McMaster University | HEALTH FORUM

Rapid Evidence Profile #49

Impacts of dual private/public practice by healthcare professionals on equity-centred quadruple-aim metrics

17 May 2023

Appendix 1: Methodological details

We use a standard protocol for preparing rapid evidence profiles (REP) to ensure that our approach to identifying research evidence as well as experiences from select organizations that support the scale up and spread of innovations are as systematic and transparent as possible in the time we were given to prepare the profile.

Identifying research evidence

For this REP, we searched Health Systems Evidence, and PubMed for:
1) full systematic reviews
2) rapid reviews
3) protocols for reviews or rapid reviews that are underway.

We searched Health Systems Evidence using the open search (dual practice OR moonlighting) and topic filters for 'any provider'. We also searched PubMed using a mix of MeSH terms, and open terms as well as a filter for systematic reviews. We supplemented this search with a search for single studies published in the past 10 years (2013 inclusive) in PubMed using open terms. Links provide access to the full search strategy.

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

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

Assessing relevance and quality of evidence

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

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

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

Preparing the profile

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

Appendix 2: Key findings from evidence documents, organized by document type, and sorted by relevance to the question of scale-up and spread of health-system innovations

Citation	Hyperlinked declarative title	Focus (from Table 1, column 1)	Metrics (from Table 1, col 2-5)	Equity examined (PROGRESS Plus)	Quality (AMSTAR score)	Recency (date of search)	Countries where included studies were conducted

(1)	Limited evidence is available on dual practice and a considerable amount is from modelling studies, which may not bear out in reality; some real-world studies indicate that dual practitioners may be more productive, but that there is positive correlation between mean-private income of dual practitioners and length of wait times across specialties	• Healthcare professionals
		  ○ Physicians
		• Quadruple-aim metrics examined
		  ○ Care experiences
		  ○ Provider-experiences
		  ○ Per-capita costs
			• Care experiences
			• Provider experiences
			• Per-capita costs
				None	0/11	Published 2011	Not reported

(2)	Dual practice has both positive (e.g., physician's income, professional satisfaction, and access to health services) and negative effects (e.g., 'crowding out public provision, lower overall healthcare provision, absenteeism, and conflict of interest), but there is a lack of reliable evidence about its impacts, and governments have adopted a range of responses towards it, with most studies supporting	• Healthcare professionals
		  ○ Physicians
		• Sectors
		  ○ Primary care
		• Quadruple-aim metrics examined
		  ○ Care experiences
		  ○ Provider-experiences
			• Care experiences
			• Provider experiences
				None	5/9	2013	Bangladesh (1)
							Canada (1)
							China (2)
							Denmark (2)
							Indonesia (1)
							Iran (Islamic Republic of) (1)
							Norway (2)
							Peru (1)
							Portugal (2)
							South Africa (1)
							Spain (4)
							Uganda (1)
							U.K. (2)
							U.S. (3)

	allowing dual practice with restrictions						

(3)	More research on the manifestations, prevalence, and impacts of dual practice among health workers are necessary to inform the design of studies evaluating interventions to manage it	• Healthcare professionals
		  ○ Physicians
		  ○ Nurses
		  ○ Pharmacists
		  ○ Allied health professionals
		• Quadruple-aim metrics examined
		  ○ Care experiences
		  ○ Provider-experiences
			• Care experiences
			• Provider experiences
				None	4/6	2011	Not reported

(4)	Dual practice may have negative and positive effects on healthcare access, efficiency, and quality of care, however, these effects depend on the work environment, work morale, and regulations in place	• Healthcare professionals
		  ○ Physicians
		• Quadruple-aim metrics
		  ○ Care experiences
		  ○ Provider experiences
			• Care experiences
			• Provider experiences
				None	0/11	Published 2011	Not reported

(5)	Limited evidence is available on nurses' dual practice, however findings indicate that it is a common practice among younger, lower-income nurses to supplement their pay in the public sector, and that it may result in faster career fatigue and burnout	• Healthcare professionals
		  ○ Physicians
		• Quadruple-aim metrics
		  ○ Care experiences
		  ○ Provider experiences
			• Care experiences
			• Provider experiences
				• Gender/sex	4/9	Published 2011	Australia
							Brazil
							Canada
							Iran
							South Africa
							Uganda
							United Kingdom
							United States

(6)	The available evidence provides very low certainty regarding the effectiveness of regulatory policies in addressing the negative consequences of dual practice, leaving their impact unclear	• Healthcare professionals
		  ○ Physicians
		• Quadruple-aim metrics examined
		  ○ Provider experiences
			• Care experiences
			• Provider experiences
			• Per-capita costs
				None	0/11	Published 2019	Not reported

Primary studies published in the last 10 years							

(7)	In Norway, male, senior specialist consultants were those most likely to engage in dual practice, with the most significant factor being the wage level for extended hours; no negative association was identified for wait times or public working hours for most specialists, though a reduction in public hours was reported for specialties with the highest levels of non-public income	• Healthcare professionals
		  ○ Physicians
		• Sectors
		  ○ Specialty care
		• Quadruple-aim metrics examined
		  ○ Care experiences
		  ○ Provider experiences
			• Care experiences
			• Provider experiences
				None	n/a	n/a	Norway

(8)	A slight preference was found among higher-wage-earning specialists as well as for those who are clinical and career risk adverse for private-sector employment, indicating that in Australia non-wage factors play a strong role in the choice of sector where dual-practising specialists spend their time	• Healthcare professionals
		  ○ Physicians
		• Sectors
		  ○ Specialty care
		• Quadruple-aim metrics examined
		  ○ Provider experiences
			• Provider experiences	None	n/a	n/a	Australia

(9)	Dual-practice physicians are less likely to recommend	• Healthcare professionals	• Care experiences	None	n/a	Published 2022	Israel

	private insurances if satisfied with their public job, while perceiving private insurances as beneficial increases the likelihood of promotion, and commitment is tied to trust	○ Physicians • Quadruple-aim metrics examined ○ Care experiences ○ Provider experiences ○ Per-capita costs	• Provider experiences • Per-capita costs				

Appendix 3: Documents excluded at the final stages of reviewing

Document type	Hyperlinked title
Review	Implication for dual practice for universal coverage
	Physician dual practice and shortages of providers [Link no longer active and unable to access elsewhere]
Single studies	Multiple jobholding and part-time work among nurses in long-term care homes compared to other healthcare sectors: Evidence from Ontario
	Should developing countries ban dual practice by physicians? Analysis under mixed hospital competition

Waddell K, Wilson MG, Ali A, Demaio P, Soueidan S, Lavis JN. Rapid evidence profile #49: Impacts of dual private/public practice by healthcare professionals on equity-centred quadruple-aim metrics, 17 May 2023.

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