Rapid Synthesis

Engaging Physicians in Ontario Health Teams

24 March 2022

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EVIDENCE >> INSIGHT >> ACTION

Rapid Synthesis:
Engaging Physicians in Ontario Health Teams
30-day response

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McMaster Health Forum

The McMaster Health Forum's goal is to generate action on the pressing health-system issues of our time, based on the best available research evidence and systematically elicited citizen values and stakeholder insights. We aim to strengthen health systems – locally, nationally, and internationally – and get the right programs, services and drugs to the people who need them.

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KEY MESSAGES

Question
- What does the evidence say about how best to engage physicians, particularly primary care, in health-system transformations, particularly those elements that relate directly to the steps in population health management or to the Ontario Health Team building blocks?

Why the issue is important
- Physician participation is critical to the success of Ontario Health Teams (OHT) and to population-health management initiatives more broadly
- The participation of physicians, and especially primary care, is needed to achieve the first three of the four quadruple aims at the centre of the transformation and are a critical provider group for the fourth aim
- While many OHTs have successfully formed partnerships with primary care and specialty physicians, with some taking leadership roles within the OHT, others have struggled to make in-roads, leading to varied levels of participation across the province
- This rapid response builds on a RISE brief written in 2019 at the beginning of the OHT transformation and examines the evidence for strategies contained in the 'behaviour change wheel' which suggests key factors that may influence a physician's decision to participate in an OHT, generally
- In addition, the rapid synthesis examines evidence on the engagement of physicians in population-health management and in OHT building blocks.

What we found
- Significant gaps exist in the literature on physician engagement in reforms generally (particularly as it relates motivating participation), as well as engagement in each of the OHT building blocks, namely:
  - interventions to support moving to full population coverage from rostered practices (BB #1) (though there is significant literature approaches to engage non-attributed patients into rostered models)
  - interventions to increase the use of shared-decision making tools and patient engagement approaches by primary care providers (BB #3) (though educational meetings, educational materials, outreach visits and reminders have all been used, the certainty of evidence for their effectiveness is very low)
  - strategies to enhance data literacy of primary care physicians (BB #5)
- However, we identified six systematic reviews and twelve primary studies which focused largely focused on one-off engagement efforts rather than whole packages of engagement strategies
- Prior to pursuing specific engagement strategies, the literature highlights the need to establish trust with physicians and reinforce physician identity within a transformation, which may include:
  - open communication between decision-makers and physicians
  - reinforcing physician identity within the planned transformation
  - creating a shared vision for the transformation.
- With respect to the seven strategies included in the behaviour change wheel, systematic reviews and primary studies found the following supportive of physician engagement in health-system transformations:
  - championing or modeling participation from local leaders, with credibility, and that have the necessary skills to drive the change process
  - gaining support from stakeholders including medical associations, local governments, and patient associations
  - communicating a vision for change that helps to solve system problems that have been expressed by physicians and that appeal to a physician's moral ethos and sense of occupational identity
  - broadening incentives to participate beyond increases in remuneration to also consider a mix of resources that may include additional personnel or physical assets that serve as investments towards the reform as well physicians' practice

QUESTION

What does the evidence say about how best to engage physicians, particularly primary care, in health-system transformations, particularly those elements that relate directly to the steps in population health management or to the Ontario Health Team building blocks?

WHY THE ISSUE IS IMPORTANT

Physician leadership is critical to the success of Ontario Health Teams (OHT) and to population-health management initiatives more broadly. The participation of physicians, and especially primary care, is needed to achieve the first three of the four quadruple aims at the centre of the transformation – improving care experiences and health outcomes at manageable per capita costs. Further, physicians are a critical provider group for the fourth aim – positive provider experiences. While many OHTs have successfully formed partnerships with primary-care and specialty-care physicians, with some taking significant leadership roles within the OHT, others have struggled to make in-roads, leading to varied levels of participation across the province.

This variation in participation has been widely written about in Canadian health policy literature, with many provinces, including Alberta, Manitoba and British Columbia, reporting similar experiences. While there is a significant amount of literature on implementing health-system reforms, there are limited findings on the processes for successful engagement with physicians, particularly in health systems where physicians operate as independent businesses. In efforts to support OHTs to engage with physicians, we have examined systematic reviews and primary studies that speak to the process of engaging physicians. In addition, we have undertaken four key informant interviews to contextualize these findings to the Canadian and Ontario context.

> **Box 1: Background to the rapid synthesis**
>
> This rapid synthesis mobilizes both global and local research evidence about a question submitted to the Rapid-Improvement Support and Exchange. Whenever possible, the rapid synthesis summarizes research evidence drawn from systematic reviews of the research literature and occasionally from single research studies. A systematic review is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select and appraise research studies, and to synthesize data from the included studies. The rapid synthesis does <u>not</u> contain recommendations, which would have required the authors to make judgments based on their personal values and preferences.
>
> Rapid syntheses can be requested in a three-, 10-, 30-, 60- or 90-business-day timeframe. An overview of what can be provided and what cannot be provided in each of these timelines is provided on the McMaster Health Forum's Rapid Response program webpage (https://www.mcmasterforum.org/find-evidence/rapid-response)
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> This rapid synthesis was prepared over a 30 business day timeframe and involved five steps:
> 1) submission of a question from a policymaker or stakeholder (in this case, the Ontario Ministry of Health);
> 2) identifying, selecting, appraising and synthesizing relevant research evidence about the question;
> 3) conducting key informant interviews
> 4) drafting the rapid synthesis in such a way as to present concisely and in accessible language the research evidence; and
> 5) finalizing the rapid synthesis based on the input of at least two merit reviewers.

This rapid response builds on a RISE brief written in 2019 at the beginning of the OHT transformation. The RISE brief (which can be read here) considers the need to first identify physicians to engage with and then to begin building trusting relationship with and encourage active participation of physicians. The brief introduces the 'behaviour change wheel' to suggest key factors ('sources of behaviour') that may influence a physician's decision to participate in an OHT. These include capability, motivation and opportunity to participate. In addition to considering the key factors, strategies ('interventions') are also noted which may be useful to target particular capability, motivation or opportunity concerns. These strategies include:
- education (providing information to increase knowledge or understanding)
- modeling (providing an example for people to aspire to or imitate)

- persuasion (using imagery and other communications to induce positive or negative feelings or stimulate action), training (imparting skills)
- enablement (increasing means or reducing barriers to increase capability or opportunity)
- environmental restructuring (using prompts and other approaches to change the physical or social context)
- incentivization (creating an expectation of reward).

For the purposes of this rapid synthesis and ease of operationalizing the strategies, we have included a thematic summary of key findings from systematic reviews and primary studies below, with additional findings provided in Table 1. For those who wish to know more about each of the evidence documents included, full details about the reviews and studies can be found in Appendix 1.

WHAT WE FOUND

We identified six systematic reviews and twelve primary studies through a structured database search and additional targeted searching. To complement the literature, we undertook four key informant interviews, two with individuals from Alberta (to learn from the experience of establishing primary care networks, which have similarities to Ontario Health Teams) and two with individuals from Ontario.

The literature we found largely focused on one-off engagement efforts rather than whole packages and

> **Box 2: Identification, selection and synthesis of research evidence**
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> We identified research evidence (systematic reviews and primary studies) by searching (in February 2022) Health Systems Evidence (www.healthsystemsevidence.org) and PubMed. In Health Systems Evidence, we used the providers filter to choose 'physician' as well as 'provider targeted-strategies' under implementation strategies. We also used the following key word search [(engage* OR involve*) AND (reform OR transformation)]. In PubMed, we searched for [physician AND ((engage* OR involve*) AND (reform OR transformation)]. As well as undertaking a targeted search for literature related to physician engagement with Accountable Care Organizations and Integrated Care Systems.
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> The results from the searches were assessed by one reviewer for inclusion. A document was included if it fit within the scope of the questions posed for the rapid synthesis.
>
> For each systematic review we included in the synthesis, we documented the focus of the review, key findings, last year the literature was searched (as an indicator of how recently it was conducted), methodological quality using the AMSTAR quality appraisal tool (see the Appendix for more detail), and the proportion of the included studies that were conducted in Canada. For primary research (if included), we documented the focus of the study, methods used, a description of the sample, the jurisdiction(s) studied, key features of the intervention, and key findings. We then used this extracted information to develop a synthesis of the key findings from the included reviews and primary studies.

rarely provided a fulsome evaluation of the engagement activities. This was consistent with findings from previous systematic reviews which also found that despite suggesting the importance of physician engagement in health system reforms, the literature was less explicit about the processes by which health systems and organizations can engage physicians as resources for health system improvement. As result, those designing packages of engagement initiatives should consider the 'knock-on' effects of coupling engagement initiatives to ensure they do not create unintended consequences when implemented together. This suggestion is reinforced by findings from a study conducting during the development of networked primary care in Manitoba which found that the overlapping use of engagement strategies created a convoluted mix of policy incentives.(1) The study suggested the use of 'smart layering' instead, which refers to the introduction of new elements that fill gaps but that remain coherent with existing policies.(1)

Prior to pursuing specific engagement strategies (described in Table 1), the literature highlights the need to establish trust with physicians and reinforce physician identity within the reform. One primary study on practice changes within complex adaptive systems notes that this establishment of trust may include open communication between decision-makers and physicians, willingness to share relevant data, creating a shared vision, and accumulating evidence of successful collaboration.(2) Two key informants noted that this should also include a commitment to meaningful long-term engagement with physicians, including co-designing how that engagement will take place and what range of topics. Two reviews (one older-medium quality and one recent-low quality) and two primary study also emphasized the important of reinforcing professional identity

when engaging physicians in health-system transformations.(1;3;4;5) One of the reviews rooted their findings in the social identity approach, which describes how efforts by a superordinate group (decision-makers) to align a subordinate group (physicians) have the potential to provoke identity threat.(3) While the second systematic review noted that physicians often experienced tensions between their clinical and leadership activities, maintaining stronger identifications with their professional identify than a new organizational identity that takes shape during system transformations.(4) However, both reviews found that this may be buffered by a secure sense of their professional identity as physicians within the transformations.(3;4) This need was reiterated by key informants from Alberta as well as in one primary study conducted by members of an Ontario Health Team, which noted that initial efforts focused on reassuring providers that bringing their culture of care and identity as a physician was necessary for the Ontario Health Team to succeed.(5) Key informants described efforts to do this including: directing communication to physicians that addressed their role within the transformation (rather than generic communication that goes out to all partners), putting physicians in the 'driver's seat' for specific elements of the initiative (i.e., providing clear opportunities for leadership and decision-making), and focusing on initiatives that provide value to physicians (i.e., that help to solve known problems) and help to improve their 'work-life' balance. This notion of using reforms to solve existing problems is expanded upon in the 'persuasion' strategy in Table 1.

In general, systematic reviews and primary studies found the following strategies supportive of physician engagement in health-system transformations:
- modeling participation from local physician leaders, with credibility, and that have the necessary skills to drive the change process (modeling);
- gaining supporting from stakeholders including local governments, patient associations and medical associations (persuasion);
- training in leadership and other skills required to meaningfully participate in the transition (training)
- communicating a vision for change that helps to solve system problems that have been expressed by physicians and that appeals to a physician's moral ethos and sense of occupational identity (enablement); and
- broadening incentives to participate beyond increases in remuneration to also consider a mix of resources that may include additional personnel or physical assets that serve as investments towards the reform as well physicians' practice.

A summary of findings from systematic reviews and primary studies is included in Table 1, with additional details from each included document provided in Appendix 1 (systematic reviews) and 2 (primary studies).

In addition to findings related to the strategies, we also identified three studies from the literature on accountable care organizations and one study from previous initiatives in Ontario that describe facilitators to physician engagement, including:
- starting engagement with physicians with previous experience working in teams and in collaborative environments as well as those with patients that have relatively higher needs;
- engaging larger physician practices first and those with experience implementing similar models such as the patient centred medical home;
- future-proofing collaborative working arrangements by building in training and meaningful exposure to physician curriculums; and
- covering costs associated with participation in the model such as for the adoption of electronic health records and additional personnel to support meeting new regulatory and reporting requirements.(6-9)

We also identified literature related to specific building blocks, namely building block #2 and building block #4.

For building block #2, we identified that engaging primary care physicians in population segmentation can be supported by asking for input into chosen segmentation variables, asking physicians to review results of their

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segmented high-risk patient subgroups (and allow them to add or remove patients using clinical judgement), and including patient risk level in EMR/EHR. (10) To enable this, physicians will likely need targeted training to understand approaches to segmentation (and later to co-designing care models, which can be linked to BB #4) but should be supported to attend the session, which should be clearly linked to the shared local vision and a specific outcome. (10)

For building block #4, implementation strategies to support the adoption of PREMs/PROMs in primary care include: stakeholder engagement to identify potential barriers (and map these to implementation strategies), integration of PROMs into patient portals and EHRs, training clinical teams, providing onsite coaching and assistance for technology and workflow redesign alongside rapid testing cycles, and audit and feedback mechanisms to ensure continued use. (11; 12) Further, primary care participation in the choice of PREM and PROM can help to ensure data can be used to inform changes to day-to-day services and can be facilitated by the strategies above, as well as booking dedicated time to learn the process and discuss results. (11; 12)

Table 1. Findings from systematic reviews and primary studies on strategies for physician engagement in health-system transformations

Strategies	Findings from systematic reviews and primary studies
Education (providing information to increase knowledge or understanding)	- One recent low-quality review found that physicians frequently reported feeling uncertain about taking on roles within transformations, with generalists and primary care physicians reporting this more frequently than specialists - The review noted that leadership development, graduate training in leadership and mentoring were positive sources of support (4)
Modeling (providing an example for people to aspire to or imitate)	- Findings from one older medium-quality systematic review of facilitators for participating in collaborative system arrangements found that the perceived effectiveness of team work was a prerequisite for physician participation and is associated with a greater number of and greater depth of changes to improve care (14) - A second older medium quality systematic review found that exposing physicians to interprofessional experiences can support the emergence of such norms (15) - One older medium-quality review noted that pulling together a guiding team of key people to champion change is often cited as a key step to lead change among key professional groups, however the review highlights the need to ensure these champions are in leadership positions, have credibility, and be trained in change management skills (2) - Findings from a study of physician participation in leadership roles in clinical commissioning groups in the U.K. found that modelled leadership of two or three physicians helped to inspire additional physicians to participate as well as reduced concerns that their values would not be represented (16)
Persuasion (using imagery and other communications to induce positive or negative feelings or stimulate action)	- Two systematic reviews found that support and pressure from stakeholders including local government and patient associations were frequently an explanatory factor in participation in reforms (15;19) - The reviews also noted that unions and professional associations have a key role to play in developing the collective interests of physicians and promoting the change positively - Importantly, key informants described how building participation into collective agreements with medical associations gave the initiative legitimacy among physicians and was a significant facilitator in their participation
Training (imparting skills)	- An older medium-quality review found that professional development was frequently cited as an enabler, in particular training focused on quality-improvement theory, measurement and tools, healthcare policy and systems, and leadership provided to all clinical staff and leaders (13) - One key informant noted that a lack of training for physicians related to how to participant in reforms and what participation entails may be a significant barrier, but also noted that simply offering training is often insufficient and physicians would need to be supported to attend
Enablement (increasing means or reducing barriers to increase capability or opportunity)	- Four primary studies found that communicating a vision for change that solved problems that were being experienced by professionals helped to garner their support and ultimately sign-on as a partner (1;5;17;18) - The studies suggested that these 'persuasive techniques' to support physician participation could include communicating the need for change, a visualization of how possible solutions solve existing problems, and a roadmap of how to move towards the desired destination

	• Similarly, findings from one primary study on physician participation in leadership roles in clinical commissioning groups in the U.K. found that goals which had a "moral ethos that appealed to clinicians' sense of occupational identity" were critical to establish participation (16) o In particular, the study identified building a network of clinicians who share ethical and moral commitments to the new model (16) • One older medium quality systematic review and one primary study found that investments in communication tools and connected electronic health records, especially with specific messaging systems were strong facilitators of participation (14; 20)
Environmental restructuring (using prompts and other approaches to change the physical or social context)	• A primary study examining approaches to change management among primary care physicians found that establishing informal relationships with those directing the reform were critical drivers of behaviour change and participation in local health initiatives (19) • One older-medium quality review of governance models for integrated care initiatives found that shifting the focus of the reform away from services delivered by individual providers towards defining the care needs of the population was critical to enable effective work across primary and secondary care providers (13) o The review also found that using a collaborative approach to measuring performance enabled clinicians and manager to see issues from a patient perspective beyond organizational boundaries (13)

Incentivization (creating an expectation of reward)	• With respect to financial incentives, one older-medium quality review and three studies found that while financial incentives often increase the participation of physicians in the short-term, they are insufficient to engage physicians at scale or over the long-term (15; 19; 20; 21)
	   o The systematic review noted that when considering incentives, decision-makers should look beyond financial rewards to also consider a mix of resources, including additional personnel or physical assets that serve as investments towards the reform as well as in physicians' practice (15)
	   o This was reiterated by key informants who noted that financial incentives alone are insufficient and instead could include compensation for time
	• One recent low-quality review found that leadership roles in health system reform initiatives were frequently perceived by physicians as being less rewarding than clinical work and suggested identifying non-material rewards that could be leveraged in recruitment including the feeling of agency in system change and recognition for participation (4)

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Appendix 1: Summary of findings from systematic reviews about engaging physicians in Ontario Health Teams

Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating
Systematic review	Examining leadership attributes in complex adaptive systems (2)	Literature review on leadership in complex adaptive systems identified nine leadership attributes to support practice change: motivating others to engage in change, managing abuse of power and social influence, assuring psychological safety, enhancing communication and information sharing, generating a learning organization, instilling a collective mind, cultivating teamwork, fostering emergent leaders, and encouraging boundary spanning. A study building on the literature review found that all nine attributes were critical during a time of change and innovation and identified two additional attributes being anticipating the future and developing formal processes.	2020	3/9 (AMSTAR rating by McMaster Health Forum)
Systematic review	Using a social identity approach to understand and overcome divisions in health care (3)	The social identity framework has five key parts: 1) social identity – or how people categorize themselves and others as members of an ingroup or an outgroup; 2)social structure – the relations among groups and any status or power differentials; 3) identity content – the identities that are valued by specific norms and attributes; and 4) strength of identification – how strong an individual's identity is tied to one group versus another to which they may belong; and 5) context – relative prominence of an individual's multiple identities. The review found that this framework was a useful to explain why health professional may engage or disengage with particular initiatives. The review also provides a series of questions that may be useful to consider engagement strategies.	2010	4/9 (AMSTAR rating by McMaster Health Forum)
Systematic review	Reviewing physician participating in health system leadership (4)	The review identified six main themes: (de)motivation for leadership, leadership readiness and career development, work demands and rewards, identity matters, leadership processes and relationships across health systems and leadership in relation to health system outcomes. With respect to (de)motivation the review found that in many cases physicians reported feeling ill-prepared for the demands of leadership roles and lacked confidence to take them on. With respect to work demands, the review noted that leadership roles were often poorly defined with high work demands and physicians typically found leadership work as less rewarding than clinical work. With respect to identity matters, the review found that a negative perception of leadership roles by other doctors was perceived as a major barrier to the decision to transition to leadership roles. With respect to health system outcomes, physician leadership was linked to the success of quality improvement initiatives. In addition, it was found that specific leadership approaches	2017	3/9 (AMSTAR rating from McMaster Health Forum)

Type of review	Focus of systematic review	Key findings	Year of last search/ publication date	AMSTAR (quality) rating
		influences worker outcomes including transformational leadership which reduced the effects of stress and a demoralizing work environment. In general, when comparing physician and non-physician leadership, physician leadership was associated with higher quality ratings and an increase in staff-to-patient ratios. It was, however, more frequently negatively associated with team empowerment and physician-led care networks were less like to provide services across the entire continuum of care or that have been traditionally separate from the health system.		
Systematic review	Examining governance arrangements in integrated health system initiatives (10)	Twenty-one studies were included in the review, all of which evaluated the development of integrated governance structures. Ten elements were identified through a thematic analysis of the included studies. These ten elements were each found to be needed for integrated governance across settings to be put in place. The ten elements included: joint planning, integrated information communication technology, change management, shared clinical priorities, incentives, population focus, measurement, continuing professional development, patient engagement, and innovation.	2012	5/9 (AMSTAR rating from McMaster Health Forum)

Appendix 2: Summary of findings from primary studies about engaging physicians in Ontario Health Teams

Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
Determinants of a rural health clinic participating in an ACO (6)	*Publication date:* 2015 *Jurisdiction studied:* U.S. *Methods used:* Cross-sectional study	Rural health clinics in nine U.S. states	Examining the determinants of rural health clinics willingness to participate in an accountable care organization	Study examines the motivation of rural health clinics, largely made up of primary care providers serving in rural areas, to participate in the ACO model. In addition, it examines the organizational structure of rural health clinics that support their participation. Facilitators for willingness to or already participating in an ACO included: being part of an existing network, being located in an urban area, being part of a group practice (as opposed to a solo provider)and having technology and particularly EMRs in place.
Examining the costs for rural health clinics to join Accountable Care Organizations (7)	*Publication date:* 2016 *Jurisdiction studied:* U.S. *Methods used:* Propensity score matching	544 rural health clinics	Costs for primary care providers participating in an ACO	Though many different types of ACOs have demonstrated overall cost savings (largely as a result of a reduction in inpatient admission), there are initial start up costs to participating, particularly for those in primary care. It found that joining an ACO did raise the cost per visit and that the jump in cost can be substantial, with a range of between 14 to 21%. The trend also appears that this increase lasts for approximately two years, but does lessen in the second year. Factors that contribute to this cost increase include building the necessary infrastructure including technological, establishing administration supports, and additional staff to meet new regulatory and quality expectations. Other costs were associated with labour-intensive activities including obtaining patient consent to collect data and participating in ACO committees for financial, quality care and EHRs. Additional consideration should be given to how the expectations of primary care participation may differ depending on the size of the practice as well as providing additional funds to support the upfront costs.
Examining physician participation in ACOs (8)	*Publication date:* 2013 *Jurisdiction studied:* U.S. *Methods used:* Cross-sectional survey	1183 practices responding to the National Survey of Physician Organizations	Determinants of participation or willingness to participate in an ACO	Determinants of whether primary care physicians participate in ACOs include: participation in a larger practice and those receiving patients from an independent practice association or from physician-hospital. In addition, if the practice was situated in New England and East South Central regions were also more likely. No difference was found by ownership or specialty mix. Those that had previously adopted the patient centred medical home were slightly more likely to participate in an ACO. Early results show some sustainability issues, with only 13 reducing costs enough to share in savings. In addition, challenges of building capabilities in electronic health record functionality, predictive analytics, data collection, and patient engagement. IPAs and PHOs can provide an alternative means of organizing an ACO by making it possible for physicians in smaller practices to share care management and related resources to care for populations of patients

Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
Physician engagement and resistance in primary care renewal (1)	*Publication date:*2019 *Jurisdiction studied:* Manitoba *Methods used:* Qualitative analysis	In-depth interviews with 33 decision-makers and 31 fee-for-service family physicians	Introduction of new primary care renewal models	Using the social identity framework, qualitative responses from decision-makers and fee-for-service family physicians were examined. The results found that decision-makers rhetoric as well as the design of the initiative, showed an attempt to proceed directly from inter-personal relationship building to establishing formal partnerships. This skipped numerous steps that are necessary to establish trust and engagement in the initiative. As a result, the invitation to participate in the initiative did not resonate with many physicians as it was instead viewed as inauthentic and transactional. The study highlights the need to focus on social identity and reinforce physician identity within change processes for them to be highly effective.
Beginning health system transformation towards Ontario Health Teams (5)	*Publication date:*2021 *Jurisdiction studied:* Ontario *Methods used:* Qualitative description	125 interviews were conducted across 12 Ontario Health Teams	Development of local integrated systems of care in Ontario	Across all interviews, health system stakeholders reported a sense of uncertainty. This included at a professional level, physicians were uncertain about the value of the new model and their place within it. In some Ontario Health Teams, this was reportedly countered by inclusive decision-making and developing empathy. These approaches reportedly helped to unearth traditional hierarchies and support new ways of working across professional and sectoral boundaries.
Characteristics associated with joining interprofessional teams in Ontario (9)	*Publication date:* 2020 *Jurisdiction studied:* Ontario *Methods used:* Cross-sectional	Provincial administrative data set on physician reimbursement	Characteristics of physicians who voluntarily join interprofessional teams	Cross-sectional analysis of physician reimbursement data found that physicians who participated in interprofessional teams were more likely to have had a history of working in a team or collaborative practice, be female, have more years under a blended capitation model, and have a greater proportion of patients in lower income quintiles compared to a typical fee-for-service physician. In addition, having more patients who are males, recent immigrants, and practicing in a rural area were positively associated with joining a team in the late phase.
Participation of primary care physicians in primary care commissioning (13)	*Publication date:*2015 *Jurisdiction studied:* U.K. *Methods used:* Document review	Documents reporting on primary-care led commissioning in the English National Health Service	Implementation of primary-care commissioning and requirements of primary care providers to engage with patients, families, and caregivers	The study found that there are numerous contextual factors that challenge physician engagement with commissioning. These include a lack of time and resources, limited interest among professionals, and limited knowledge about how to participate. The study noted that despite significant rhetoric about increasing provider control, the hierarchical system structure has largely persisted throughout the reform and the conflict between the role of physicians as commissioners of care and as patient advocates has emerged. The study suggests this could be improved through alignment of incentives and consideration of incentives beyond changes to remuneration.
Examining primary care reform in Manitoba (14)	*Publication date:* 2019 *Jurisdiction studied:* Manitoba *Methods used:* Case study	N/A	Examines the primary care transformation between 2011-15 that took place in Manitoba	The study documents the changes in primary care arrangements in Manitoba and the efforts put in place to engage physicians in the transformation. The study presents the challenge of balancing the acceptability of renewal efforts to physicians while also determining ways to ensure accountability for their actions or outcomes. The study noted that system-wide initiatives with complicated designs, such as those involved in developing network, were found to have greater difficulties in recruiting and sustaining physician participation. Engagement activities that supported their participation included providing physicians with considerable decision-making latitude balanced with a set of pre-determined evaluation criteria.

Focus of study	Study characteristics	Sample description	Key features of the intervention(s)	Key findings
Clinician participation in leadership roles in clinical commissioning groups (15)	*Publication date:* 2018 *Jurisdiction studied:* U.K. *Methods used:* Longitudinal case study	Administration of a national survey followed by six in-depth case studies of particular clinical commissioning groups	Shift of primary care physicians from clinical roles to leadership roles within the clinical commissioning groups	The study reported significant variation in the uptake of leadership roles by general practitioners. The study found that enablers to breakthrough leadership roles among physicians included participation in each of the following: strategy-level work on the clinical commissioning group board; mid-range operational planning and negotiation; and practical implementation at the point of delivery. The three differing arenas allowed for different aspects of physician leadership including the legitimacy for strategic change. Though the study was conducted over three years, authors argued that a longer period of time is necessary to see reforms.
Implementing managerial innovations in primary care (16)	*Publication date:* 2007 *Jurisdiction studied:* U.K. *Methods used:* Longitudinal case study	Qualitative interviews with key change players	Primary care reform towards greater coordination and integration among professionals	The study found that the main drivers for change in primary care reform in complex adaptive systems were the characteristics of the actors involved. This included their motivation, leadership and commitment to change as well as the quality of relationships among them. The study also noted the importance of examining how resources dedicated to managing change get used to pursue the reforms goals. The authors note that the implications of this are that additional time and consideration should be given to managing relationships with and between professionals.
Examining participation in delivery and financial reforms (17)	*Publication date:* 2022 *Jurisdiction studied:* U.S. *Methods used:* Cross-sectional	Secondary data analysis of national ACO program participation data over an eight-year period	Implementation of Medicare Shared Savings Program ACOs	The study found that no ACO program was able to achieve more than 50% participation across organizations in a given year and participation tended to flatten or reduce in later years. In general, the study found that larger organizations, those with younger providers, those with more primary care providers, and those with larger patient rosters of Medicare participants, were more likely to participate and stay within the ACO. The study further found that primary care transformation using voluntary programs has failed to broadly engage primary care organizations.
Participating in primary care reform in Ontario (18)	*Publication date:* 2009 *Jurisdiction studied:* Ontario *Methods used:* Cross-sectional	332 family physicians in Ontario practicing in five models of care	Five models included fee-for-service, family health networks, family health groups, health services organizations, and community health centers	The study found that non-fee-for-service physicians were more satisfied overall with their payment model and in most dimensions of work satisfaction. Significant variations were reported as to whether or not physicians felt their real net incomes over the previous five years as increased, decreased or remained the same. Significant increases in income were reported among the family health network and health service organization attached physicians when compared to the remaining three models. Overall, the study noted the importance of evaluating physician claims related to changes as a result of the introduction of new care models.

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