McMaster University | HEALTH FORUM

Rapid Evidence Profile #50

Impacts of private financing of health programs, services and products on equity-centred quadruple-aims 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 is 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) evidence syntheses
2) protocols for evidence syntheses that are underway.

We searched Health Systems Evidence using topic filters for financial arrangements and financing systems. We chose secondary headings for social health insurance, private insurance, health savings accounts and user fees. We also used topic filters for document type, limiting the results to overview of systematic reviews, systematic reviews of effects, systematic reviews addressing other questions, systematic reviews in progress and systematic reviews being planned. We also searched PubMed using the MeSH term 'healthcare financing' and open terms for (private OR user fees OR out-of-pocket OR health savings account OR social health insurance) as well as a filter for systematic reviews. The above 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

Two reviewers independently appraise the methodological quality of evidence syntheses 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 an evidence synthesis of the highest quality. High-quality evidence syntheses are those with scores of eight or higher out of a possible 11, medium-quality evidence syntheses are those with scores between four and seven, and low-quality evidence syntheses are those with scores less than four. It is important to note that the AMSTAR tool was developed to assess evidence syntheses focused on clinical interventions, so not all criteria apply to those 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, an evidence synthesis that scores 8/8 is generally of comparable quality to another scoring 11/11; both ratings are considered 'high scores.' A high score signals that readers of the evidence synthesis can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the evidence synthesis should be discarded, merely that less confidence can be placed in its findings and that the evidence synthesis 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, evidence syntheses 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)	Part D reduced out-of-pocket costs for nursing home residents but potentially increased costs for long-term care facilities, coverage of commonly used medications was generally adequate, but adjustments are needed to improve medication needs and health outcomes of long-term care residents, and further research is necessary to assess Part D's impact on costs, coverage, utilization, outcomes, and administrative burden in long-term care	• Financing programs, services and products
		  ○ Private insurance
		• Sectors
		  ○ Primary care
		  ○ Long-term care
		• Treatments
		  ○ Prescription drugs
			• Quadruple-aim metrics examined
			  ○ Health outcomes
			  ▪ Adverse effects
			  ○ Provider experiences
			  ▪ Administrative workload
			  ○ Per-capita costs
			  ▪ Individual health spending
				None	6/10	2013	U.K. (15)
							U.S.A (5)

(2)	Private health insurer interventions, such as financial incentives, health coaching, wellness programs, and group medical appointments, have demonstrated short-term effectiveness in improving health behaviours, but sustained outcomes require longer intervention durations of at least two years, highlighting the need for policy measures that support long-term commitment from private health insurers to achieve lasting health improvements and behaviour change	• Financing programs, services and products
		  ○ Private insurance
		• Conditions
		  ○ Other conditions
			• Quadruple-aim metrics examined
			  ○ Health outcomes
			  ▪ Healthy eating
			  ▪ Physical activity
			  ▪ Hospital admissions
				None	8/10	2020	Australia (5)
							Germany (2)
							U.S.A. (16)
							South Africa (6)

(3)	Policy-makers should be wary of potential negative clinical outcomes resulting from non-adherence attributable to copayments, and also possible knock-on economic repercussions	• Financing programs, services and products
		  ○ Private health insurance
		  ○ User fees
		• Treatments
		  ○ Prescription drugs
			• Quadruple-aim metrics examined
			  ○ Health outcomes
			  ▪ Adherence to medicines
				None	9/11	2012	U.S.A. (7)

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

(4)	Rising drug prices and service intensity create cost pressures on governments, but cost sharing can harm low-income and chronically ill groups, highlighting the need for evidence-based policy evaluation and promoting large group practices for physicians	• Financing programs, services and products
		  ○ User fees
		• Conditions
		  ○ Other conditions
		• Populations
		  ○ Low-income groups
		  ○ Other equity-deserving groups
		• Treatments
		  ○ Prescription drugs
			• Quadruple-aim metrics examined
			  ○ Health outcomes
			  ▪ Adherence to medicines
			  ○ Per-capita costs
			  ▪ Individual-health spending
			  ▪ Health-system costs
				• Socioeconomic status
				• Personal characteristics associated with discrimination
					4/11	2002	Canada (4)
							U.S.A. (16)

(5)	Publicly insured individuals in Germany have poorer health, face difficulties accessing new drugs and organ transplantations, experience financial burdens, longer waiting times, and communication challenges with healthcare providers compared to privately insured individuals, emphasizing the need for policy interventions to address these disparities and improve healthcare outcomes	• Financing programs, services and products
		  ○ Private insurance
		  ○ User fees
			• Quadruple-aim metrics examined
			  ○ Health outcomes
			  ▪ Overall physical health
			  ▪ Care utilization
			  ○ Care experiences
			  ▪ Waittimes
			  ○ Per-capita costs
			  ▪ Individual-health spending
				None	3/9	2009	Germany (18)

(6)	Increasing copayments in OECD countries has led to income, education, and gender disparities in out-of-pocket payments (OOPP) among the elderly aged 65+, with low-income individuals paying the highest OOPP for prescription drugs, lower educational levels associated with higher OOPP and insufficient insurance protection, and women facing higher OOPP due to lower income and labour participation, highlighting the need for policy interventions to ensure equitable access to healthcare	• Financing programs, services and products
		  ○ Private insurance
		  ○ User fees
		• Populations
		  ○ Low-income groups
		  ○ Other equity-deserving groups
		• Treatments
		  ○ Prescription drugs
			• Quadruple-aim metrics examined
			  ○ Per-capita costs
			  ▪ Individual-health spending
				• Gender/sex
				• Education
				• Socioeconomic status
					2/10	2006	Australia (1)
							U.S.A. (28)

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

(7)	Limited and diverse evidence suggests that introducing user charges in healthcare can have varied impacts on primary and secondary care utilization, highlighting the need for further research to understand the effects as a demand-side intervention	• Financing programs, services and products
		  ○ Private insurance
		  ○ User fees
		• Sectors
		  ○ Primary care
		  ○ Specialty care
		• Populations
		  ○ Low-income groups
			• Quadruple-aim metrics examined
			  ○ Health outcomes
			  ▪ Care utilization
				• Socioeconomic status	8/10	2015	China(1)
							Egypt(1)
							Eritrea (1)
							Israel (2)
							Taiwan (2)
							United States (1)

(8)	Government regulations on private health insurance, including cancer screening utilization and other healthcare services, yield inconclusive and varied effects on how healthcare is used, its costs, quality of care, and patient health outcomes	• Financing programs, services and products
		  ○ Private insurance
		• Sectors
		  ○ Primary care
			• Care Experiences
			  ○ Utilization of healthcare services
			  ○ Utilization of breast cancer screening
			  ○ Utilization of colorectal cancer screening
			  ○ Utilization of cervical cancer screening
			  ○ Utilization of prostate cancer screening
			• Per-Capita Costs
			  ○ Individual-health spending
				None	9/9	Literature last searched November 2019	United States

(9)	Australia's maternal health system demonstrates a dual-tiered structure, where privileged urban and wealthier non-First Nations women receive added benefits, while rising out-of-pocket expenses create obstacles for others, underscoring disparities and potential negative impacts on health outcomes	• Financing programs, services and products
		  ○ Private insurance
		• Sectors
		  ○ Primary care
		  ○ Specialty care
			• Care Experiences
			  ○ Access to care
			  ○ Increase in select procedures
			• Per-capita costs
			  ○ Individual-health spending
				None	4/9	2019	Not reported

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

(10)	Financial and organizational healthcare system reforms in high-income countries have had minimal or adverse impacts on health equity and have not adequately addressed access to healthcare based on need	• Financing programs, services and products
		  ○ Private insurance
			• Health outcomes
			  ○ Reduced equity
				None	7/11	2013	France
							Italy
							Netherlands
							Sweden
							United Kingdom
							United States

(11)	Cost-sharing in healthcare in the form of out-of-pocket payments can influence healthcare consumption behaviour and, in turn, lifestyle of individuals. While there is evidence to suggest a correlation between cost-sharing and the uptake of preventative services, the direction and causality of this relation have yet to be conclusively established. Studies investigating the impact of cost-sharing in healthcare are limited by the availability of administrative data rather than healthcare user perspectives.	• Financing programs, services, and products
		  ○ Private insurance
		  ○ Health savings accounts
		• Sectors
		  ○ Public health
		• Treatments
		  ○ Prescription drugs
		  ○ Other treatments
		• Quadruple-aim metrics examined
		  ○ Health outcomes
		  ○ Provider experiences
		• Per capita costs
			• Health outcomes
			  ○ Overall health
			  ○ Adherence to medicines
			• Per capita costs
			  ○ Health-system costs
				None	3/9	Published 2012	USA (31)
							Germany (1)
							UK (1)
							Kenya (4)
							Burkina Faso (1)
							Zambia (1)
							Canada (1)
							China (1)
							Ivory Coast (1)
							Botswana (1)
							Africa, Asia, South America
							Europe, North America (2)
							Tanzania (1)
							23 other developing countries (1)

(12)	Private financing of pharmaceuticals through cost sharing can have consequences that have a short-term impact on patients' drug consumption and a long-term impact on health outcomes and unanticipated demand for healthcare services	• Financing programs, services and products
		  ○ User fees (extra billing)
		• Treatments
		  ○ Prescription drugs
		• Quadruple-aim metrics examined
		  ○ Health outcomes
			• Health outcomes
			  ○ Patient-reported health
			  ○ Cardiovascular events
			  ○ Mortality
			  ○ Adherence to medicines
				• Socioeconomic status		Published 2019
						
						(First published 2017)
							Not reported

(13)	Although private financing can supplement services not covered by the national health system, out-of-pocket expenses can further restrict access to and utilization of dental services among low-income long-term care residents	• Financing programs, services and products
		  ○ Social Health Insurance
		  ○ Private insurance
		  ○ User fees
		• Treatments
			• Health outcomes
			  ○ Oral health
			  ○ Care utilization
			Care experiences
			  ○ Access to care
				• Socio-economic status
				• Plus - Personal characteristics associated with discrimination (age)
					4/9	2011	USA
							Canada
							Australia
							Sweden
							U.K.
							Germany
							Israel

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
		○ Dental services • Populations ○ Low-income groups • Quadruple-aim metrics examined ○ Health outcomes ○ Care experiences					Malta Singapore
(14)	The expansion of eligibility of Medicaid was associated with increases in healthcare coverage, service use, quality of care, and Medicaid spending	• Financing programs, services and products ○ User fees • Populations ○ Other BIPOC ○ Other equity-deserving populations • Quadruple-aim metrics examined ○ Health outcomes ○ Care experiences ○ Per-capita costs	• Health outcomes ○ Care utilization • Care experiences ○ Access to care ○ Wait times • Per-capita costs ○ Drug expenditure ○ Individual-health spending	• Race/ethnicity /culture/language • Socioeconomic status • Gender/sex	5/11	2018	United States
(15)	While having health insurance was associated with increased utlization of allied health service for individuals with chronic conditions, no studies examined the effect of provision of health insurance on overall healthcare costs or clinical outcomes	• Financing programs, services and products ○ Private insurance • Conditions ○ Other conditions • Quadruple-aim metrics examined ○ Health outcomes	• Health outcomes ○ Care utilization	• Race/ethnicity /culture/language • Education	8/10	2011	Canada Ghana U.S.
(16)	14 studies consistently found that extending health insurance to uninsured people in the U.S. causes increase healthcare utilization and improves health outcomes	• Financing programs, services and products ○ Private insurance • Quadruple-aim metrics examined ○ Health outcomes • Per-capita costs	• Health outcomes ○ The included studies consistently found that health insurance improves health (i.e., mortality, self-reported health status, health scores)	• None	4/10	Published 2008	United States

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
			• Per-capita costs • Health insurance coverage had substantial effects on the use of physician services and preventive services				

(17)	There are limited studies focused on the Canadian context on the economic impacts of uninsured populations, but some studies found poorer health outcomes among uninsured people compared to insured populations	• Financing programs, services and products
		  ○ Private insurance
		  ○ User fees (or extra billing)
		• Quadruple-aim metrics examined
		  ○ Health outcomes
			• Health outcomes
			  ○ Injury
			  ○ Mental health status
			  ○ Respiratory virus infections
			  ○ Abdominal pain
			• Per-capita costs
			  ○ Individual-health spending
				• Occupation
				• Education
				• Socioeconomic status
					5/10	2017	Canada

(18)	A cost-analyses of 22 studies indicated that a single-payer healthcare financing in the U.S. would result in reduced health expenditures and improve the potential for long-term cost savings to the system; however, costs to the government would likely increase when tax-based financing replace private insurance premimums and out-of-pocket spending	• Financing programs, services and products
		  ○ Private insurance
		• Quadruple-aim metrics examined
		  ○ Per-capita costs
			• Per-capita costs
			  ○ Health-system costs
				• None	6/10	2018	United States

(19)	Regardless of the study's context, out-of-pocket costs is a barrier to treatment of chronic kidney disease, and led to increased non-adherence and discontinuation of treatment	• Financing programs, services and products
		  ○ User fees (or extra billing)
		• Conditions
		  ○ Other conditions
		• Quadruple-aim metrics examined
		  ○ Health outcomes
			• Health outcomes
			  ○ Care utilization
				• None	5/9	2017	Ghana
							India
							Nigeria
							Singapore
							Thailand
							United States
							Unspecified
							OECD countries

(20)	Patients reported that out-of-pocket costs were debilitating not only to their quality of life, access	• Financing programs, services and products	• Care experiences ○ Care utilization	• Socioeconomic status	6/10	2016	Australia Canada India

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
	to optimal cancer care, but also to their households; financial distress was commonly reported among those who identified as female, younger in age, have a low income baseline, recipients of adjuvant therapies, and those with a recent diagnosis	○ User fees (or extra billing) • Conditions ○ Other conditions • Quadruple-aim metrics examined ○ Care experience					Ireland Italy Korea Singapore United States
(21)	Dental insurance is positively associated with better managed disease and dental care utilization; however, there are mixed results on the association between dental insurance and health outcomes	• Financing programs, services and products ○ Private insurance • Sectors ○ Primary care • Treatments ○ Dental services • Quadruple-aim metrics examined ○ Health outcomes	• Health outcomes ○ Oral health ○ Care utilization	• None	6/9	2016	Australia
(22)	While the introduction of out-of-pocket payments may be a possible financing solution to Denmark's increasing health expenditure, doing so may prove difficult to implement given findings that out-of-pocket payments increase inequalities in healthcare access as well as the opposition of the Danish population, general practitioners, Danish media, and some members of the Danish Parliament	• Financing programs, services and products ○ Social health insurance ○ User fees (or extra billing) • Sectors ○ Primary care • Quadruple-aim metrics examined ○ Care experiences ○ Per-capita costs	• Care experiences ○ Access to care • Per-capita costs ○ Individual-health spending	• Socioeconomic status	4/9	October 2014 (*Infomedia search conducted on 4 November 2014)	Sweden Finland Denmark Norway Iceland
(23)	Based on suggestions from the literature that adopting private financing options to address wait times in the short term would lead to long-term negative implications, there is no immediate or other benefit to Canada to adopt private healthcare insurance	• Financing programs, services and products ○ Private insurance • Sectors ○ Specialty care • Quadruple-aim metrics examined ○ Care experiences	• Care experiences ○ Wait times	None	3/9	Published January 2012 (literature search date not provided)	Canada U.S.

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

(24)	Implementation of a public Long-Term Care Insurance system has proven to reduce hospital length of stay and medical costs as well as improve the physical health of beneficiaries and the participation of the labour force and caregivers in several countries; however, challenges that would need to be addressed include sustainability of long-term care insurance financing, design flaws of the long-term care insurance system, traditional social concepts or family relations, and balancing fairness and efficiency	• Financing programs, services and products
		  ○ Social health insurance
		• Sectors
		  ○ Long-term care
			• Health outcomes
			  ○ Physical health
			• Per-capita costs
			  ○ Health-system costs
				Plus – age, disability	3/10	September 2020	Belgium
							China
							France
							Germany
							Israel
							Italy
							Japan
							Netherland
							Spain
							Thailand
							U.S.

(25)	Although the effects of private financing on publicly financed systems vary depending on the form of the private finance, there is more harm than good on the overall health system	• Financing programs, services and products
		  ○ Social Health Insurance
		  ○ Private insurance
		  ○ Public Health
		• Sectors
		  ○ Primary care
		  ○ Specialty Care
		• Populations
		  ○ Low-income groups
		• Treatments
		  ○ Prescription Drugs
			• Health outcomes
			  ○ Care utilization
			• Per-capita costs
			  ○ Health-system costs
				None	N/A	N/A	Australia
							Britain
							Canada
							Netherlands
							New Zealand

Appendix 3: Documents excluded at the final stages of reviewing

Document type	Hyperlinked title
Evidence syntheses	Evidence from systematic reviews to inform decision making regarding financing mechanisms that improve access to health services for poor people (unable to retrieve full text)
	Impact of user fees on maternal health service utilization and related health outcomes: A systematic review
	Systematic reviews of mechanisms for financing family planning: Findings, implications and future agenda
	Effect of health insurance on the use and provision of maternal health services and maternal and neonatal health outcomes: A systematic review
	Financing models for non-CHA services in Canada: Lessons from local and international experiences with social insurance

Waddell K, Wilson MG, Ali A, Bain T, Bhuiya A, Chen K, Cura J, DeMaio P, Soueidan S, Lavis JN. Rapid evidence profile #50: Impacts of private financing of health programs, services and products on equity-centred quadruple aim metrics, 26 May 2023.

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