EVIDENCE SYNTHESIS BRIEFING NOTE

TOPIC: BEST PRACTICES FOR SUPPORTING HEALTH CARE WORKER BURNOUT FOLLOWING INTENSE PROFESSIONAL COMMITMENT

Information finalized as of May 31, 2021.[a]

This Briefing Note was completed by the Research, Analysis, and Evaluation Branch (Ministry of Health) based on information provided by members of the COVID-19 Evidence Synthesis Network. Please refer to the Methods section for further information.

Purpose: This note provides a summary of best practices in hospitals and other health care settings to mitigate health care worker burnout, fatigue, and moral injury and/or grief following a period of intense professional commitment (i.e., COVID-19 pandemic).

Key Findings: Several systematic reviews, meta-analyses, and single studies evaluated organizational-, system-level strategies, and individual-level strategies and interventions for supporting HCWs during a pandemic, and preventing or reducing burnout.

- Organization-directed Interventions: A 2017 systematic review and meta-analysis on physician burnout reported that organization-directed interventions (i.e., rescheduling hourly shifts, reducing workload, structural changes) were associated with higher treatment effects compared with physician-directed interventions (e.g., mindfulness-based stress reduction techniques, educational interventions, exercise, or a combination of these features).
- Mindfulness-based Stress Reduction: Two systematic reviews reported that brief mindfulness interventions may be effective in improving provider well-being (e.g., reductions in stress, anxiety). One of the included studies (2006) involving nurses and nurse aides reported that a brief, four-week mindfulness-based stress reduction intervention improved burnout symptoms.
- Communication Skills: A 2019 review reported that communication skills training with e-mental health interventions, and psychiatric interventions were the most effective interventions for improving burnout among hospital physicians and nurses in the Netherlands, United States, and England.

Limitations:

- Additional research is needed to clarify categories of beneficial interventions to reduce physician burnout, which interventions or combinations of interventions might be most effective, and optimal approaches to development and implementation of these interventions.
- The identified research did not provide specific insights into retention, job satisfaction, engagement, and resilience.
- No gender-based analyses were identified and very few studies discussed potential interventions to specifically support women in health care with COVID-19 related stress, anxiety, and mental health, despite findings that indicate women HCWs are more likely to be impacted.

Analysis for Ontario:

- Programs that champion individual interventions are unlikely to be successful, unless accompanied by organizational and structural interventions. In addition, health managers' and policymakers' awareness of burnout in HCWs is important in stimulating and implementing preventive interventions.

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[a] This briefing note includes current available evidence as of the noted date. It is not intended to be an exhaustive analysis, and other relevant findings may have been reported since completion.

Supporting Evidence

Table 1 below summarizes best practices for addressing health care worker (HCW) burnout following intense professional commitments. Additional details on preventing and addressing HCW burnout are provided in the Appendix. Table 2 summarizes single studies on preventing burnout among HCWs during the COVID-19 pandemic. Findings from systematic and narrative reviews are provided in Table 3. Example interventions across jurisdictions are provided in Table 4. In addition, guidelines and recommendations for addressing COVID-19 burnout among health care workers are presented in Table 5.

Table 1: Best Practices for Addressing HCW Burnout

Scientific Evidence	**Addressing HCW Burnout**
	• Several systematic reviews, meta-analyses, and single studies evaluated organizational-, system-level strategies, and individual-level strategies and interventions for supporting HCWs during a pandemic, and preventing or reducing burnout (see Table 2 for details).
	○ Organization-directed Interventions: A 2017 systematic review and meta-analysis on physician burnout reported that organization-directed interventions (i.e., rescheduling hourly shifts, reducing workload, structural changes) were associated with higher treatment effects compared with physician-directed interventions (e.g., mindfulness-based stress reduction techniques, educational interventions, exercise, or a combination of these features).[1]
	○ Mindfulness-based Stress Reduction: Two systematic reviews reported that brief mindfulness interventions may be effective in improving provider well-being (e.g., reductions in stress, anxiety). One of the included studies (2006) involving nurses and nurse aides reported that a brief, four-week mindfulness-based stress reduction intervention improved burnout symptoms. Larger studies are needed to assess an impact on clinical care.[2,3]
	○ Communication Skills: A 2019 review reported that communication skills training with e-mental health interventions, and psychiatric interventions were the most effective interventions for improving burnout among hospital physicians and nurses in the Netherlands, US, and England.[a]
	Research Gaps
	• A 2020 systematic review on the mental health of frontline health and social care professionals during and after a disease outbreak, epidemic, or pandemic reported that no evidence reported on the effectiveness of interventions aimed at supporting HCW resilience.[4]
	• A 2016 review reported that additional research is needed to clarify categories of beneficial interventions to reduce physician burnout, which interventions or combinations of interventions might be most effective, and optimal approaches to development and implementation of these interventions.[5]
	Addressing Burnout Among Women
	• A 2020 systematic review on burnout reported that women HCWs are at increased risk for stress, burnout, and depression during the COVID-19 pandemic; however, few studies discuss potential interventions to support them.
	○ Preferred Resources: One of the included studies (2020) on the mental health of medical and nursing staff in Wuhan during COVID-19 suggested that women HCWs favoured

psychological resources available through media (i.e., online push messages of mental health self-help) and self-help books, over counseling or psychotherapy.[6,7]

Proposed Strategies for Supporting HCWs
The research most commonly proposed the following individual- and organizational-interventions for supporting HCWs:
- Individual Methods: Research focused on health promotion strategies that included: 1) healthy diet and adequate water intake; 2) physical activity; 3) recreational and relaxation activities (i.e., yoga, mindfulness activities, focused attention); and, 4) emotion-focused coping (e.g., compassion practices, emotional skills).[8,9,10,11,12,13,14,15]
- Organizational Approaches: Research focused on organizational interventions that include: 1) improving work schedules; 2) providing counseling support meetings that promote self-management; 3) supporting HCWs financially; 4) provision of rest areas for sleep and recovery; 5) training programs to improve resiliency; 6) information on protective measures; 7) duty hour limitation policies; and, 8) physician debriefing sessions.[16,17,18]

Barriers and Facilitators to Implementing Interventions
- The 2020 systematic review on the mental health of frontline HCWs during and after a disease outbreak, epidemic or pandemic, suggests barriers and facilitators to implementing interventions:
  - Barriers: Two factors were barriers to intervention implementation:
    - Frontline workers, or the organizations in which they worked, not being fully aware of what they needed to support their mental well-being; and
    - A lack of equipment, staff time or skills needed for an intervention.
  - Facilitators: Three factors were facilitators of intervention implementation:
    - Interventions that could be adapted for local needs;
    - Having effective communication, both formally and socially; and
    - Having positive, safe and supportive learning environments for frontline workers.[19]

International Scan	**Supports for Health Care Workers in Hospitals** • The Policlinico of Milan Hospital (Spain) used a 'modular' approach to provide a stress-relieving strategy among health care workers during the pandemic. These included: establishing rest spots; therapy-based booklet; mindfulness exercises; psychological phone hotline. Priority was given to those easily deliverable over the intranet or accessible by phone at the health worker's convenience. The program is currently under evaluation.[20] **Guidelines and Recommendations for Addressing COVID-19 Burnout Among HCWs** • Guidance documents from Canada (e.g., Canadian Medical Association), the US (i.e., Cleveland Clinic, Centers for Disease Control and Prevention [CDC]), and studies from other international jurisdictions, suggest individual, departmental, and organizational actions to alleviate moral distress and the mental, physical, and financial impacts of the COVID-19 crisis (see Table 5 for details).[21,22,23,24,25,26,27]. For example: ◦ The Cleveland Clinic (US) recommends a seven-step process for addressing caregiver moral distress. Steps include: 1) see and seek moral distress; 2) understand moral distress; 3) pay attention and assess workplace climate; 4) promote a receptive environment and engage team members; 5) open opportunities

	for dialogue: 6) reflect, evaluate, and revise; and, 7) transform negative environments.[28]

Canadian Scan	**Supports for Health Care Workers in Hospitals**
	• The Centre for Addictions and Mental Health (CAMH) has developed two as-yet-unevaluated programs to support hospital-based health care providers and residents, and other frontline responders during COVID-19: the [ECHO Coping with COVID](); and a hub for evidence-based resources that will support health care workers manage their own mental health and support their patients and families. The ECHO Coping with COVID includes live virtual one-hour ECHO sessions occur weekly through multi-point videoconference technology. Topics include:
	    ○ Overview of Self-Care & Wellness During COVID-19;
	    ○ Managing Information Overload During COVID-19; and
	    ○ Managing Stress in the COVID-19 Era.[29]

Ontario Scan	**Supports for Health Care Workers in Hospitals**
	• The 2003 severe acute respiratory syndrome (SARS) outbreak in Mount Sinai Hospital in Toronto (Ontario) prompted an administrative and mental health response in the first four weeks and afterward, including:
	    ○ Provision of clear, succinct information and appropriate equipment and supplies;
	    ○ Development of pamphlets that identified signs of anxiety and stress and information about support resources;
	    ○ Informal contacts between psychiatric staff and colleagues in medicine, surgery, and administration;
	    ○ Offering staff time with psychiatrists they did not have working relationships with;
	    ○ A drop-in support centre; and
	    ○ A confidential telephone support line staffed by inpatient psychiatric nurses.[30]

Methods

Individual peer-reviewed articles were identified through PubMed and Google Scholar. The search was limited to English sources and therefore may not capture the full extent of initiatives in non-English speaking countries. Full-text results extracted were limited to those available through Open Access or studies made available to the Ministry by our partners. Jurisdictional information was identified using Google and on relevant government websites.

The COVID-19 Evidence Synthesis Network is comprised of groups specializing in evidence synthesis and knowledge translation. The group has committed to provide their expertise to provide high-quality, relevant, and timely synthesized research evidence about COVID-19 to inform decision makers as the pandemic continues. The following member of the Network developed this Evidence Synthesis Briefing Note:

- Evidence Synthesis Unit, Research Analysis and Evaluation Branch, Ministry of Health. June 11, 2021.

For more information, please contact the Research, Analysis and Evaluation Branch (Ministry of Health).

APPENDIX

Table 2: Single Studies on Supporting HCWs During the COVID-19 Pandemic

Jurisdiction, Program	Objective, Population, Setting	Findings		
		Outcomes	Impact Measures	Recommendations
Massachusetts (US) Brigham Resilience in COVID-19-pandemic Emergency Forum (BRIEF) Brigham and Women's Hospital (BWH) & Brigham and Women's Faulkner Hospital (BWFH)	• Purpose: Quality improvement project aimed to bolster clinician resilience by targeting clinician well-being and COVID-19-related process improvements through a nightly, interprofessional, tele-debriefing program. • Program Components: The 'Brigham Resilience in COVID-19-pandemic Emergency Forum' (BRIEF) included nightly, 30-minute technology-based (Zoom) debriefing discussions with emergency department (ED) clinicians providing care to patients. • The discussion format was adapted from the Center for Medical Simulation's DISCOVER PHASE tool. They included: ○ Sharing clinical experiences (i.e., case summaries, other sentiments and thoughts); ○ Providing support and connecting over shared experiences; ○ Identifying and recounting processes and protocols that were working and areas that could benefit from improvement; ○ Ideating solutions;	• There were 24 attended debriefings in the first 40 days of the program (adjusted participation rate 60%); with reduced participation during the last 11 days of the program. • Altogether 81 clinicians joined over 24 sessions; on average, 3.4 participants engaged in each group (range=2–8). • There were no referrals to EAP. • This program bolstered interprofessional communication and support, while improving operations. Although participation in optional programs are often low, engagement in this program was high.	• None reported.	• Optional debriefing with receptive departmental leadership may be a successful tool to support clinicians and hospitals during critical events.[31]

Jurisdiction, Program	Objective, Population, Setting	Findings		
		Outcomes	Impact Measures	Recommendations
	o Summarizing discussion in a "BRIEF Findings Report" with ED leadership; and o One on one calls with a group leader or referrals to EAP were offered to participants identified as needing further support. • Duration: Four weeks; afterward, the program transitioned to on-demand availability (March 26th to May 19th, 2020). • Personnel: Clinicians providing care at the BWH and BWFH EDs: o Physicians; medical residents; nurses; physician assistants; emergency service assistants; pharmacists; case managers; and emergency radiologists; and technicians. • Intervention Setting: EDs at the Brigham and Women's Hospital and the Brigham and Women's Faulkner Hospital.			
Ohio (US) The Wellness Partner Program[b] Trusted Health & Ohio State University College of Nursing, Ohio	• Purpose: Study (2021) evaluates program aimed at enhancing the health and well-being of nurses on the front lines during the COVID-19 pandemic and beyond. • Program Areas: The program emphasizes three areas: o Personalized support for wellness; o Prioritizing physical activity, healthy eating, sleep, and stress management; and	• Program Evaluation: Response rate to a program evaluation was 45.5%. Feedback from the program evaluations completed by nurse-participants suggest that: o 97.3% of nurses reported that the program helped them engage in self-care and wellness; and	• Program completion rates; and • Post-intervention participant evaluation (i.e., questionnaires).	• None reported.[32]

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[b] The Wellness Partner Program was created by the Ohio State University College of Nursing.[b]

Jurisdiction, Program	Objective, Population, Setting	Findings		
		Outcomes	Impact Measures	Recommendations
	o Establishment of strength-based, sustainable solutions to improve health and well-being. • Program Components: o Nurse-participants received wellness coaching to establish self-care and reach self-determined individualized health and wellness goals. o Wellness partners provided 45-minute wellness support sessions every seven to 10 days over six weeks. • Personnel: Partnerships were implemented for 188 nurses who were coached by 49 advanced practice nursing (APN) students; o 104 nurses participated for six weeks. • Intervention Setting: Virtual (Zoom).	o 94.7% agreed or strongly agreed that the program helped them improve their mental and physical health. • Nurses noted that listening and goal setting were the most important and helpful strategies that APN student-coaches used in working with them. • Barriers to participation and meeting goals were primarily time constraints.		
The Netherlands Professional Coaching Intervention	• Purpose: Study (2021) investigated the effectiveness of a professional coaching intervention to reduce burn-out symptoms and foster personal resources in residents and specialists. • Program Components: Six coaching sessions provided by professional coaches aimed at personal development and growth. • Duration: 10 months. • Personnel: Medical residents and specialists (n=57; 46 women, 10 men). • Intervention Setting: Four academic hospitals in the Netherlands.	• After the coaching intervention, the coaching group reported: o A reduction in burn-out symptoms; and o An increase in personal resources. • Physicians increased their psychological capital (η_p^2=0.139), their self-compassion (η_p^2=0.083), and reported significantly less exhaustion (η_p^2=0.126), the main component of the burn-out syndrome.	• Job Demands: These included workload, job insecurity, and work-family conflict. • Job Resources: Encompassed autonomy, supervisor support, and colleague support. • Personal Resources: Psychological capital, self-compassion, and psychological flexibility. • Burnout symptoms: Two core scales of the Dutch version of the Maslach Burnout Inventory, i.e., exhaustion and cynicism.	• None reported. [33]

Jurisdiction, Program	Objective, Population, Setting	Findings		
		Outcomes	Impact Measures	Recommendations
			• Work Engagement: Utrecht Work Engagement Scale, with three subscales, i.e., vigour, dedication and absorption.	

Spain
 	
Mindfulness-based Crisis Intervention
	• <u>Purpose</u>: Study (2020) evaluated the implementation of a mindfulness-based crisis intervention for frontline HCWs during the COVID-19 outbreak.
	• <u>Program Components</u>: On-site brief mindfulness intervention. Three elements were trained in each session:
	  ○ Focused attention;
	  ○ Conscious movements through soft hatha yoga stretching exercises; and
	  ○ Compassion practices.
	• <u>Program Duration</u>: Five to 10-minute mindfulness practices delivered twice daily.
	• <u>Personnel</u>: Health care professionals, e.g., physicians, nurses, social workers, physical therapists, technicians, cleaning staff.
	• <u>Intervention Setting</u>: Public general hospital in Madrid, Spain.
		• Participants reported sessions as being helpful:
		  ○ Mean rating of 8.4 on a scale from 0 to 10.
		  ○ Three people (2%) reported a minor adverse effect (increased anxiety or dizziness).
			• Data collected as indicators of the utility, safety, and feasibility of the implementation of this intervention:
			  ○ *Utility*: Mean "perceived helpfulness in reducing current stress."
			  ○ *Safety*: Number and % of participants who reported any kind of adverse event.
			  ○ *Feasibility*: Number and % of professionals who attended at least one session, out of the total number of health care workers of the hospital.
			  ○ Number of sessions that were held in COVID-19 wards.
			  ○ Number and % of participants who filled out the survey out of the total number of professionals who attended at least one session.
			  ○ Number and % of professionals who attended more than one session.
				• Data supports the utility, safety and feasibility of an on-site, brief mindfulness-based intervention designed to reduce stress for frontline health workers during a crisis. [34]

Spain Mobile Phone-based Intervention: 'PsyCovidApp'	• <u>Purpose</u>: Study (2021) evaluates the effectiveness of a psychoeducational, mindfulness-based mHealth intervention to reduce mental health problems in	• No differences between the groups at two weeks in the primary or secondary outcomes.	• Data were collected telephonically at baseline and after two weeks: ○ <u>Primary Outcome</u>: A composite of:	• None reported. [35]

		Findings		
Jurisdiction, Program	**Objective, Population, Setting**	**Outcomes**	**Impact Measures**	**Recommendations**
	HCWs during the COVID-19 pandemic. • <u>Program Components</u>: A PsyCOVIDApp that targets: ○ Emotional skills; ○ Healthy lifestyle behaviour; ○ Burnout; and ○ Social support. • <u>Personnel</u>: Workers providing face-to-face care to patients with COVID-19. • <u>Intervention Setting</u>: Not reported.	○ There were significant improvements among HCWs consuming psychotropic medications and receiving psychotherapy in the primary and secondary outcomes. ○ Participants gave high PsyCOVIDApp usability scores; participants asked to regain access to the app following the study.	▪ Depression; ▪ Anxiety; and ▪ Stress. ○ <u>Secondary Outcomes</u>: ▪ Insomnia; ▪ Burnout; ▪ Post-traumatic stress; and ▪ Self-efficacy.	
Portugal Mental Health Promotion Strategies	• <u>Purpose</u>: Study (2021) examined the effectiveness of mental health promotion strategies to reduce nurses' depression, anxiety and stress symptoms. • <u>Program Components</u>: Health promotion strategies included: ○ Breaks between work shifts; ○ Healthy diets; ○ Adequate water intake; ○ Physical activity; ○ Relaxation activities; ○ Recreational activities; ○ Maintenance of remote social contacts; ○ Verbalization of feelings/ emotions; and ○ Rejecting information about COVID-19 from unreliable sources. • <u>Personnel</u>: Female nurses (n=199). • <u>Intervention Setting</u>: Not reported.	• Depression, anxiety, and stress scores were significantly lower in nurses who frequently or always used all strategies, compared to nurses who never or rarely used them. ○ The strategy "rejecting information about COVID-19 from unreliable sources" did not impact depression, anxiety, or stress.	• <u>Primary Outcomes</u>: ○ Data on symptoms of anxiety, depression, and stress collected at baseline after six months.	• Study recommends that health organizations provide nurses and other health care professionals with the conditions for adopting these mental health promotion strategies.[36]

Table 3: Systematic and Narrative Reviews on Preventing and Addressing HCW Burnout

Jurisdiction, Number of Relevant Studies, and Review Type	Objective, Program Components, Intervention Setting, Population	Outcomes	Recommendations

• International
• N=28
• Rapid Scoping Review (2020)
	• <u>Study Purpose</u>: The review:
	  ○ Identifies the common triggers of occupational stress, burnout, and depression faced by women in health care during the COVID-19 pandemic; and
	  ○ Explored individual-, organizational-, and systems-level interventions that can support the well-being of women HCWs during a pandemic.
	• <u>Program Components</u>: Intervention components not reported.
	• <u>Intervention Setting</u>: Not reported.
	• <u>Population</u>: Doctors, nurses, and generalized groups of allied health professionals; one study focused on dentists, and another focused-on pharmacists.
		• Very few studies discuss potential interventions to support women in health care with COVID-19 related stress, anxiety, and mental health.
		  ○ Women with increased workloads preferred to use psychological support.
		  ○ Regular exercise is considered a protective factor for depression and anxiety.
		  ○ Mental health services such as online resources, psychological assistance hotlines, and group activities for stress reduction are poorly utilized by HCWs.
		• One of the included studies (2020) on the mental health of medical and nursing staff in Wuhan during COVID-19 suggested that women HCWs favoured psychological resources available through media:
		  ○ 36.3% had accessed psychological materials (e.g., books on mental health);
		  ○ 50.4% had accessed psychological resources available through media (e.g., online push messages on mental health self-help coping methods); and
		  ○ 17.5% had participated in counseling or psychotherapy.[37]
			• <u>Potential Strategies</u>: The following are potential supports for HCWs during a pandemic:
			  ○ Measures to support HCWs financially;
			  ○ Provision of rest areas for sleep and recovery;
			  ○ Care for basic physical needs such as food;
			  ○ Training programs to improve resiliency;
			  ○ Information on protective measures; and
			  ○ Access to leisure activities and counselors.[38]

• International • N=16 • Systematic Review (2020)	• <u>Study Purpose</u>: Assess the effects of interventions aimed at supporting the resilience and mental health of frontline health and social care professionals	• No evidence reported how well different strategies work at supporting the resilience and mental well-being of frontline workers.	• <u>Barriers</u>: Two factors were barriers to intervention implementation: ○ Frontline workers, or the organizations in which they worked,

Jurisdiction, Number of Relevant Studies, and Review Type	Objective, Program Components, Intervention Setting, Population	Outcomes	Recommendations

	during and after a disease outbreak, epidemic, or pandemic.
	• Program Components: Interventions aimed at supporting the resilience or mental health of frontline workers. These include:
	  o Workplace interventions, such as training, structure, and communication (n=6);
	  o Psychological support interventions, such as counselling and psychology services (n=8); and
	  o Multifaceted interventions (n=2).
	• Personnel: Participants in the majority of studies were health care professionals (mainly doctors and nurses).
	• Settings: Not reported.
		• One study investigated how well an intervention worked. This study was carried out immediately after the Ebola outbreak, and investigated whether staff who were training to give other people (such as patients and their family members) 'psychological first aid' felt less 'burnt out'. There were concerns about the results that this study reported and about some of its methods, limiting the certainty of the evidence.	not being fully aware of what they needed to support their mental well-being; and
			  o A lack of equipment, staff time or skills needed for an intervention.
			• Facilitators: Three factors were facilitators of intervention implementation:
			  o Interventions that could be adapted for local needs;
			  o Having effective communication, both formally and socially; and
			  o Having positive, safe and supportive learning environments for frontline workers.[39]

• International
• N=18 (12 seven randomized controlled trials [RCTs])
• Systematic Review (2019)
	• Study Purpose: Examine the interventions on burnout reduction among hospital physicians and nurses in the Netherlands, US, and England.
	• Program Components: The interventions included:
	  o E-mental health interventions (EMH);
	  o Team-based and participatory programs;
	  o Psychosocial training;
	  o Psychiatric interventions;
	  o Online programs and internet-based interventions;
	  o Professional identity development program;
	  o Coping interventions;
	  o Thankful events (i.e., workplace appreciation);
	  o Integrated methods; and
		• In two thirds of the studies, the interventions had a positive impact on reducing burnout.
		  o In 50% of the cases, communication skills training with EMH approaches had a significant effect on burnout.
		  o In 75% of studies, psychiatric interventions had a significant effect on burnout.
		  o In all studies, online interventions and professional identity development programs had significant effects on burnout.
		  o Team-based and coping skills training had no significant effect on burnout.
		  o Mixed methods had a significant effect on burnout in all studies.
			• Potential Strategies:
			  o Different strategies, such as training and improving communication skills, yoga, and spiritual programs based on meditation, teamwork, computer programs, staff appreciation, and coping strategies can be used to reduce burnout among physicians and nurses.
			  o Training and improving communication skills were the most effective interventions to improve burnout in nurses and physicians.[40]

Jurisdiction, Number of Relevant Studies, and Review Type	Objective, Program Components, Intervention Setting, Population	Outcomes	Recommendations
	o Coping and communication skills training. • Personnel: Physicians and nurses. • Intervention Settings: Not reported.		

• United States
• N=14 (RCTs)
• Systematic review (2017)
	• Study Purpose: Examine the impact of brief mindfulness interventions on provider well-being (e.g., stress) and behaviour (e.g., tasks of attention or reduction of clinical or diagnostic errors).
	• Program Components: All studies incorporated brief mindfulness interventions:
	o Mindfulness (n=9 studies);
	o Mindfulness embedded within multifaceted resiliency programs or a program to reduce medication errors (n=5);
	o Lecture, discussion, and group or independent practice sessions combined (n=9);
	o Online modules with pre-recorded audio meditation sessions (n=2); and
	o Guided meditation sessions (n=3).
	• Types of Mindfulness Used: Interventions included:
	o General mindfulness practices such as increasing awareness, presence, or acceptance through breathing meditations;
	o Mindfulness-based stress reduction-inspired content;
	o Breathing meditation or Vipassana meditation.
	• Dose and Duration: These were variable:
	o In-person interventions:
		• Nine of 14 studies reported positive changes in well-being, including improvements in:
		o Levels of stress (n=5);
		o Anxiety (n=4);
		o Mindfulness (n=3);
		o Resiliency (n=2); and
		o Burnout (n=1).
		• One of the included studies (2006) involving nurses and nurse aids showed burnout symptoms improved after a brief, four-week mindfulness-based stress reduction intervention.[41]
		• No studies found an effect on provider behaviour.
			• Potential Strategies:
			• Brief mindfulness interventions may be effective in improving provider well-being.
			• Larger studies are needed to assess an impact on clinical care.[42]

Jurisdiction, Number of Relevant Studies, and Review Type	Objective, Program Components, Intervention Setting, Population	Outcomes	Recommendations
	▪ Dose and duration ranged from five to 20 minutes once a day to 30 minutes a week over four weeks. o Virtual interventions: ▪ Five- to 20-minute online modules; ▪ One-hour online modules; ▪ 30-minute daily audio-guided sessions over eight weeks; or ▪ 10-minute daily smartphone app-guided sessions for 10 consecutive days. • Intervention Setting: Settings included: o Hospitals; o University classrooms; o Virtual settings (online, smartphone); and o One nursing orientation. • Population: Studies spanned 833 health care providers: o Nurses or nursing students; and • Physicians or medical students/residents.		
• International • N=19 • Systematic Review and Meta-analysis (2017)	• Objective: Evaluate the effectiveness of interventions to reduce burnout in physicians and whether different types of interventions (physician-directed or organization-directed interventions), physician characteristics (length of experience), and health care setting characteristics (primary or secondary care) were associated with improved effects. • Program Components: Interventions were physician directed and organization directed:	• Interventions were associated with small significant reductions in burnout (standardized mean difference [SMD] = −0.29; −0.42 to −0.16). • Organization-directed interventions were associated with higher treatment effects (SMD = −0.45; −0.62 to −0.28) compared with physician-directed interventions (SMD = −0.18; −0.32 to −0.03), but these interventions were rare.	• More effective models of interventions are needed to mitigate risk for burnout in physicians. Such models could be organization-directed approaches that promote healthy individual-organization relationships.[43]

Jurisdiction, Number of Relevant Studies, and Review Type	Objective, Program Components, Intervention Setting, Population	Outcomes	Recommendations
	o *Physician directed*: The majority (n = 12 [60%]) were physician-directed interventions that comprised mindfulness-based stress reduction techniques, educational interventions targeting physicians' self-confidence and communication skills, exercise, or a combination of these features. o *Organization directed*: Within the category of organization-directed interventions: 　▪ Five studies evaluated simple workload interventions that focused on rescheduling hourly shifts and reducing workload. 　▪ Three studies tested more extensive organization-directed interventions incorporating discussion meetings to enhance teamwork and leadership, structural changes, and elements of physician interventions such as communication skills training and mindfulness. • Duration: The duration of the interventions ranged from two weeks to nine months. • Follow-up: Follow-up assessment points ranged from one day to 18 months after the intervention. All interventions were delivered in face-to-face format. • Personnel: Physicians. • Intervention Setting: Intensive care unit (ICU), primary care, university-based hospitals, teaching hospitals, cancer centers, internal medicine		

Jurisdiction, Number of Relevant Studies, and Review Type	Objective, Program Components, Intervention Setting, Population	Outcomes	Recommendations
	residency program, internal medicine, service of hospital, secondary care (various specialities).		

• International
• N=52
• Systematic Review (2016)
	• <u>Study Purpose</u>: Examine approaches to preventing and reducing physician burnout.
	• <u>Program Components</u>: Among the 15 RCTs, interventions included:
	  o Structural interventions within the work environment, consisting of shortened attending rotation length;
	  o Various modifications to clinical work processes and shortened resident shifts;
	  o Individual-focused interventions, consisting of facilitated small group curricula;
	  o Stress management and self-care training;
	  o Communication skills training; and
	  o A so-called 'belonging' intervention.
	• Among the 37 cohort studies, interventions included:
	  o Structural interventions, consisting of USA duty hour requirements and practice delivery changes.
	  o Individual-focused interventions, consisting of facilitated and non-facilitated small group curricula, stress management and selfcare training,
	  o Communication skills training, and mindfulness-based approaches.
	• <u>Intervention Setting</u>: Not reported.
	• <u>Population</u>: Physicians.
		• Overall burnout decreased from 54% to 44% (n=14);
		• Emotional exhaustion score decreased from 23.82 points to 21.17 points (n=40);
		• Depersonalisation score decreased from 9.05 to 8.41 (n=36);
		• High emotional exhaustion decreased from 38% to 24% (n=21); and
		• High depersonalisation decreased from 38% to 34% (n=16).
			• <u>Potential Strategies</u>: Research suggests the following strategies can reduce burnout among physicians:
			  o Individual-focused and structural or organizational interventions;
			  o Mindfulness, stress management, and small group discussions are effective in reducing burnout domain scores; and
			• Duty hour limitation policies also appear effective.[44]

• International
• N=52
• Systematic Review and Meta-analysis (2016)
	• <u>Objective</u>: Evaluate the quality and outcomes of the literature on approaches to prevent and reduce physician burnout.
	• <u>Components</u>: Among 15 RCTs:
	  ○ Three involved structural interventions within the work environment, consisting of shortened attending rotation length; various modifications to clinical work processes, and shortened resident shifts;
	  ○ 12 involved individual-focused interventions, consisting of facilitated small group curricula, stress management and self-care training, communication skills training, and a so-called belonging intervention;
	  ○ Four of these studies indicated funding or coverage for physicians to participate during the workday;
	  ○ Seven studies involved resident physicians (consisting of fields of internal medicine, paediatrics, and general surgery); and
	  ○ Seven involved practicing physicians (consisting of fields of internal medicine or primary care and oncology.
	• Among the cohort studies:
	  ○ 17 involved structural interventions, consisting of USA duty hour requirements and practice delivery changes.
	  ○ 20 involved individual-focused interventions, consisting of facilitated and non-facilitated small group curricula, stress management and selfcare training, communication
		• <u>Outcomes</u>: Outcomes included:
		  ○ Both individual-focused and structural or organizational strategies can result in clinically meaningful reductions in burnout among physicians.
		  ○ Further research is needed to establish which interventions are most effective in specific populations, as well as how individual and organizational solutions might be combined to deliver even greater improvements in physician well-being than those achieved with individual solutions.
		  ○ Overall burnout decreased from 54% to 44%. High emotional exhaustion decreased from 38% to 24%, and high depersonalization decreased from 38% to 34%.
		  ○ The results indicate that both individual-focused and structural or organizational interventions can reduce physician burnout. Although no specific physician burnout interventions have been shown to be better than are other interventions, both strategies are probably necessary.
		• Most studies in this systematic review and meta-analysis reported on changes in burnout domain scores, finding a significant reduction in emotional exhaustion and depersonalization scores. Fewer studies reported on changes in overall burnout or high burnout levels in each domain than on changes in burnout domain scores, finding a significant reduction in absolute burnout and in a
			• Additional research is needed to clarify categories of beneficial interventions to reduce physician burnout, which interventions or combinations of interventions might be most effective, and optimal approaches to development and implementation of these interventions.[45]

Jurisdiction, Number of Relevant Studies, and Review Type	Objective, Program Components, Intervention Setting, Population	Outcomes	Recommendations
	skills training, and mindfulness-based approaches. ○ Only four of the cohort studies indicated funding or coverage for physicians to participate during the workday. ○ 19 studies involved resident physicians (consisting of fields of internal medicine, surgical disciplines, paediatrics, obstetrics and gynaecology, family medicine, neurology, oncology, and multiple specialties); and ○ 20 involved practicing physicians (consisting of fields of internal medicine or primary care, oncology, intensive care, surgical disciplines, palliative medicine, and multiple specialties). • Personnel: Physicians. • Setting: Not reported.	high degree of emotional exhaustion and depersonalization.	

Table 4: Supports for HCWs in Hospitals and Other Health Care Settings Across Jurisdictions

Jurisdiction, Facility Name	Intervention/Program	Program Efficacy/Results/Impact	Outcome Measures	Recommendations

Canada
 	
Centre for Addictions and Mental Health (CAMH)
 	
ECHO Coping with COVID
	• CAMH developed a program and a resource hub to support hospital-based health care providers and residents, and other frontline responders during COVID-19:
	○ *ECHO Coping with COVID*:
	  • Purpose: Share and learn about ways to build resilience and overall wellness through didactic lectures and case-based discussions.
	  • Program Components: Live virtual one-hour ECHO sessions occur weekly through multi-point videoconference technology. Topics include:
	    ○ Overview of self-care & Wellness During COVID-19;
	    ○ Managing Information Overload During COVID-19; and
	    ○ Managing Stress in the COVID-19 Era.
	○ *Resources for HCWs:*
	  • Purpose: CAMH launched a hub for evidence-based resources that will support HCWs manage their own mental health and support their patients and families.
	  • Components: These include:
	    ▪ Self-referral for Mental Health Care: The Ministry of Health and Ontario Health partnered with five hospitals to provide services for frontline HCWs.
		• Program not evaluated.	• None reported.	• None reported.[46]

Jurisdiction, Facility Name	Intervention/Program	Program Efficacy/Results/Impact	Outcome Measures	Recommendations
	Individuals who meet the following criteria are eligible to self-refer for psychotherapy and psychiatric services. ■ Health Care Worker Hub: CAMH research team drew on information from people with lived experience, digital and mental health experts, and health care providers to curate: ○ Digital COVID-19-related resources; and ○ A Mental Health Resource List (i.e., websites, mobile apps). ■ Self-care Tools: These tools and distress management resources include information such as: ○ Coping with stress and anxiety; ○ Managing self-isolation and quarantine. ■ Virtual Care: Aimed at helping workers deliver 'telemental' health, consult with other professionals online, and access mental health apps; ■ Professional Support Groups: COVID-19 professional support groups offering mindfulness sessions, psychosocial supports and help lines.			
Ontario Mount Sinai Hospital and University of Toronto	• Purpose: Describe the administrative and mental health response to a 2003 severe acute respiratory syndrome (SARS)	• Efficacy: ○ The presence of psychiatrists at nursing stations and at staff	• None reported.	• Support services for staff needed to be flexible, collegial, and unobtrusive. • Just the knowledge that support is available may

Jurisdiction, Facility Name	Intervention/Program	Program Efficacy/Results/Impact	Outcome Measures	Recommendations

	outbreak in a large teaching hospital in Toronto.
	• Program Components: The mental health response included:
	  ○ Provision of clear, succinct information and appropriate equipment and supplies;
	  ○ Development of pamphlets that identified signs of anxiety and stress and information about support resources;
	  ○ Informal contacts between psychiatric staff and colleagues in medicine, surgery, and administration;
	  ○ Offering staff time with psychiatrists they did not have working relationships with;
	  ○ A drop-in support centre; and
	  ○ A confidential telephone support line staffed by inpatient psychiatric nurses.
	• Personnel: All staff at the hospital.
	• Intervention Setting: Hospital setting.
		meetings helped to foster communication.
		○ SARS-unit nurses may have experienced less distress than nurses on other wards caring for patients with SARS because the SARS-unit nurses had a greater sense of competency and multiple support measures were quickly put in place.
				suffice for many resilient staff members.[47]

Italy Policlinico of Milan (Hospital)	• Purpose: Provision of mental health supports to promote a wide stress-relieving strategy in a Milan hospital using various evidence-based stress reduction interventions. • Program Components: Evidence-based interventions with priority given to those easily deliverable over the intranet or accessible by phone at the health worker's convenience: ○ *Rest spot*: Established rest place outside the COVID-19 area for easy access to water, nuts, and dehydrated fruit, with nutritional tips	• Program is currently under evaluation.	• None reported.	• None reported.[48]

Jurisdiction, Facility Name	Intervention/Program	Program Efficacy/Results/Impact	Outcome Measures	Recommendations
	to avoid dehydration during work shifts and support healthy nutrition. ○ *Therapy-based booklet*: Information on strategies to reduce stress and foster psychological flexibility, messages of support by patients, carers and prominent national actors and actresses (#you are not alone). ○ *Mindfulness*: Mindfulness exercises were posted on the hospital intranet. ○ *Hotline*: Easy-to-access psychological phone hotline offered by volunteer psychotherapists who provided psychopharmacological and psychiatric support. • Personnel: All health care staff. • Intervention Setting: Policlinico of Milan Hospital.			

Table 5: Guidelines and Recommendations for Addressing COVID-19 Burnout Among HCWs

Jurisdiction	Purpose of Article or Study	Recommendations
Canada	• A 2020 article reviewed current strategies for mitigating the psychological effects of COVID-19 on HCWs in Canada.	**Mitigating Psychological Effects of COVID-19 on HCWs** • Strong leadership with clear, honest and open communication is needed to offset staff fears and uncertainties; • Provision of adequate resources (e.g., medical supplies) and mental health supports will bolster individual self-efficacy and confidence; • Leveraging online technology will allow delivery of psychosocial supports while preserving physical distancing; and • Emphasizing the altruism of working in health care and serving of the greater good will help HCW to be reminded of their purpose in a time of crisis. [49]

Canada
 	
Canadian Medical Association
	• The Canadian Medical Association (CMA) provides COVID-19 Wellness Resources (n.d.) to help physicians and health care leaders address the mental, physical, and financial impacts of the COVID-19 crisis on physician wellness.	**Managing Moral Distress**
		The CMA recommends the following for managing moral distress:
		• *Physicians can*:
		  o Develop a self-care plan;
		  o Seek support from a variety of resources (colleagues, a mentor, a peer support group); and
		  o Reach out to an ethicist to help work through a situation likely to cause moral distress.
		• *Departmental/Unit Manager or Leader can:*
		  o Recognize and address the experience of moral distress;
		  o Hold regular departmental and/or interdepartmental meetings to build team cohesion and improve communication and shared decision-making; and
		  o Debrief regularly with staff when morally charged situations occur.
		• *Organizations can*:
		  o Recognize and validate the experience of moral distress;
		  o Be honest and transparent; provide clear guidance on changing policies and procedures; and
		  o Establish clear triage criteria; when triage is activated, provide a plan to mitigate providers' moral distress. [50]

United States
 	
Cleveland Clinic
	• A 2020 article addresses caregiver moral distress during the COVID-19 pandemic and provides suggestions for responding to moral distress and outlines the resources available at Cleveland Clinic.	**Evidence-based Ways for Leaders to Address Moral Distress**
		• *See and seek moral distress*:
		  o Look for ethical concerns and signs of moral distress.
		  o Inquire and consider whether an Ethics Consultation is indicated.
		• *Understand moral distress*:
		  o Understand through active listening.
		  o Be receptive to diverse perspectives.
		  o Model a self-reflective process: be aware of your own biases, remember that ethical issues often are not black and white, and avoid responding with correction/rebuke.

Jurisdiction	Purpose of Article or Study	Recommendations

		• *Pay attention and assess workplace climate*:
		  ○ Acknowledge ethical challenges and moral distress.
		  ○ Assess the unit climate, culture, tone.
		  ○ Work to mitigate power differentials between caregivers.
		  ○ Explore and note repeated occurrences and problems.
		  ○ Assess professional risks of speaking up.
		• *Promote a receptive environment and engage team members*:
		  ○ Encourage and create spaces for moral dialogue.
		  ○ Encourage and role-model respectful communication across disciplines.
		  ○ Promote team-based dialogue and discussion when ethical issues arise.
		• *Open opportunities for dialogue*:
		  ○ Encourage debriefing.
		  ○ Ask whether members of the team might benefit from further discussion with an ethics expert: consider whether a Moral Distress Reflective Dialogue or Debrief is indicated.
		  ○ Utilize resources: bring team members to multidisciplinary meetings, invite bedside nurses to family meetings, and participate in Bioethics rounds.
		• *Reflect, evaluate, and revise*:
		  ○ Establish self-care as a custom, ask team members how they are doing, and explore whether they need any additional support.
		• *Transform negative environments*:
		  ○ Acknowledge that the environment is changing, be transparent and ready to answer questions.[51]

United States
 	
Centres for Disease Control and Prevention (CDC)
	• The CDC's 2020 report on coping with stress and building resilience during the COVID-19 pandemic provides recommendations to health care personnel and first responders.	**Tips to Cope and Enhance Resilience**
		• Communicate with coworkers, supervisors, and employees about job stress.
		  ○ Talk openly about how the pandemic is affecting one's work.
		  ○ Identify factors that cause stress and work together to identify solutions.
		  ○ Ask about how to access mental health resources in your workplace.
		• Remind oneself that everyone is in an unusual situation with limited resources.
		• Identify and accept those things that are beyond an individual's control.
		• Recognize that individuals are performing a crucial role in fighting this pandemic and doing the best they can with the resources available.
		• Increase one's sense of control by keeping a consistent daily routine when possible — ideally one that is similar to a pre-pandemic schedule.
		  ○ Try to get adequate sleep.
		  ○ Make time to eat healthy meals.
		  ○ Take breaks during shifts to rest, stretch, or check in with supportive colleagues, coworkers, friends and family.

Jurisdiction	Purpose of Article or Study	Recommendations
		• When away from work, get exercise when possible. Spend time outdoors either being physically active or relaxing. Do enjoyable things during non-work hours. • Take breaks from watching, reading, or listening to news stories, including social media. Hearing about the pandemic repeatedly can be upsetting and mentally exhausting, especially when working with people directly affected by the virus. • If misusing alcohol or other drugs (including prescriptions), ask for help. • Engage in mindfulness techniques, such as breathing exercises and meditation. • When being treated for a mental health condition, continue with treatment and talk to a health care provider if new or worsening symptoms arise.[52]

United States
 	
Critical Care Societies Collaborative[c]
	• A 2016 commentary from the Critical Care Societies Collaborative (US) on 'burnout syndrome' (BOS) in critical care health-care professionals provides a call for action and discusses potential interventions that may be used to prevent and treat BOS in the ICU.	**Potential Interventions to Prevent and Treat Burnout Syndrome in the ICU**
		• *Environmental interventions*:
		  ○ Promoting healthy work environment;
		  ○ Communication training; appropriate staffing;
		  ○ Meaningful recognition;
		  ○ ICU self-scheduling/time off;
		  ○ Limit the maximum number of days worked consecutively;
		  ○ Support groups; and
		  ○ Cognitive-behavioural therapy.
		• *Team-based interventions*:
		  ○ Team debriefings;
		  ○ Use of structured communication tools; and
		  ○ Team-building and interpersonal skills training.
		• *Practitioner-focused interventions:*
		  ○ Stress reduction training;
		  ○ Relaxation techniques;
		  ○ Time management;
		  ○ Assertiveness training;
		  ○ Meditation;
		  ○ Work-life balance measures: hobbies, family, and social activities; and
		  ○ Self-care measures: ensuring adequate rest, exercise, healthy eating habits.
		• *Interventions to mitigate risk factors:*
		  ○ Palliative care consultations;
		  ○ Ethics consultations;
		  ○ Establishing goals of care for every ICU patient; and
		  ○ Family care conferencing within 72 h of ICU admission.[53]

[c] Comprises the four major professional and scientific societies whose members care for America's critically ill and injured: American Association of Critical-Care Nurses; American College of Chest Physicians; American Thoracic Society; and, Society of Critical Care Medicine (Critical Care Societies Collaborative, n.d.).

Jurisdiction	Purpose of Article or Study	Recommendations

Europe	• This paper (2020) details some of the organizational, team, and individual considerations for pragmatically supporting staff during the pandemic.	**Organizational Support for Staff in a Pandemic**
		• Organizations can support their staff by:
		  o Providing food, drink and rest facilities;
		  o Ensuring staff do not exceed safe hours by encouraging reporting and monitoring of hours, and preparing reinforcements so staff can take annual leave and breaks;
		  o Focusing on dynamic workload management and clear role expectations;
		  o Proactively addressing resource inequities across the organization;
		  o Proactively resolving housing or transport issues for staff to reduce anxiety of infecting family members and safely travelling to and from work;
		  o Regular situational updates for all staff, including realistic and frank information about risk and adverse events, e.g. report of death among colleagues or advising staff to write a will;
		  o Regular praise for staff and acknowledgement of the unprecedented and exceptional circumstances;
		  o Being visible on the ground throughout the pandemic (managers, senior staff);
		  o Clear messaging, rationale and guidance for changing standards of practice;
		  o Encouraging a two-way dialogue and being open to suggestions and ideas from staff;
		  o Facilitating debriefs and morale building communal time;
		  o Designing rotas so that teams can stay together (despite migrating through changing shift times) throughout the pandemic;
		  o Being clear that staff safety is the number one priority;
		  o Providing adequate PPE and identifying/removing high-risk staff from frontline work to reduce anxiety for becoming infected;
		  o Providing education on the normal responses to extreme stress to reassure staff;
		  o Educating team leaders on debriefing practices and the needs of individuals;
		  o Providing formal and informal psychological support;
		  o Ensuring staff in quarantine are regularly supported and communicated with during and after their isolation;
		  o Planning specifically for supporting teams if colleagues are critically ill or deceased;
		  o Ensuring there is appropriate support for different staff grades and disciplines; e.g., doctors and nurses, as well as porters and cleaning staff; and
		  o Keeping up to date with evolving guidance on supporting staff and recommendations.
		
		Ways colleagues can support each other
		• Colleagues can support their co-workers by:
		  o Spotting signs of concern in them (nightmares, difficulty sleeping, unable to stop worrying, jumpy, easily irritable, medically unexplained symptoms appearing, flashbacks of stressful events);

Jurisdiction	Purpose of Article or Study	Recommendations
		o Offering them the opportunity to talk (do not force them to do so, but be available to listen, laugh or cry with them); o Signposting them to supportive resources; o Being kind, consistent and reassuring; o Encouraging them to maintain good self-care; o Helping them explore the cause of their distress, and if you can help them address it, or if you need to escalate concerns.[54]
International (United Kingdom, Poland, Singapore)	• A 2021 study assessed the determinants of burnout and other psychological outcomes among HCW during the COVID-19 pandemic in the UK, Poland, and Singapore. A strong association was identified between SARS-CoV-2 testing, safety attitudes, gender, job role, redeployment, and psychological state. Findings highlight the importance of targeted support services for at risk groups.	**Recommendations for Targeted Support Services for At-Risk HCWs** • Institutions should pay particular attention to safety culture during the COVID-19 pandemic. The use of patient safety teams, for example, can support the integration of human factors principles, such as effective communication, into organizational processes that will improve patient and staff safety. • Benefit may be seen from interventions to address burnout before the onset of depression or anxiety. At the individual level, evidence-based interventions include mindfulness, self-awareness exercises, and appreciative interviews. At the organizational level, quality improvement projects that improve organizational communication and streamline workflows can reduce burnout rates. • Measures to mitigate harm arising from psychological distress following the COVID-19 pandemic are important to prevent long-term harm.[55]

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