included learning and application of 	Literature last searched 31 January 2020

		<p>solutions-focused techniques, experiential exercises, and group-based techniques</p> <ul style="list-style-type: none"> Interventions delivered more than on week had a higher effect than those interventions delivered up to a week <p>Source 6/11 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> During the COVID-19 pandemic 	<ul style="list-style-type: none"> The review categorized 30 studies into eight stages of burnout <ul style="list-style-type: none"> Stage one concluded that physicians felt a strong sense of 'hyperactivity' and sense of duty to treat during pandemics, which resulted in additional work hours Stage two involved 'exhaustion and fatigue' Stage three is 'reduced activity', which was characterized as reduced productivity, capability, withdrawal from work, and/or resignation but less so in doctors than nurses and other healthcare workers Stage four is 'emotional reactions', which reported that physicians experienced increased anxiety, worry, and fear due to the pandemic, more so among women, younger, or less experienced doctors Stage five is 'breakdown', which pointed to increased rates of depression during the pandemic, with differences among healthcare professionals and demographic characteristics (e.g., women more at risk of depression than men, as well as those who are younger, less experienced, and concerned about training and career development) Stage six is 'degradation', which includes emotional distress and loss of contact or social isolation, such as physicians faced stigma as a result of treating people with COVID-19 Stage seven is 'psychosomatic', which are physical symptoms such as insomnia, chronic 	Published 13 May 2022

		<p>diseases, and gastrointestinal disorders, and reported increased sleep disorders and cigarette consumption</p> <ul style="list-style-type: none"> ○ Stage eight is ‘despair’, which is characterized as chronic physical disorder and serious illness, but no studies focused on this relative to the pandemic • The authors indicated that women experienced worse mental health outcomes than men, especially for anxiety, psychological well-being, fear/worry, posttraumatic stress, depression, and distress • Younger workers and those less trained also had worse outcomes than their older or experienced counterparts • Coping mechanisms that were identified included adhering to infection control procedures and information sharing • The authors recommended proactive policies and programs for work-related anxiety and depression and destigmatizing help-seeking behaviour, especially among populations who are more susceptible to worse mental health outcomes <p>Source 4/11 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> • Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ During the COVID-19 pandemic 	<ul style="list-style-type: none"> • The scoping review included 27 studies that focused mostly on the psychological impact of COVID-19 on healthcare workers • Most of the studies described stress, fear, anxiety, and depression related to patient care, infection to family members, access to PPE • Some studies described that women and individuals in high risk areas of COVID-19 have more negative psychological health outcomes • Frontline workers were susceptible to distress and negative health outcomes, with some reporting sense of vocation as a positive outcome 	Published 17 August 2020

		Source 4/9 (AMSTAR rating from McMaster Health Forum)	
	<ul style="list-style-type: none"> Physician-targeted wellness initiatives underway across Canada and/or other settings 	<ul style="list-style-type: none"> The high-quality systematic review reported that the strongest evidence for effectiveness was related to organizational-level interventions for burnout (e.g., schedule and reductions in the intensity of workload) More intense organizational-level interventions (e.g., changes to the operations of practices to improve teamwork, work evaluation, increased level of decision-making) were rare and were not evaluated widely Source 10/11 (AMSTAR rating from McMaster Health Forum)	Literature last searched 31 May 2016
	<ul style="list-style-type: none"> Physician-targeted wellness initiatives underway across Canada and/or other settings <ul style="list-style-type: none"> Level of initiatives <ul style="list-style-type: none"> Other international settings Types of physicians targeted by wellness initiatives <ul style="list-style-type: none"> Residents 	<ul style="list-style-type: none"> The review identified 27 studies that assessed the impact of hour restrictions for residents on duty Most studies concluded that restrictions had no impact on patient care or resident wellness, and with a negative impact on resident education While ‘night float’ was the most frequently implementation strategy, it resulted in the highest reported of unfavourable findings The authors concluded that hour restrictions alone does not improve patient care, resident education, and resident well-being Source 7/10 (AMSTAR rating from McMaster Health Forum)	
	<ul style="list-style-type: none"> Physician-targeted wellness initiatives underway across Canada <ul style="list-style-type: none"> Level of initiatives Types of physicians targeted by wellness initiatives <ul style="list-style-type: none"> Residents Generalists Specialists 	<ul style="list-style-type: none"> The primary focus of this systematic review was to examine interventions aimed at preventing and reducing physician burnout A total of 52 articles were included within the review, of which, 15 were randomized controlled trials and 37 were cohort studies Findings from this review indicated that the implementation of individualized (e.g., mindfulness-based approaches, stress management and self-care training, and small group discussions), and 	Literature last searched 15 January 2016

		<p>structural (e.g., shortened rotation lengths and shifts, and the adoption of duty hour limitations) interventions were able to significantly reduce overall burnout among physicians by 10%, decrease high emotional exhaustion from 38% to 24%, and lower depersonalization scores by 0.64 points</p> <ul style="list-style-type: none"> The authors do note, however, that they were not able to determine whether any particular intervention provided greater benefit than others, and suggest that further research be conducted into assessing the effectiveness of combining such interventions <p>Source 8/11 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> Nature of the mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> Who is affected? How they are affected? Physician-targeted wellness initiatives underway across Canada <ul style="list-style-type: none"> Level of initiatives Types of physicians targeted by wellness initiatives <ul style="list-style-type: none"> Residents Specialists 	<ul style="list-style-type: none"> The main objective of this systematic review, which analyzed nine studies, was to examine burnout prevention and wellness programs for residents and faculty – specifically, in the field of neurological surgery This review found that the rate of burnout for resident physicians varied from 30% to 67%, and a similar range of 27% to 56.7% was observed for neurosurgery faculty Leading contributors of burnout among residents included: 1) difficulty achieving a desired work-life balance; 2) a lack of operative exposure; and 3) poor working environments, while faculty listed psychological, relationship, and financial stressors as primary factors that led to a higher degree of burnout Various protective factors have been recorded in supporting residents and faculty, including increased sleep, social gatherings, the sense of accomplishment upon completing a rotation/residency, and strong relationships with mentors and colleagues <i>La Sierra</i>, a wellness initiative which focused on providing participants with weekly lectures on self- 	Published 30 October 2020

		<p>care practices, promoting healthy dietary options, and offering collaborative exercises with health professionals, was reportedly found to have positive impacts (e.g., improved mental health, quality of life, and rates of depression) among participants in three studies assessing this intervention</p> <p>Source 3/9 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> Physician-targeted wellness initiatives underway across Canada <ul style="list-style-type: none"> Level of initiatives Types of physicians targeted by wellness initiatives <ul style="list-style-type: none"> Residents 	<ul style="list-style-type: none"> The aim of this systematic review was to investigate educational programs designed to reduce physician burnout in graduate medical school education Within the 24 included studies, 10 educational programs were found to significantly reduce burnout amongst its students Common themes that emerged from successful programs included: 1) having the program led by faculty or certified instructors/facilitators; 2) integrating three or more different teaching styles (e.g., discussion groups, didactic sessions, small group learning, and coaches/mentors); and 3) operating on a predetermined schedule (e.g., weekly sessions across several weeks/months) Although there was heterogeneity with respect to each program's curriculum, content that was widely seen among many of the successful programs included sessions on: 1) stress management; 2) burnout reduction; 3) resilience; and 4) wellness <p>Source 4/9 (AMSTAR rating from McMaster Health Forum)</p>	Literature last searched October 2019
	<ul style="list-style-type: none"> Physician-targeted wellness initiatives underway across Canada <ul style="list-style-type: none"> Level of initiatives Types of physicians targeted by wellness initiatives <ul style="list-style-type: none"> Residents Specialists Generalists 	<ul style="list-style-type: none"> This review examined the effects of mindfulness-based interventions on physician wellbeing and performance The review included 24 studies, which were a combination of randomized controlled trials (n=7), nonrandomized controlled trials (n=3), pre-post studies (n=12), and qualitative interview studies (n=2) 	Literature last searched 9 May 2018

		<ul style="list-style-type: none"> • Despite variations in the content, format, and settings of the mindfulness-based trainings, a positive impact was noted among participants when interventions incorporated multiple essential mindfulness elements in their training content (e.g., mindfulness theory, didactic information on mindfulness, self-awareness, self-regulation, or meditation practice) or employed a group-based training format • In specific, benefits were observed from mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT) as it relates to interpersonal domains, such as improving one's empathy skills • The authors do note, however, that some limitations do exist with this study, including publication bias as well as the self-selection and self-reporting of participants <p>Source 5/10 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> • Physician-targeted wellness initiatives underway across Canada <ul style="list-style-type: none"> ○ Level of initiatives ○ Types of physicians targeted by wellness initiatives <ul style="list-style-type: none"> ▪ Generalists 	<ul style="list-style-type: none"> • The purpose of this study was to examine interventions that may help to improve the wellbeing of general practitioners • The interventions adopted in the four included studies were cognitive behavioural management, a work-life balance retreat, mindfulness-based group activities, and a general health questionnaire • The findings from this review revealed significant improvements in the 'mental-ill health' outcome measure among participants and further demonstrated that these interventions can lower the stress of general practitioners in the short-term <p>Source 5/10 (AMSTAR rating from McMaster Health Forum)</p>	Literature last searched January 2015
	<ul style="list-style-type: none"> • Physician-targeted wellness initiatives underway across Canada <ul style="list-style-type: none"> ○ Level of initiatives 	<ul style="list-style-type: none"> • This systematic review analyzed organizational strategies designed to help manage physician burnout 	Literature last searched September 2018

	<ul style="list-style-type: none"> ○ Types of physicians targeted by wellness initiatives 	<ul style="list-style-type: none"> • The overall findings from this study found that organization-directed interventions (e.g., changes in workload and schedules, and improving team communication, collaboration, and leadership), was associated with a significant, but moderate decrease in burnout, while individual-directed interventions (e.g., mindfulness-based approaches, skill-based training, and workshops) were associated with a significant, yet small reduction in burnout • This review further noted that organization-directed interventions were more effective in decreasing depersonalization and improving a physician's sense of personal accomplishment when compared to individual-directed interventions <p>Source 5/11 (AMSTAR rating from McMaster Health Forum)</p>	
	<ul style="list-style-type: none"> • Physician-targeted wellness initiatives underway across Canada <ul style="list-style-type: none"> ○ Level of initiatives <ul style="list-style-type: none"> ▪ National ▪ Provincial/territorial ▪ Regional/municipal 	<ul style="list-style-type: none"> • This systematic review examined 13 studies to better understand the benefit of psychological debriefing for clinical staff post-exposure to various forms of trauma • There was evidence to suggest that debriefing may play a role in reducing psychological sequelae to traumatic events • A few key factors that have been noted to help clinical staff during the debriefing process include: 1) an opportunity for further reflection, 2) gaining a shared experience, 3) having an appropriate facilitator (e.g., trained mental health representative or peer), 4) a safe space for discussion (a non-judgmental environment where one has the ability to speak as they wish), 5) increased understanding of reactions to the event, 6) stress management strategies, and 7) an open invitation where everyone is welcome • Some challenges discussed include the complexity of scheduling meetings, and ensuring that debriefing does not interfere with one's personal life 	Published 20 October 2021

		Source 5/10 (AMSTAR rating from McMaster Health Forum)	
	<ul style="list-style-type: none"> • Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ Prior to or irrespective of the impact of the COVID-19 pandemic • Nature of the mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ Who is affected? ○ How they are affected? 	<ul style="list-style-type: none"> • The primary aim of this review was to collate evidence surrounding physician burnout in an effort to develop a framework that can minimize the existing burden on health care workers • The current workforce of physicians (including medical students, residents, and practicing clinicians) are at a significant risk of experiencing burnout; a rate that is over 50% • Two notable strategies in reducing the risk of burnout includes aligning personal and organizational values, and allowing physicians to dedicate a portion of their practice towards an area of interest that is meaningful to them Source 1/9 (AMSTAR rating from McMaster Health Forum)	Published June 2017
Rapid reviews	<ul style="list-style-type: none"> • Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ Prior to or irrespective of the impact of the COVID-19 pandemic ○ Coming out of the COVID-19 pandemic • Nature of the mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ How they are affected 	<ul style="list-style-type: none"> • This review analyzed the mental health sequelae for health care workers, following the severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS), Ebola virus disease (EBVD), and swine flu outbreaks, in an attempt to understand the anticipated mental health impacts on health care workers following the COVID-19 pandemic, and identify best practices during health emergencies to meet the needs of those supporting crises responses • Upon analysis of the 94 studies included within the review, up to 90% of health care providers reported that responding to infectious disease outbreaks adversely affected their mental health; the most commonly reported outcomes were heightened/the onset of stress, anxiety, post-traumatic stress disorder, and depression • The most frequently reported fear which negatively impacted the mental health of frontline workers was the fear of transmitting the disease to their loved ones 	Published 6 October 2020

		<ul style="list-style-type: none"> The authors noted that broader systems-level interventions can help ease the distress of workers as opposed to needing specialized mental health interventions (e.g., greater sensitivity from health care leadership or the incorporation of strategies to reduce workplace stresses) While this review includes many key findings, it is worth noting that there was substantial heterogeneity in how mental health impacts were assessed between the studies (e.g., examining disorders or symptoms), which may limit the overall generalizability of the conclusions. <p>Source 3/9 (AMSTAR rating from McMaster Health Forum)</p>	
Non-systematic reviews	<ul style="list-style-type: none"> None identified 		
Protocols for reviews that are already underway	<ul style="list-style-type: none"> None identified None identified 		
Titles and questions for reviews being planned	<ul style="list-style-type: none"> None identified 		
Single studies	<ul style="list-style-type: none"> Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> During the COVID-19 pandemic Nature of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> How they are affected 	<ul style="list-style-type: none"> The study described emotional support, perceived risk, and mental health outcomes among health care workers (e.g., nurses, physicians, allied health professionals and non-clinical health care workers) since the beginning of COVID-19 in Canada 9.3% of the respondents were physicians, and reported that they were more likely to share information with their families but fewer occurrences to seek emotional support from colleagues compared to nurses <p>Source</p>	Published 29 June 2022
	<ul style="list-style-type: none"> Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> Prior to or irrespective of the impact of the COVID-19 pandemic 	<ul style="list-style-type: none"> The focus of this study was a survey that reported on the associations between emergency physicians' characteristics (gender, age, training route, and living at home with children) and burnout during the second wave of the COVID-19 pandemic 	Published 27 January 2022

	<ul style="list-style-type: none"> • Nature of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ How they are affected 	<ul style="list-style-type: none"> • This survey was a follow-up to a national survey conducted in April and May 2020 about the experiences of Canadian emergency physicians on the impact of COVID-19 during the first 10 weeks of the pandemic • Burnout was defined as a serious work-related syndrome involving depersonalization and emotional exhaustion which leads to depression, suicide, and workforce depletion • The survey that was distributed between 25 November 2020 and 4 February 2021 had a participant from each Canadian province and territory, except Nunavut (427 participants in total), and found that: <ul style="list-style-type: none"> ○ increasing age was associated with lower emotional exhaustion and depersonalization ○ compared with the male gender, female or nonbinary gender was associated with high emotional exhaustion ○ living with children at home was associated with lower depersonalization ○ there was no association between training route and either depersonalization or emotional exhaustion • The study authors suggested that more clinical research is needed to determine causation of reported associations and the impact of targeted interventions <p>Source</p>	
	<ul style="list-style-type: none"> • Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ During the COVID-19 pandemic 	<ul style="list-style-type: none"> • An international cross-sectional study surveyed resident physicians in the U.S. and Canada, of which 196 residents (both primary care and surgical residents) responded to indicate that their social relationships and spiritual well-being were deeply impacted by COVID-19, more so in primary care physicians 	Published November 2021

		<ul style="list-style-type: none"> The authors reported that COVID-19 has exacerbated isolation and burnout that was previously linked to residents prior to the pandemic Source	
	<ul style="list-style-type: none"> Nature of the mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> Who is affected How they were affected For how long are they affected? 	<ul style="list-style-type: none"> A mixed-methods study explored the impact of rural health system factors on physician burnout in Northern Canada Based on the Maslach Burnout Inventory survey, more than a third of the respondents (22 of 57) indicated features of burnout due to the use of electronic medical records, inadequate financial remuneration, perceived lack of influence to create changes in policy and workplace culture, administrative burden, and physician turnover Source	Published 25 August 2021
	<ul style="list-style-type: none"> Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> During the COVID-19 pandemic 	<ul style="list-style-type: none"> A survey with emergency physicians in Canada indicated a high levels of obligation to care for patients, but the fear of COVID-19 infection altered the way they interacted with patients Most of the respondents (97%) reported that the use of PPE negatively impacted patient care More than half of the respondents were not concerned about their mental health but more so about COVID-19 waves, financial situation of Canada, youth mental health Teamwork, leadership, and clear communication strategies were identified facilitators Source	Published 17 May 2021
	<ul style="list-style-type: none"> Type of mental-wellness challenges affecting Canadian physicians Nature of the mental-wellness challenges affecting Canadian physicians 	<ul style="list-style-type: none"> This study's objective was to determine the prevalence of physician burnout during the pandemic, and to report differences by gender, ethnicity, or sexual orientation by surveying internal medicine physicians at two hospitals in Vancouver, Canada Prevalence of burnout was 68% and feelings of low personal accomplishment was 22% 	Published 10 May 2021

		<ul style="list-style-type: none"> • 21% considered quitting the profession or had quit a position • Women were more likely to report emotional exhaustion and feelings of low personal accomplishment compared to men • Visible ethnic minority physicians were more likely to report feelings lower personal accomplishment compared to white physicians • There was not difference in emotional exhaustion or depersonalization by ethnicity and sexual orientation <p>Source</p>	
	<ul style="list-style-type: none"> • Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ Prior to or irrespective of the impact of the COVID-19 pandemic • Physician-targeted wellness initiatives underway across Canada <ul style="list-style-type: none"> ○ Level of initiatives ○ Regional/municipal 	<ul style="list-style-type: none"> • The aim of this study was to describe the development and implementation of physician wellness initiatives within CAMH, a leading Canadian mental health hospital • An organizational physician wellness framework was first established to guide implementation, which involved clarifying roles, expectations, and reporting structures, and conducting a needs assessment survey of opportunities to improve physician wellness at the hospital • The needs assessment survey found that 58% of the 84 respondents reported being negatively impacted by an emotionally stressful workplace event more than once in the last 12 months, and 50% of respondents reported experiencing symptoms of burnout a few times a month • Over the following two years, a number of initiatives were implemented, including: <ul style="list-style-type: none"> ○ a Mentorship Program to provide mentorship opportunities, training, and support for career advancement ○ Communities of Practice that are formed by groups of physicians to promote connectedness and mutual support with navigating the physicians' professional journeys 	Published 3 May 2021

		<ul style="list-style-type: none"> ○ a Peer Support Program that involves physicians reaching out other physicians who may have been affected by an adverse event in the workplace ○ using health information technologies to enhance organizational efficiency of practice ○ refining the physicians onboarding process, providing feedback and skills training on conflict management to physicians, and developing a lower barrier process for timely remediation of unprofessional behavior in order to improve professionalism amongst physicians ○ establishing direct feedback channels on challenges with electronic health records (EHR) use and delegating EHR champions to provide education on HER system functionality and changes • The authors pointed out that measures of physician awareness, stigma, and culture remain elusive and merit further study <p>Source</p>	
	<ul style="list-style-type: none"> • Physician-targeted wellness initiatives underway across Canada 	<ul style="list-style-type: none"> • This environmental scan reported wellness initiatives and programs at Canadian academic emergency medicine programs across the 17 Canadian medical schools • Most wellness programs only existed at local, divisional, and departmental levels, and a variable level of established leadership positions exist within these programs • Only 37% of programs currently track physician wellness in any manner, and only 12% track wellness regularly and in a formal manner • While most programs tried to consider circadian rhythms in shift scheduling, 41% did not do so <ul style="list-style-type: none"> ○ Initiatives to address circadian rhythms included casino shifting and varying shift lengths 	Published 29 November 2020

		<ul style="list-style-type: none"> • Other programming related to daily wellness included consistent availability of food (59%), and a debriefing process after critical incidents (41%) • Access to childcare, sleep rooms, and formal policies to follow-up with staff after critical incidents were the most limited • 59% of programs had a form of sabbatical or extended vacation program Source	
	<ul style="list-style-type: none"> • Nature of the mental-wellness challenges affecting Canadian physicians 	<ul style="list-style-type: none"> • This study surveyed burnout amongst Canadian Royal College of Physicians and Surgeons of Canada emergency medicine residents • 62% of residents met the threshold for burnout and 14% contemplated suicide during their training • There was no significant difference between burnout rates in male and female residents Source	Published 23 September 2020
	<ul style="list-style-type: none"> • Nature of the mental-wellness challenges affecting Canadian physicians 	<ul style="list-style-type: none"> • The objective of this study was to describe the rates of burnout, depression, and suicidality in emergency medicine physicians in Canada right before the COVID-19 pandemic • Of 384 respondents, 86.1% met at least one of the criteria for burnout • 58% scored minimal to none on the PHQ-9 screening tool for depression, while those scoring as mild, moderate, moderately severe, and severe were 24.3%, 11.5%, 4.0%, and 2.1% respectively • 14.3% had contemplated suicide during their career in EM, and of those, 5.9% had actively considered suicide in the past year Source	Published 22 September 2020
	<ul style="list-style-type: none"> • Type of mental-wellness challenges affecting Canadian physicians • Nature of the mental-wellness challenges affecting Canadian physicians 	<ul style="list-style-type: none"> • This mixed-methods study reported burnout time trends and described the psychological effects of working as a Canadian emergency medicine physician during the first weeks of the COVID-19 pandemic 	Published 26 August 2020

		<ul style="list-style-type: none"> • Among the 468 participants working in 143 Canadian hospitals, burnout levels did not change significantly over time • Being tested for COVID-19 and the number of shifts worked were associated with high emotional exhaustion and testing was also associated with high depersonalization • Other impacts on physician wellness included personal safety, academic and educational work, PPE, the workforce, patient volumes, work patterns, and work environment <p>Source</p>	
	<ul style="list-style-type: none"> • Type of mental-wellness challenges affecting Canadian physicians 	<ul style="list-style-type: none"> • A prospective study surveyed physician residents in Alberta about burnout prevalence and contributory factors and solutions based on the Maslach Burnout Inventory-Health Sciences Survey (MBI-HSS) • While the response rate was below 50%, more than half of them reported burnout prevalence due to more hours, poor work-life balance and mental health, and experiences with intimidation and harassment • More than half of the respondents indicated that they have experienced intimidation and harassment • Proposed solutions included improved teaching, work hours, wellness days, and culture shift in medicine <p>Source</p>	Published 2 March 2020
	<ul style="list-style-type: none"> • Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ Prior to or irrespective of the impact of the COVID-19 pandemic 	<ul style="list-style-type: none"> • The survey aimed to understand the prevalence and factors of distress among Canadian orthopedic surgeons and trainees • More than half of the respondents had experienced distress • Individuals with less experience felt more distressed than those experienced, and did not find that gender was associated with different levels of distress <p>Source</p>	Published 1 May 2020

	<ul style="list-style-type: none"> • Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ Prior to or irrespective of the impact of the COVID-19 pandemic 	<ul style="list-style-type: none"> • A small sample of plastic surgeons and trainees in Canada reported that majority of them have been shamed, mostly related to providing the wrong answer and disagreements in clinical care <p>Source</p>	Published February 2019
	<ul style="list-style-type: none"> • Type of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ Prior to or irrespective of the impact of the COVID-19 pandemic • Nature of mental-wellness challenges affecting Canadian physicians <ul style="list-style-type: none"> ○ How they are affected 	<ul style="list-style-type: none"> • This observational retrospective cohort study aimed to determine the risk of suicide and self-harm among physicians and non-physicians in Ontario, Canada • Ontario physicians were compared with a weighted cohort of non-physicians between January 1990 and December 2015, followed until 2016 • The study found that one in 1,300 physicians died by suicide over a 26-year period, a rate that was similar to non-physicians • Physicians with a history of an anxiety or mood disorder and a psychiatry visit in the preceding year were associated with the composite outcome of suicide or self-harm • Additionally, the study found that self-harm and the composite outcome of self-harm and suicide were lower in physicians when compared to non-physicians • The authors acknowledged that their study was limited by the timeframe that was used, limitations in the statistical data that was sourced, and the fact that their self-harm outcome only captured severe presentations and not ambulatory visits • Given that study cohort only included newly registered physicians, the authors suggested that research using a cohort of all Ontario physicians could be determine whether rates of self-harm and suicide have been changing over time <p>Source</p>	Published 12 May 2022

Appendix 3: Documents excluded at the final stages of reviewing

Type of document	Hyperlinked title
Guidelines	
Full systematic reviews	A systematic review of burnout among doctors in China: A cultural perspective Patient safety, resident education and resident well-being following implementation of the 2003 ACGME duty hour rules
Rapid reviews	
Non-systematic reviews	
Protocols for reviews that are already underway	
Titles and questions for reviews being planned	
Single studies	The happy docs study: a Canadian Association of Internes and Residents well-being survey examining resident physician health and satisfaction within and outside of residency training in Canada Physician health and well-being: Canada's national approach The Canadian Medical Association's Policy on Physician Health and Well-being Burnout, depression, life and job satisfaction among Canadian emergency physicians
Other types of documents	

Appendix 4: Types of and experiences with physician-wellness initiatives in Canadian provinces and territories

Province/territory	Summary of experiences
Pan-Canadian	<ul style="list-style-type: none"> • The Canadian Medical Association (CMA) developed the Physician Wellness Hub, which provides resources and tools based on different groups (e.g., physician and medical learners, leaders, and educators) • The Royal College of Physicians and Surgeons of Canada conducted an environmental scan and scoping review of physician health programming across Canada (mainly health programs within medical education programs) from 2018-2021, where they developed five guiding principles and 15 evidence-informed recommendations aligned with the existing CanMEDS Physician Competency Framework (i.e., awareness, development, sustainability, support) <ul style="list-style-type: none"> ◦ The recommendations focus on the implementation of educational programs that raise awareness of physician wellness at every stage of a physician's life cycle, enhance physician leadership skills in promoting wellness, and create policies and resources that promote a culture of wellness amongst physicians • The Canadian Anesthesiologists' Society has physician wellness committee that aims to be responsive to member needs and develop goals related to physician well-being and burnout, in addition to providing a list of available resources on their webpage • The Canadian of Emergency Physicians has a wellness special interest group that advocates on behalf of personal and professional well-being of Emergency Medicine across Canada • The Canadian Society of Palliative Care Physicians has a wellness committee that focuses on the promotion of wellness and prevention of burnout of their members, and contains a members-only list of wellness resources • The Occupational Medicine Specialists of Canada has a webpage of mental health and safety resources
British Columbia	<ul style="list-style-type: none"> • Doctors of BC supports the health of physicians by offering a range of wellness programs, including: <ul style="list-style-type: none"> ◦ The Physician Health Program of British Columbia; ◦ COVID-19 Physician Peer Support Sessions; ◦ The Memorandum of Agreement on Physical/Psychological Safety; ◦ The Physician Wellness Network; ◦ Cognitive Behavioural Therapy Skills Training; and ◦ The Physician Peer Support Network; • The Physician Health Program of British Columbia provides a range of support services for physicians, such as short-term counselling, referrals to personalized therapists, coaching, addressing career and life transitions, and strengthening relationships. <ul style="list-style-type: none"> ◦ A key feature of this program is that it allows for physicians to connect with other physician colleagues if they wish, while still having 24-hour confidential helplines available for all physicians, retirees, residents, medical students, and family members' use ◦ As a result of the COVID-19 pandemic, in 2021, the Physician Health Program noted a 93% increase in the use of these services by physicians when compared to 2019

	<ul style="list-style-type: none"> • The Physician Peer Support Network is a newly launched network, organized by the Physician Health Program, that has a primary aim of serving as a knowledge sharing connection point between various stakeholders to strengthen collaboration and relationship-building • The Isolated Medical Provider Aftercare Team (IMPACT) offers peer-to-peer support for rural health care providers (e.g., physicians and nurses) in the Northern Health Region in British Columbia • The University of British Columbia's resident wellness office operates a confidential peer support program to connect residents seeking care with faculty or other senior residents • On 8 October 2021, Doctors of BC announced that it will be expanding their existing support services over the next four years after receiving \$1,000,000 in funding from the Canadian Medical Association, Scotiabank, and MD Financial Management's Physician Wellness+ Initiative
Alberta	<ul style="list-style-type: none"> • The Alberta Medical Association offers the Physician and Family Support Program (PFSP), which consists of 24/7, private and confidential support helplines for physicians, residents, medical students, and their immediate family members <ul style="list-style-type: none"> ○ This service can be used to discuss a range of problems, including relationship challenges, stress and mental health issues, substance misuse, and more ○ Physicians for Physicians (P4P) is a subset of the PFSP, and it allows for a confidential network of family physicians to take on fellow colleagues as patients in their clinics (if possible); this primarily serves as a peer-to-peer support element • In collaboration with the Professional Association of Resident Physicians of Alberta, and the University of Alberta and University of Calgary's wellness centres, the Alberta Medical Association sponsors a Resident Wellness Conference every two years in order to explore and develop practical self-care strategies and techniques <ul style="list-style-type: none"> ○ A few of the strategies and techniques include team building, mindfulness, emotional intelligence, communication, family planning, nutrition, and substance use disorders • Well Doc Alberta is an education-focused initiative that provides guidance on ways to advance physician wellness across the province; it includes education sessions, podcast episodes, newsletters, and a compilation of support services/resources
Saskatchewan	<ul style="list-style-type: none"> • The Saskatchewan Medical Association provides a Physician Health Program, which aims to help clinicians, physicians in training (residents and medical students), and their families navigate difficult situations <ul style="list-style-type: none"> ○ This service includes confidential referrals, assessments, interventions, and on-going support as needed • The University of Saskatchewan provides confidential counselling services for resident physicians within the province through their Employee and Family Assistance Program • The Saskatchewan Health Authority posted a number of physician wellness and support resources during the COVID-19 pandemic, which include online courses and physician wellness presentations <ul style="list-style-type: none"> ○ Current offerings include courses on mental health and well-being, and chronic conditions
Manitoba	<ul style="list-style-type: none"> • Doctors Manitoba offers a variety of physician wellness support programs, including: <ul style="list-style-type: none"> ○ The Physician and Family Support Program, which provides confidential counseling for personal or professional challenges that physicians and/or their dependents, residents, medical students, and retirees may be experiencing; ○ The Physicians at Risk Program, which is a help line that can be used by practicing physicians, residents, medical students, and retirees for social, relationship, financial, behavioural, or substance use issues;

	<ul style="list-style-type: none"> ○ The MDCare program, which provides both adult and adolescent psychiatry and psychological assessments and treatments for practicing physicians and their immediate family only; and ○ The Cognitive Behaviour Therapy with Mindfulness (CBTm) program is a set of courses that can help educate and provide self-management strategies to support the well-being of physicians (course delivery and length can vary depending on the selected session) ● The Professional Association of Residents and Interns of Manitoba (PARIM) has a range of crises support services, including confidential helplines and on-campus services at the University of Manitoba ● It is reported that 30% of the physicians in Manitoba were experiencing burnout prior to the COVID-19 pandemic
Ontario	<ul style="list-style-type: none"> ● A report by Public Health Ontario dated 8 June 2021 summarized the mental health challenges and evidence-based interventions to support the mental health of the public health workforce after the pandemic <ul style="list-style-type: none"> ○ The COVID-19 pandemic has resulted in increased levels of burnout, psychological distress, anxiety, depression, and PTSD among healthcare workers ○ A cross-sectional survey of public health professionals in the U.S. found that there was an increase in plans to leave or retire from public health in September 2020 compared to January 2020; traumatic events were also described including job-related threats and feeling bullied or harassed due to their work during the pandemic ○ Interventions included voluntary training sessions with information about coping skills, pandemic-related stressors and mental health risks, and general COVID-19 information, which was beneficial for strengthening the psychological well-being of healthcare providers ○ Referral to specialty mental health services for staff experiencing mental health concerns (i.e. cognitive behavioural therapy) was recommended; however, in some cases, it has been ineffective or has worsened mental health symptoms ○ Telephone crisis lines and counselling are desired by frontline staff, but quantitative evidence on effectiveness is lacking ○ One study found that music or arts-based therapy may be effective, as listening to curated playlists decreased sadness, fear, tiredness, and worry among healthcare workers during the pandemic ○ Establishing a staff “buddy” system to validate and normalize psychological responses, and increase support and reflection on the effects of stress was a recommendation ○ Many reviews found that peer-support groups where physicians could discuss specific cases or situation as work improved anxiety and resilience ○ Adequate space and time to rest as well as providing nutritious food and drink directly to frontline workers was also recommended ○ Organisational strategies include staffing and workload management prevention and prioritization, communication, effective leadership and workplace cohesion ○ Policy-level interventions include pandemic preparedness policies and ensuring occupational health policies support workers’ health and well-being ○ Normalizing institutional funding for mental health supports and stigma reduction strategies can reduce stigma around mental health ● The Ontario Medical Association Physician Health Program is a 24/7, free, confidential & bilingual wellness support line for physicians, residents, and medical students and their families where they are taken through a needs and risk assessment to

	<p>help determine the type of support that best suits their needs, and they are offered an appointment within 5 business days with a counselor, psychotherapist, or psychologist</p> <ul style="list-style-type: none"> • The College of Physicians and Surgeons in Ontario reported key interventions to improve the mental health of Ontario physicians <ul style="list-style-type: none"> ○ The Physician Health Program (PHP) by the Ontario Medical Association provides confidential support by psychiatrists for individuals struggling with mental health, substance abuse, or other behaviours ○ The Centre for Addiction and Mental Health (CAMH) provides access to mental health and addiction supports for healthcare workers impacted by the COVID-19 pandemic through didactic lectures and case-base discussions; for healthcare workers in an acute care hospital or long-term care facility, there is a self-referral program for individuals in need of psychiatric services ○ The Ontario government provides online iCBT and online peer discussion groups to frontline healthcare workers experiencing anxiety, burnout or PTSD ○ Other peer support and one-on-one support resources for physicians were included • A report by Health Force Ontario dated January 2019 described mental health interventions • PARO Resident Wellness Events and Assistance organizes wellness events for residents; they also provide a 24-hour helpline for residents, medical students, their partners and families
Québec	<ul style="list-style-type: none"> • The Quebec Physicians' Health Program (QPHP) is a non-profit organization that offers confidential peer support to all physicians, residents, and medical students who are facing psychological or other health issues <ul style="list-style-type: none"> ○ Services are provided by physician advisors who understand the challenges of medicine ○ The QPHP provides counselling for individuals to help colleagues, group interventions in the workplace ○ The program also develops well-being strategies for physicians, knowledge sharing and supports scientific research in physician health
New Brunswick	<ul style="list-style-type: none"> • No information available
Nova Scotia	<ul style="list-style-type: none"> • Doctors Nova Scotia's Professional Support Program (PSP) provides confidential peer support for members and their families who are dealing with personal or professional issues at no cost <ul style="list-style-type: none"> ○ The PSP program responds to mental health and wellness needs and also supports initiatives and resources promoting wellness, resiliency, and balanced living • Members can call the 24-hour helpline in crisis situations and others will be referred to the appropriate PSP counsellor and will receive a call back within 48 hours
Prince Edward Island	<ul style="list-style-type: none"> • No information available
Newfoundland and Labrador	<ul style="list-style-type: none"> • The Newfoundland and Labrador Medical Association offers a range of wellness support systems for physicians <ul style="list-style-type: none"> ○ MDLink connects physician-providers with physician-patients who are seeking care ○ Safe Harbour is a weekend retreat that allows for physicians to rediscover the “joys of being a physician”; ○ There are physician health videos to promote mental health and well-being, self-help resources; and wellness support lines
Yukon	<ul style="list-style-type: none"> • The Canadian Medical Association provides a 24/7, free, confidential and bilingual wellness support line for physicians, residents, medical students and their families. <ul style="list-style-type: none"> ○ Provides immediate, urgent crisis support and help with everyday wellness issues

	<ul style="list-style-type: none"> ○ Callers will be provided with an appointment with a masters level counselor, psychotherapist or psychologist within 5 business days ● The Yukon Medical Association provides physician health services through a contract with the Alberta Medical Association Physician and Family Support Program (see above in section on Alberta).
Northwest Territories	<ul style="list-style-type: none"> ● The Northwest Territories Medical Association is currently in the process of negotiating their own contract to support physicians
Nunavut	<ul style="list-style-type: none"> ● The Canadian Medication Association provides a 24/7, free, confidential and bilingual wellness support line for physicians, residents, medical students and their families (same program as Yukon) <ul style="list-style-type: none"> ○ Provides immediate, urgent crisis support and help with everyday wellness issues ○ Callers will be provided with an appointment with a masters level counselor, psychotherapist or psychologist within 5 business days