

# Living Evidence Brief

Addressing the Politics of the  
Health Human Resources  
Crisis in Canada: Appendices

21 & 22 March 2023

Version  
3



HEALTH FORUM

EVIDENCE >> INSIGHT >> ACTION



**Living Evidence Brief (Version 3):  
Addressing the Politics of the Health Human Resources Crisis in Canada**

**Appendices**

21 & 22 March 2023

## APPENDICES

Appendix tables 1-3 provide detailed information about the evidence syntheses identified as ‘best’ in relation to the policy framework components described in Table 1, which were drawn from the key components and sub-components of the Canadian Academy of Health Sciences framework underpinning their ongoing assessment of health human resources (see: <https://cahs-acss.ca/assessment-on-health-human-resources-hhr/>, which are also covered in a recent analysis undertaken by KPMG on behalf of Health Canada (available upon request)). The approach to identifying and labelling each synthesis ‘best’ is described in Box 3 on page 17 of this brief. Appendix table 4 provides detailed information about the evidence syntheses identified that relate to each of the approach elements. Each row in appendix tables 1-3 corresponds to a particular evidence synthesis and the reviews are organized by framework component. In the first column of the table we list the framework component sub-element, hyperlink to the search strategy used to find potential ‘best’ syntheses within the sub-element, and the total count of syntheses deemed ‘best’, broken down by whether they are high or medium quality. In the second column, we list the hyperlinked titles of identified syntheses, columns 3-6 list data related to the criteria used to determine ‘best’ for a single category (i.e., living status, quality, last year literature searched and availability of a GRADE profile, which provides insights about the strength of the evidence included in a particular synthesis), column 7 includes data about the type of questions addressed by each synthesis, and column 8 includes data about the values identified by dialogue and citizen panel participants that are addressed by each synthesis.

In appendix table 4, we list syntheses by approach element (first column). The focus of the review is described in the second column. Key findings from the review that relate to the option are listed in the third column, while the fourth, fifth, sixth and seventh columns record information about the synthesis that can help inform assessments about which syntheses are ‘best’ for a given element – namely whether the review is ‘living’ (i.e., updated at regular intervals with the latest studies on the topic), the quality of the review (see description below regarding AMSTAR), the last year the literature was searched as part of the review, and whether there is a GRADE profile provided about the strength of the evidence included in the synthesis. The last two columns convey information about the utility of the review in terms of local applicability, applicability concerning prioritized groups, and issue applicability. The second-from-last column notes the proportion of studies that were conducted in Canada, while the second-to-last column shows the proportion of studies included in the review that deal explicitly with one of the prioritized groups. The last column notes the proportion of studies that were included and focused specifically on HHR planning.

As noted above, the fifth column presents a rating of the overall quality of the review. The quality of each review has been assessed using AMSTAR (A MeaSurement Tool to Assess Reviews), which 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 evidence syntheses pertaining to delivery, financial, or governance arrangements within health systems. 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.

Appendix 1: ‘Best’ available evidence syntheses identified for the HHR policy framework component focused on planning and development

Policy framework sub-element (and search strategy used)	‘Best’* available evidence syntheses to inform decision-making about the components	Living status	Quality	Last year literature searched	Availability of GRADE profile	Type of policy question addressed	Values addressed
Population trends (Search 1)  <i>Total syntheses: one (medium quality)</i>	<ul style="list-style-type: none"> <li>• <u>Predictive models for health human resource planning generally use stock-flow estimates supplemented by a demand component that reflects population health needs; there is a trade-off between the comprehensiveness of models and their accuracy</u> [rapid synthesis with key informant interviews] (1)</li> </ul>	No	4/9	2019	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• Share more and better health human resources (HHR) data</li> </ul>
Diversity of health workforce (Search 1)	<ul style="list-style-type: none"> <li>• <i>No evidence syntheses that were of high or medium quality, had searches updated within the last five years, and that were not too specific in focus were identified for this component</i></li> </ul>	n/a	n/a	n/a	n/a		
Data requirements and infrastructure (Search 1, Search 2)	<ul style="list-style-type: none"> <li>• <i>No evidence syntheses that were of high or medium quality, had searches updated within the last five years, and that were not too specific in focus were identified for this component</i></li> </ul>	n/a	n/a	n/a	n/a		
Current health workforce supply (Search 1)  <i>Total syntheses: three (of which one is high and two are medium quality)</i>	<ul style="list-style-type: none"> <li>• <u>Common indicators of intensive care unit (ICU) strain include ICU acuity, ICU readmission, after-hours discharge, and ICU census; commonly used indicators of strain also tend to indicate ICU performance</u> [review of mostly high-quality studies] (2)</li> </ul>	No	8/9	2020	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Competence-based human resource management in nursing involves aligning individual competencies with organizational goals through recruitment and selection, training and development, performance appraisal, reward systems, and career planning</u> (3)</li> </ul>	No	5/10	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Make workplaces ‘excellent’ for health workers and hold employers accountable for this</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Predictive models for health human resource planning generally use stock-flow estimates supplemented by a demand component that reflects population health needs; there is a trade-off between the comprehensiveness of</u></li> </ul>	No	4/9	2019	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• Share more and better health human resources (HHR) data</li> </ul>

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	<u>models and their accuracy</u> [rapid synthesis with key informant interviews] (1)						
Shortages (by profession/geography/care setting) (Search 1)  <i>Total syntheses: two (medium quality)</i>	<ul style="list-style-type: none"> <li>• <u>Promising interventions for reducing the turnover and increase the retention of early career nurses tend to address both individual- and organization-level factors; the most promising options include some combination of mentorship, preceptorship, internship programs, and orientation to practice programs</u> (4)</li> </ul>	No	7/10	2020	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Make workplaces 'excellent' for health workers and hold employers accountable for this</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>A systematic review identified four important themes relating nursing curriculum to student attrition: pre-enrolment criteria for recruiting students, curriculum content and workload, clinical placement policies, and student support services</u> (5)</li> </ul>	No	5/9	2019	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> <li>• Recruit ethically</li> </ul>
Education and training pipelines (Search 1, Search 2, Search 3, Search 4, Search 5, Search 6.)  <i>Total syntheses: 11 (of which two are high and nine are medium quality)</i>	<ul style="list-style-type: none"> <li>• <u>A meta-analysis comparing flipped classroom versus traditional lectures for radiology education found that flipped classroom produces better theoretical as well as practical performance and is preferred by students</u> (6)</li> </ul>	No	8/11	2020	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Monitoring and evaluating the impacts</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>A meta-analysis of randomized controlled trials found that video-based coaching is more effective than control interventions in improving surgical technical performance, especially when video-based coaching is provided multiple times and as part of a structured coaching framework</u> (7)</li> </ul>	No	8/11	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>A systematic review found that students who complete clinical medical education in rural and underserved areas are more likely to return to practise in these areas and are more likely to practise primary care [limited external validity as only studies from the United States were included]</u> (8)</li> </ul>	No	7/11	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Recruit ethically</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Evidence suggests that prelicensure simulation-enhanced interprofessional education is effective for interprofessional learning;</u></li> </ul>	No	6/10	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>

	<u>however, the characteristics of successful interventions as well as the long-term and patient impacts are unknown</u> [review of generally low-quality studies] (9)					addressing the problem	
	• <u>Big data have the potential to advance and improve medical education, but the integration of big data into medical education has been limited to date</u> [integrative literature review] (10)	No	5/9	2021	No	• Selecting an option for addressing the problem	• Share more and better health human resources (HHR) data
	• <u>Consumers are involved in the education of nurses, midwives, and other allied health professionals primarily through teaching arrangements, course development, assessment, and recruitment; several strategies for recruiting and retaining consumers for allied health education are identified</u> (11)	No	5/9	2019	No	• Selecting an option for addressing the problem • Identifying implementation considerations	• Start building now for the future health systems we want
	• <u>Virtual-reality simulation is generally effective for clinical psychomotor skill acquisition in pre-registration student nurses, though evidence is limited</u> (12)	No	5/9	2018	No	• Selecting an option for addressing the problem	• None identified
	• <u>Practising rural primary-care medicine is influenced by five types of characteristics and experiences: individual characteristics, medical school, residency, placement, and retention; a theoretical model for how these factors interact is presented</u> (13)	No	4/9	2021	No	• Selecting an option for addressing the problem	• Recruit ethically
	• <u>Under-represented minority nurses face several barriers in their undergraduate education including social isolation and stress, caregiving demands, school environments, limited access to mentorship and support, and financial barriers; facilitators of these students' success include resilience, family support, positive school environments, and financial support</u> (14)	No	4/9	2020	No	• Understanding a problem and its causes • Selecting an option for addressing the problem	• None identified
	• <u>A range of models for interprofessional education for healthcare students exist, but they can generally be classified as either extra-curricular designs or integrated curriculum designs based on the level of curriculum</u>	No	4/9	2019	No	• Selecting an option for addressing the problem	• Start building now for the future health systems we want



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	<p><u>restructuring needed to enable the model; challenges remain in effectively delivering interprofessional education</u> (15)</p>					<ul style="list-style-type: none"> <li>Identifying implementation considerations</li> </ul>	
	<ul style="list-style-type: none"> <li><u>High-fidelity simulations in nursing education can be effective for improving a range of learning outcomes, but more research is needed regarding the transference of learning to clinical practice in the long-term</u> (16)</li> </ul>	No	4/9	2018	No	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> <li>Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>None identified</li> </ul>
<p>Integration and licensure of internationally educated health professionals (<a href="#">Search 1</a>, <a href="#">Search 2</a>)</p> <p><i>Total syntheses: two (of which one is high and one is medium quality)</i></p>	<ul style="list-style-type: none"> <li><u>There is weak evidence that supports recruitment and retention schemes for rural primary-care doctors such as financial incentives, international recruitment, postgraduate and undergraduate placements in underserved areas, and recruiting rural students [review of low-quality studies]</u> (17)</li> </ul>	No	9/10	2021	No	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>Start building now for the future health systems we want</li> <li>Recruit ethically</li> </ul>
	<ul style="list-style-type: none"> <li><u>Migrant health workers who return to their home country do so for a range of reasons, their returns have impacts on home country health systems, and they face a variety of challenges and opportunities upon their return [scoping review]</u> (18)</li> </ul>	No	5/9	2019	No	<ul style="list-style-type: none"> <li>Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>Recruit ethically</li> <li>Make workplaces 'excellent' for health workers and hold employers accountable for this</li> </ul>

Appendix 2: ‘Best’ available evidence syntheses identified for the HHR policy framework component focused on deployment and service delivery

Policy framework sub-element (and search strategy used)	‘Best’* available evidence syntheses to inform decision-making about the components	Living status	Quality	Last year literature searched	Availability of GRADE profile	Type of policy question addressed	Values addressed
Efficient deployment (scope of practice; interprofessional participation) (Search 1, Search 2)  Total syntheses: 7 (of which seven are medium quality)	<ul style="list-style-type: none"> <li>There is moderate confidence evidence that task shifting from doctors to nurses in primary care is acceptable, but the success and acceptability of this strategy is influenced by a range of system-level, organizational, and interpersonal factors (19)</li> </ul>	No	7/9	2018	Yes	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> <li>Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>Start building now for the future health systems we want</li> </ul>
	<ul style="list-style-type: none"> <li>Using nurse practitioners and physician assistants on surgical/trauma services has been found to decrease patient length of stay, increase staff and patient satisfaction, decrease costs, and have no impact on mortality and morbidity outcomes (20)</li> </ul>	No	7/10	2017	No	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>Start building now for the future health systems we want</li> </ul>
	<ul style="list-style-type: none"> <li>The delegation of medication administration from registered nurses to non-registered support workers might improve some aspects of medication administrations (such as timeliness), but requires consideration of regulatory, team, implementation, and patient-safety factors (21)</li> </ul>	No	6/9	2020	No	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> <li>Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>Start building now for the future health systems we want</li> </ul>
	<ul style="list-style-type: none"> <li>Nurses transitioning into new clinical areas of practice face several challenges (including a significant emotional impact); they can be assisted through formal and informal supports as well as professional development opportunities (22)</li> </ul>	No	6/10	2018	No	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> <li>Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>Start building now for the future health systems we want</li> <li>Make workplaces ‘excellent’ for health workers and hold employers accountable for this</li> </ul>
	<ul style="list-style-type: none"> <li>This realist review identifies factors that enable the transition of emergency nurse practitioners into emergency departments, the policies and circumstances that facilitate this process, and the outcomes of emergency nurse practitioner integration (23)</li> </ul>	No	5/9	2020	No	<ul style="list-style-type: none"> <li>Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>Start building now for the future health systems we want</li> </ul>



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	<ul style="list-style-type: none"> <li>• <u>A range of alternative methods for ethics education in nursing exist; they can be thematically grouped as combined web and lecture interventions, computer-based self-study, simulation, group learning, and analyses of ethical problems (24)</u></li> </ul>	No	4/9	2020	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Enablers of advanced practice roles in nursing and midwifery include factors that are intrinsic and external to the practitioner as well as the broader health system context; these roles are constrained by a lack of management and professional development support, unclear roles duties, and prevailing institutional cultures (25)</u></li> </ul>	No	4/9	2016	No	<ul style="list-style-type: none"> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> <li>• Make workplaces 'excellent' for health workers and hold employers accountable for this</li> </ul>
<p>Team-based models of care (Search 1)</p> <p><i>Total syntheses: 4 (of which four are medium quality)</i></p>	<ul style="list-style-type: none"> <li>• <u>This systematic review of outcome-measurement instruments for evaluating collaborative practice of community-based healthcare and social-care teams found that existing outcome measurement instruments have very little evidence supporting their content validity and internal structure; of the instruments that exist, the Assessment of Interprofessional Team Collaboration Scale (ATICS-II) had the most evidence supporting its use (26)</u></li> </ul>	No	5/9	2020	Yes	<ul style="list-style-type: none"> <li>• Monitoring and evaluating the impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Share more and better health human resources (HHR) data</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Twenty-nine instruments for measuring interprofessional collaboration were identified in this scoping review, most of which measure collaboration between physicians and nurses; these instruments focus on areas such as teamwork, communication, collaboration, and supportive factors (27)</u></li> </ul>	No	5/9	2018	No	<ul style="list-style-type: none"> <li>• Monitoring and evaluating the impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Share more and better health human resources (HHR) data</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>A systematic review found that interprofessional shared decision-making in the ICU is associated with improved processes and outcomes; five expert opinion-based recommendations for implementing interprofessional shared decision-making in the ICU are presented [review of low-quality evidence] (28)</u></li> </ul>	No	5/10	2017	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>

	<ul style="list-style-type: none"> <li>• <u>This systematic review finds that healthcare professionals contribute to interprofessional collaboration by bridging professional gaps, negotiating overlaps in roles, and creating spaces for collaboration</u> (29)</li> </ul>	No	4/9	2019	No	<ul style="list-style-type: none"> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<p>Fee models and wage structures (Search 1)</p> <p>Total syntheses: 3 (of which one is high and two are medium quality)</p>	<ul style="list-style-type: none"> <li>• <u>This systematic review studies the use of pay-for-performance, fee-for-service, salary, and capitation payment models in outpatient settings; there is very-low to moderate certainty evidence that different payment models have an impact on the quantity, quality, and patient outcomes of health services</u> (30)</li> </ul>	No	11/11	2020	Yes	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Fee-for-service payment models for specialist physicians tend to be associated with increased utilization while salary and capitation models are associated with decreases in some types of utilization; payment reforms targeted at specific utilization, quality, or cost measures may have unintended consequences</u> (31)</li> </ul>	No	7/10	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>This systematic review identifies the following characteristics of provider payment mechanisms that influence provider behaviour: (the sufficiency of) payment rates, timeliness of payments, payment schedules, the bundling of services, and accountability and performance mechanisms</u> (32)</li> </ul>	No	5/9	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
<p>Private-care delivery (Search 1, Search 2)</p> <p>Total syntheses: 1 (high quality)</p>	<ul style="list-style-type: none"> <li>• <u>There is very low certainty and limited evidence regarding the effect of government regulations for private health insurance on utilization, cost, quality, and health outcomes [review of only U.S. studies which may have limited external validity]</u> (33)</li> </ul>	No	9/9	2019	Yes	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
<p>Virtual care (Search 1)</p> <p>Total syntheses: 13 (of which one are high and 12 are medium quality)</p>	<ul style="list-style-type: none"> <li>• <u>Delivering chronic disease patient education via telehealth (web-based, telephone, videoconference, or secure television) has been shown to deliver comparable, or slightly improved, outcomes when compared to standard approaches to patient education</u> (34)</li> </ul>	No	9/10	2017	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>

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<ul style="list-style-type: none"> <li>• <u>This scoping review of healthcare providers’ experience and perspectives regarding telemedicine points to the importance of expected improvements in performance and job effort, social/organizational influence, and facilitating conditions when addressing telemedicine utilization concerns in this setting (35)</u></li> </ul>	No	7/9	2021	No	<ul style="list-style-type: none"> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> <li>• Make workplaces ‘excellent’ for health workers and hold employers accountable for this</li> </ul>
<ul style="list-style-type: none"> <li>• <u>This systematic review finds that patients and caregivers are generally satisfied with telehealth approaches for managing patients’ health; the included studies point to the importance of considering system experience, information sharing, and consumer focus (36)</u></li> </ul>	No	7/9	2017	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> <li>• Make workplaces ‘excellent’ for health workers and hold employers accountable for this</li> </ul>
<ul style="list-style-type: none"> <li>• <u>This systematic review found that telehealth consultations either improved outcomes or performed as well as comparators for inpatient, emergency, and outpatient consultations; however, the evidence varies across settings and clinical indications (37)</u></li> </ul>	No	7/11	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<ul style="list-style-type: none"> <li>• <u>This meta-analysis found that post-discharge virtual wards reduce the risk of mortality and cause-specific hospital readmission in patients with heart failure, but it does not seem to reduce all-cause hospital admissions; virtual wards do not show evidence of impact in patients with undifferentiated high-risk chronic diseases (38)</u></li> </ul>	No	7/11	2017	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Telehealth consultations for patients from racial/ethnic minority communities are generally effective for a range of conditions, are acceptable to patients, and can improve access to healthcare; barriers to telehealth in this population tend to be technology-related (39)</u></li> </ul>	No	6/10	2020	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>

<ul style="list-style-type: none"> <li>• <u>A range of models exist for using telehealth in non-critical emergencies in rural and remote emergency departments; in this context, telehealth has been found to influence patient diagnosis and management, patient transfer rates, and rates of discharge and admission (40)</u></li> </ul>	No	6/10	2017	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<ul style="list-style-type: none"> <li>• <u>This review identified nine different tools used to evaluate patient motivation and satisfaction during technology-assisted rehabilitation; these tools generally frame motivation and satisfaction as multidimensional concepts (41)</u></li> </ul>	No	5/9	2019	No	<ul style="list-style-type: none"> <li>• Monitoring and evaluating the impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Electronic, mobile, and telehealth tools for vulnerable patients with chronic disease have been shown to have positive effects on patient self-management; these interventions generally seek to encourage patients to believe that they can self-manage their conditions (42)</u></li> </ul>	No	5/9	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Videoconference may have advantages over telephone delivery of healthcare for reducing provider errors and improving diagnostic accuracy; these modalities appear comparable with respect to healthcare utilization and cost as well as patient outcomes, though this may vary by patient population (43)</u></li> </ul>	No	5/9	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Telehealth services designed specifically for women can be an effective way to accessibly and flexibly provide gender-specific services; most research conducted in this area has focused on maternal health, prevention, and disease management, and used telephone as the medium of care delivery (44)</u></li> </ul>	No	4/9	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Telehealth utilization in pre-hospital emergency care is fairly limited, mostly focused on stroke and cardiovascular care, and usually delivered via real-time videoconferencing or store and forward methods (45)</u></li> </ul>	No	4/9	2017	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Systematic reviews about alternative models of healthcare service delivery have studied how and when care is delivered, where care is provided, who provides care, coordination of care, IT and communication systems, or have been goal-focused;</u></li> </ul>	No	4/9	2017	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>

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	<u>most systematic reviews about alternative models report on patient outcomes and there is a lack of economic evaluation evidence [scoping review of systematic reviews] (46)</u>						
Culturally safe and unbiased care ( <a href="#">Search 1</a> )  <i>Total syntheses: 1 (medium quality)</i>	<ul style="list-style-type: none"> <li>• <u>Studies of cultural competency interventions during medical school have typically studied interventions that are focused on a specific population or topic, are delivered via lectures or discussions, and are time-limited [scoping review] (47)</u></li> </ul>	No	4/10	2017	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
Workforce mobility ( <a href="#">Search 1</a> )  <i>Total syntheses: 1 (high quality)</i>	<ul style="list-style-type: none"> <li>• <u>There is very limited evidence available regarding interventions for equalizing the geographic distribution of dental professionals [review of three studies conducted in Asia] (48)</u></li> </ul>	No	8/9	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Recruit ethically</li> </ul>
Rural/remote ( <a href="#">Search 1</a> )  <i>Total syntheses: 7 (all of which are medium quality)</i>	<ul style="list-style-type: none"> <li>• <u>This systematic review identifies five important themes related to the recruitment and retention of rural pharmacists: geographic and family-related factors, economic and resource factors, scope of practice and skill development factors, practice environment factors, and community and practice support factors (49)</u></li> </ul>	No	7/10	2021	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Recruit ethically</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>This meta-analysis finds that clinical rotations in rural areas as well as recruiting students with rural backgrounds significantly increase dental graduates' intention to practise in rural areas (50)</u></li> </ul>	No	7/10	2017	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Recruit ethically</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>A systematic review found that students who complete clinical medical education in rural and underserved areas are more likely to return to practise in these areas and are more likely to practise primary care [limited external validity as only studies from the United States were included] (8)</u></li> </ul>	No	7/11	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Recruit ethically</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>The global literature regarding rural generalist medicine generally originates from Australia/New Zealand and North America and addresses the following themes: defining rural generalist medicine, pathways and programs, scope of practice and service models, enablers and barriers to recruitment and retention, and reform recommendations [scoping review] (51)</u></li> </ul>	No	5/9	2020	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Recruit ethically</li> </ul>

	<ul style="list-style-type: none"> <li>• <u>There is evidence to support the use of educational policy, financial incentives, and multidimensional strategies for improving the recruitment and retention of rural and remote physicians; rural student recruitment, rural exposure, and comprehensive medical school programs are the most commonly studied interventions [scoping review] (52)</u></li> </ul>	No	4/9	2022	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Recruit ethically</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>There is a dearth of evidence regarding the supports that may enable greater participation of rural, mature-aged nursing and allied health students (53)</u></li> </ul>	No	4/9	2021	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Recruit ethically</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>The literature regarding social determinants of rural health-workforce retention points to the importance of the following place-based social processes: rural familiarity and/or interest, social connection and place integration, community participation and satisfaction, and fulfilment of life aspirations [scoping review] (54)</u></li> </ul>	No	4/9	2019	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Recruit ethically</li> </ul>
<p>Licensure and regulation (Search 1)</p> <p>Total syntheses: 1 (medium quality)</p>	<ul style="list-style-type: none"> <li>• <u>Trade agreements can present several types of risks to the nursing workforce, nursing practice, and public health; nursing and public-health advocates have an important role to play in trade negotiations (55)</u></li> </ul>	No	4/9	2019	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>



Appendix 3: ‘Best’ available evidence syntheses identified for the HHR policy framework component focused on support and retention

Policy framework sub-element (and search strategy used)	‘Best’* available evidence syntheses to inform decision-making about the components	Living status	Quality	Last year literature searched	Availability of GRADE profile	Type of policy question addressed	Values addressed
Systemic issues (workplace, violence, racism) (Search 1, Search 2)  Total syntheses: 6 (of which three are high and three are medium quality)	<ul style="list-style-type: none"> <li>Evidence shows that <u>organizational interventions during the pre-event and event phases may decrease overall aggression caused by patients and patient advocates to healthcare workers</u> [Review of studies of very-low to low quality] (56)</li> </ul>	No	10/10	2019	Yes	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>Make workplaces ‘excellent’ for health workers and hold employers accountable for this</li> </ul>
	<ul style="list-style-type: none"> <li>Despite the impact that education and training can have on increasing knowledge and attitudes, this <u>intervention combination may not result in any effects on combatting aggression towards healthcare staff</u> [Results of studies of uncertain or low quality] (57)</li> </ul>	No	10/11	2020	Yes	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>None identified</li> </ul>
	<ul style="list-style-type: none"> <li>The adoption of ‘Safewards’ holds <u>promising trends to support enhanced therapeutic relationships, cohesion, ward atmosphere, patient care, and safety, among staff and clients</u> [Review of studies of variable quality] (58)</li> </ul>	No	9/10	2020	Yes	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>Start building now for the future health systems we want</li> </ul>
	<ul style="list-style-type: none"> <li>Evidence suggests that <u>relational leadership styles are able to facilitate positive outcomes among the workplace and for nurses, such as increased job satisfaction, retention, environment, and productivity</u> (59)</li> </ul>	No	7/9	2017	No	<ul style="list-style-type: none"> <li>Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>Make workplaces ‘excellent’ for health workers and hold employers accountable for this</li> </ul>
	<ul style="list-style-type: none"> <li>Training interventions that help to improve knowledge, provide responses to uncivil workplace behaviours, and facilitate the <u>promotion of communication skills through activities can help manage nursing workplace incivility</u> [Review of studies of low quality] (60)</li> </ul>	No	6/9	2017	No	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>Start building now for the future health systems we want</li> </ul>
	<ul style="list-style-type: none"> <li><u>Prominent concerns within surgical workplaces include bullying, undermining behaviour, and harassment; a counter-strategy that may hold potential value is professionalism training</u> [Review of studies of variable quality] (61)</li> </ul>	No	4/10	2017	No	<ul style="list-style-type: none"> <li>Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>Start building now for the future health systems we want</li> </ul>

Supportive policies and regulations (Search 1)	No evidence syntheses that were of high or medium quality, had searches updated within the last five years, and that were not too specific in focus were identified for this component						
Training, education and support (Search 1)  Total syntheses: 13 (of which two are high and 11 are medium quality)	<ul style="list-style-type: none"> <li>The majority of students possess a positive perception of interprofessional education, particularly pertaining to developing teamwork skills, and collaborating and understanding the various roles and responsibilities of different disciplines (62)</li> </ul>	No	8/10	2020	No	<ul style="list-style-type: none"> <li>Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>None identified</li> </ul>
	<ul style="list-style-type: none"> <li>Evidence shows that physiological empowerment is critical in enhancing job satisfaction within the nursing profession [Review of studies of medium quality] (63)</li> </ul>	No	8/11	2020	No	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>Start building now for the future health systems we want</li> </ul>
	<ul style="list-style-type: none"> <li>Evidence suggests that capacity-building interventions can help increase knowledge and system-level capacity, develop self-confidence, and bring about practical, policy and behavioural changes; organizations should meticulously select analysis methods that can help to identify the mechanism, target and purpose of the intervention [Review of studies of moderate quality] (64)</li> </ul>	No	7/10	2018	No	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>Start building now for the future health systems we want</li> </ul>
	<ul style="list-style-type: none"> <li>In order to effectively implement evidence-based practice within occupational therapy, robust, collaborative, and contextually relevant training approaches are needed by practitioners (65)</li> </ul>	No	6/9	2019	No	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>None identified</li> </ul>
	<ul style="list-style-type: none"> <li>Prescribers are trained to use electronic prescribing systems through several methods, including clinical scenarios, demonstrations and assessments; the limited number of available studies, however, suggests that further research needs to be undertaken to guide training methods [Review of studies of unknown quality] (66)</li> </ul>	No	6/9	2018	No	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>Start building now for the future health systems we want</li> </ul>
	<ul style="list-style-type: none"> <li>Evidence shows that clinically based interprofessional activities of a short time period, such as shadowing and conducting patient reviews, can help enhance collaborative skills among healthcare students [Review of studies of low quality] (67)</li> </ul>	No	6/9	2017	No	<ul style="list-style-type: none"> <li>Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>None identified</li> </ul>

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<ul style="list-style-type: none"> <li>• <u>Training medical students and residents on effectively using electronic health records can help to improve patient care and overall population health [Review of studies of variable quality] (68)</u></li> </ul>	No	6/10	2019	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Evaluations of technology-enhanced learning programs revealed an overall average score of 68% across the following eight domains: preamble, introduction, design, sampling, data collection, ethical matters, results, and discussion; there remains a critical need to continue developing evaluation tools for such programs (69)</u></li> </ul>	No	6/10	2017	No	<ul style="list-style-type: none"> <li>• Monitoring and evaluating the impacts</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Given the heterogeneity among the models and formats employed for pharmaceutical continuing education, there was no ideal activity identified; face-to-face learning and tailored approaches that utilize multiple-format learning are recommended (70)</u></li> </ul>	No	5/9	2018	No	<ul style="list-style-type: none"> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Defining characteristics of competence-based human resource management in nursing consist of recruitment and selection, training and development, performance appraisal, reward system, and career planning; its adoption affects employee, organizational and financial outcomes (3)</u></li> </ul>	No	5/10	2018	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> <li>• Make workplaces ‘excellent’ for health workers and hold employers accountable for this</li> <li>• Recruit ethically</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Evidence suggests that resident satisfaction is associated with having committed outpatient faculty, and structures that minimize inpatient and outpatient conflicts in the clinic [Review of studies of unknown quality] (71)</u></li> </ul>	No	5/10	2018	No	<ul style="list-style-type: none"> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Evidence shows that medical billing compliance is not being met and further education is needed among practitioners (72)</u></li> </ul>	No	4/9	2020	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Facilitators for advocacy curriculum implementation included the American Council for Graduate Medical Education requirements, support</u></li> </ul>	No	4/9	2017	No	<ul style="list-style-type: none"> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>

	<u>from institutions, and existing faculty experience, while barriers constituted of competing priorities of the curriculum, time constraints, and faculty and community partner turnover; advocacy curricula is able to improve the knowledge, attitude and self-efficacy of trainees [Review of studies of unknown quality with substantial heterogeneity among the educational content delivered] (73)</u>						
Sustainable and safe health workforce staffing (Search 1)  Total syntheses: 1 (medium quality)	<ul style="list-style-type: none"> <li>• <u>A subset of 13 enablers that promote psychological safety within healthcare teams were identified, all of which can be encompassed within the following five themes: patient safety, improvement or learning orientation, support, colleague familiarity, and status, hierarchy, inclusiveness, and individual differences (74)</u></li> </ul>	No	6/9	2019	No	<ul style="list-style-type: none"> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Make workplaces ‘excellent’ for health workers and hold employers accountable for this</li> </ul>
Staff retention (Search 1)  Total syntheses: 9 (of which two are high and seven are medium quality)	<ul style="list-style-type: none"> <li>• <u>Low-certainty evidence shows that the implementation of postgraduate placements in underserved, rural communities can help to support the recruitment and retention of primary-care physicians [Review of studies of low quality with important heterogeneity regarding findings on financial incentives] (17)</u></li> </ul>	No	9/10	2021	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Evidence suggests that psychological empowerment and employment satisfaction are highly correlated among nurses [Review of studies of medium quality] (63)</u></li> </ul>	No	8/11	2017	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• Make workplaces ‘excellent’ for health workers and hold employers accountable for this</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>The recruitment and retaining of rural pharmacists require flexible, multi-faceted approaches; geographic, family, economic, support, scope of practice, and workplace factors can influence the workforce (49)</u></li> </ul>	No	7/10	2021	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Heterogeneity exists within the literature with respect to daily huddles in multidisciplinary teams increasing job satisfaction and teamwork among healthcare professionals (75)</u></li> </ul>	No	7/10	2020	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Features of interventions that are able to minimize nursing turnover rates and help retain more staff include internship and residency programs, with a</u></li> </ul>	No	7/10	2018	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Make workplaces ‘excellent’ for health workers and hold</li> </ul>

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	<u>teaching, preceptor, and mentorship component, and duration of 27-52 weeks (4)</u>						employers accountable for this
	<ul style="list-style-type: none"> <li>• <u>Factors contributing to missed care among nurses include heavy workloads, poor job satisfaction, and scarcity of resources; this can be mediated through unit features and diversifying staffing composition (76)</u></li> </ul>	No	5/11	2019	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Educational, financial and multidimensional strategies were shown to be effective in retaining, recruiting, and developing the medical workforce in rural and remote regions (52)</u></li> </ul>	No	4/9	2020	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> <li>• Recruit ethically</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Social processes, such as rural familiarity, social connection and integration, community participation, and fulfilment of life aspirations, can affect the retention of rural healthcare workers (54)</u></li> </ul>	No	4/9	2018	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>There is weak evidence to suggest that extrinsic influences, such as administrative support and salary, as well as intrinsic factors, including autonomy and finding meaning in work, can significantly affect employment satisfaction for registered nurses (77)</u></li> </ul>	No	4/9	2017	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
<p>State of mental health and resiliency of the health workforce (Search 1, plus scan of the following <u>rapid evidence profile</u>)</p> <p><i>Total syntheses: 21 (of which three are high and 18 are medium quality)</i></p>	<ul style="list-style-type: none"> <li>• <u>Within the target population of medical students and junior doctors, the benefit of mindfulness interventions improving mental health and well-being remains inconclusive [Review of studies of very-low to low quality] (78)</u></li> </ul>	No	11/11	2021	Yes	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Low-certainty evidence suggests that post-intervention, psychological interventions may help to develop resiliency among healthcare professionals (79)</u></li> </ul>	No	11/11	2019	Yes	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Moderate evidence suggests barriers to implementing interventions include a lack of understanding by health professionals on the support they need, and a lack of equipment, time and skills from staff; facilitators to implementing resiliency interventions include adaptable interventions based on local needs, effective communication in formal and social settings, and a safe learning environment (80)</u></li> </ul>	No	10/10	2020	Yes	<ul style="list-style-type: none"> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>

<ul style="list-style-type: none"> <li>• <u>There is a lack of evidence regarding the utility of a positive psychology-based conceptual framework guiding burnout and well-being interventions among physicians</u> (81)</li> </ul>	No	7/10	2020	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Evidence shows that interventions focused on peer support and individual meditation can improve resident physicians' well-being; successful interventions had educational theory guide their program development and utilized surveys in their curriculum design [Review of studies of low quality]</u> (82)</li> </ul>	No	6/9	2019	Yes	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Make workplaces 'excellent' for health workers and hold employers accountable for this</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Work-related stress and mental health disorders are widespread among health professionals, however, there is an absence of agreement on the most effective measures needed to remedy this [Review of studies of intermediate to high quality]</u> (83)</li> </ul>	No	5/9	2020	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Nurse managers reported moderate stress levels due to high workloads, financial responsibilities, and a lack of resources; stress levels could be reduced through increasing social support and promoting job control [Review of studies of low quality]</u> (84)</li> </ul>	No	5/9	2018	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Intensive care nurses' well-being is presently understudied, with further research needed within this area [Review of studies of variable quality, with substantial heterogeneity regarding study characteristics]</u> (85)</li> </ul>	No	5/9	2017	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Evidence shows that the prevalence of compassion fatigue and burnout are high among nurses, although training in post-secondary education can have a counteracting effect and improve the quality of life of nurses</u> (86)</li> </ul>	No	6/11	2021	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Interventions spanning over one week in length have been shown to help develop resiliency among physicians</u> (87)</li> </ul>	No	6/11	2020	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>
<ul style="list-style-type: none"> <li>• <u>Evidence shows that debriefing may help to minimize psychological sequelae and post-traumatic distress symptoms to traumatic events;</u></li> </ul>	No	5/10	2021	No	<ul style="list-style-type: none"> <li>• Selecting an option for</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>



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	<u>characteristics of an effective debriefing session include reflection, a shared experience, and a peer facilitator (88)</u>					addressing the problem	
	• <u>Mindfulness interventions were the most commonly reported strategies used to enhance the well-being and satisfaction of general practitioners (89)</u>	No	5/10	2020	No	• Understanding a problem and its causes	• Start building now for the future health systems we want
	• <u>Wellness programs for neurosurgery trainees usually consisted of exercise, physical and mental well-being lectures, collaborative activities, and cultural excursions; program barriers included a lack of time, energy and support, and feelings of guilt for prioritizing oneself over patient care (90)</u>	No	5/10	2020	No	• Identifying implementation considerations	• Start building now for the future health systems we want
	• <u>Evidence shows that interventions that incorporate elements of mindfulness yielded a positive net effect on reducing burnout, and increasing the empathy and well-being of physicians (91)</u>	No	5/10	2019	No	• Selecting an option for addressing the problem	• Start building now for the future health systems we want
	• <u>Mindfulness and cognitive-behavioural therapy-based interventions have been shown to be effective in decreasing stress, anxiety and depression among physicians and nurses; promising effects may be observed from short interventions that focus on deep breathing and gratitude [Review of studies of moderate quality] (92)</u>	No	5/10	2018	No	• Monitoring and evaluating the impacts	• Start building now for the future health systems we want
	• <u>Interventions aimed at enhancing the resiliency of health professionals may be promising; longer session length is associated with program effectiveness (93)</u>	No	5/10	2018	No	• Monitoring and evaluating the impacts	• Start building now for the future health systems we want
	• <u>Mindfulness interventions focusing on mindfulness training elements and group-based training yielded positive effects on the well-being and performance of physicians (94)</u>	No	5/10	2018	No	• Selecting an option for addressing the problem	• Start building now for the future health systems we want
	• <u>Evidence shows that organization-directed interventions can have a moderate effect on reducing burnout, as compared to physician-directed interventions, which can have a small effect; organization-directed strategies can help view burnout from issues rooted in the workplace environment and organizational culture (95)</u>	No	5/11	2018	No	• Monitoring and evaluating the impacts	• Make workplaces ‘excellent’ for health workers and hold employers accountable for this

	<ul style="list-style-type: none"> <li>• <u>Consistent reports of stress, anxiety and depression were observed among healthcare workers due to the COVID-19 pandemic (96)</u></li> </ul>	No	4/9	2020	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Burnout among and quality of care provided by health professionals is affected by staffing levels, turnover rates and workloads (97)</u></li> </ul>	No	4/9	2019	No	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>
	<ul style="list-style-type: none"> <li>• <u>Many skill-based programs assessed in the review noted a reduction in physician burnout; commonly included content within the interventions included stress management, resilience, burnout reduction, and general wellness strategies [Review of studies of variable quality] (98)</u></li> </ul>	No	4/9	2019	No	<ul style="list-style-type: none"> <li>• Selecting an option for addressing the problem</li> </ul>	<ul style="list-style-type: none"> <li>• Start building now for the future health systems we want</li> </ul>

**Appendix 4: Summary of the ‘best’ available evidence syntheses about operationalizing the five core values**

Value addressed (and number of ‘best’ syntheses identified related to the value)	Types of questions addressed by ‘best’ syntheses	Summary of what is known from the best evidence about operationalizing the value
Start building now for the future health systems we want (n = 52)	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> <li>• Monitoring and evaluating the impacts</li> </ul>	<ul style="list-style-type: none"> <li>• The adoption and implementation of technological solutions (e.g., telehealth, videoconferencing, and secure television services) appears to be effective in supporting the delivery of care, health management, and educational interventions for patients</li> <li>• Alternative models of organizing care teams and deploying providers’ skills are promising and can be promoted by putting the right enabling factors in place; this can take the form of task shifting from doctors to nurses, implementing nurse practitioners and physician assistants in surgical/trauma care, and moving towards team-based models of care that emphasize interprofessional collaboration</li> </ul>
Make workplaces ‘excellent’ for health workers and hold employers accountable for this (n=13)	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> <li>• Monitoring and evaluating the impacts</li> </ul>	<ul style="list-style-type: none"> <li>• The well-being and resiliency of the health workforce was the most studied policy framework sub-element, with evidence to suggest that support systems (e.g., peer support, meditation, professional development opportunities, mindfulness strategies, and wellness programs) can help to address many mental health challenges experienced by health professionals (e.g., anxiety, stress, burnout, and depression)</li> <li>• Facilitators of improved staff satisfaction, retention, productivity, and workplace environment include relational leadership styles, performance appraisal, reward systems, career planning, internship and residency programs that feature teaching or mentorship components, and organization-directed interventions</li> </ul>
Recruit ethically (n=14)	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> <li>• Selecting an option for addressing the problem</li> <li>• Identifying implementation considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Rural clinical rotations, recruiting providers from rural areas, and retention schemes that provide financial incentives and personal supports are potentially effective ways to increase the recruitment and retention of healthcare providers in rural and remote areas                             <ul style="list-style-type: none"> <li>○ However, it is worth noting that a range of policy and social factors can impede this retention and recruitment</li> </ul> </li> </ul>
Share more and better health human resources (HHR) data (n=5)	<ul style="list-style-type: none"> <li>• Understanding a problem and its causes</li> <li>• Selecting an option for addressing the problem</li> <li>• Monitoring and evaluating the impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Health human resource planning models often utilize stock-flow estimates and a demand component based on population needs</li> <li>• Big data can help to advance and improve medical education, and measures for evaluating interprofessional collaboration generally focused on assessing the collaboration, communication, teamwork, and supportive factors among health professionals (e.g., physicians and nurses)</li> </ul>
Build on provincial/territorial wins for the benefit of all Canadians (n=0)	<ul style="list-style-type: none"> <li>• None identified</li> </ul>	<ul style="list-style-type: none"> <li>• None identified</li> </ul>

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## HEALTH FORUM

### >> Contact us

1280 Main St. West, MML-417  
Hamilton, ON, Canada L8S 4L6  
+1.905.525.9140 x 22121  
forum@mcmaster.ca

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