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Since March 2022, the Quebec Minister of Health and Social Services has launched several initiatives aimed at transforming the health system to facilitate access to high-quality and timely primary care services. These include Bill 11 "Act to increase the supply of primary care services by general practitioners and to improve the management of that supply", the Action Plan "More human, more efficient: Plan to implement the necessary changes in health", and the agreement between the government and the Quebec Federation of Family Physicians concluded on May 1, 2022.

These reforms focus primarily on the enrolment of patients with a family physician. Currently, more than one million “orphan” patients do not have a family physician in Quebec. Minister Dubé has also stressed his explicit commitment to better accountability, better monitoring of the performance of the health care system, and better availability of data to properly evaluate results.

If we want to effectively create and evaluate interventions aimed at improving primary care, it is essential to clearly identify the processes through which patient care can be improved and to identify the most relevant indicators to measure progress. Here we propose a framework to explicitly address these issues.

Our reflections have emerged from discussions within our research team consisting of researchers, patient-partners, health professionals and decision makers. Our work has

led us to develop a common language and a conceptual framework that reflects both the existing literature and the diverse perspectives on our research team.[1]

Disentangling complex realities

Enrolment is seen as a central component of primary care and a strategy to improve both individual and population health outcomes.[2] Enrolment is also a useful ingredient for practice management in the context of learning health systems and a key element of paying physicians per patient (also called capitation payment).

Many jurisdictions in Canada and elsewhere have implemented enrolment policies with the intent of strengthening their primary care systems. In Canadian provincial health-care systems, enrolment policies take different forms. In Quebec and Ontario, explicit contracts are used and now more than three quarters of the population are enroled with a family physician. In Alberta, enrolment is implicit based on where patients seek care in Alberta while no formal enrolment currently exists in Nova Scotia.

These enrolment policies are set out in the framework now known as the "Quintuple-Aim", which identifies five dimensions to target to improve health care: patient experience, clinician experience, population health, value in per capita costs, and the recently added fifth dimension, improvement of health equity.[3]

Through better access to a regular source of care, formal enrolment could be expected to impact where patients receive most of their care or the frequency with which they see certain clinicians in the near term. However, enrolment does not guarantee the availability of an appointment in a timely manner or at a location convenient for patients. Moreover, enrolment is not part of the "Quintuple Aim". It is a tool for achieving the desired goals of improved care, not an end in and of itself.

In other words, while formal enrolment can involve a physician “taking responsibility” for a patient, it does not necessarily imply truly “being responsible”. It does not guarantee the development of a caring, trusting patient-physician relationship or coordination of care between health professionals, which could ultimately lead to better health outcomes.

With a desire to separate *processes* of care from Quintuple Aim-relevant *outcomes*, we propose a conceptual framework based on the idea that the impact of *enrolment* policies on *continuity of care* is mediated by the mechanism of *affiliation*. Enrolment and affiliation are thus seen as *means* to achieve the desired outcomes.

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[2] For a discussion of the importance of the enrolment system in a health care improvement strategy, see article [1] in the reference list. For an in-depth empirical study of enrolment systems in Quebec and British Columbia between 2003 and 2013, see article [2] in the reference list.
[3] For a discussion of the Quintuple Aim, see article [3] in the reference list.

Enrolment is a formal, administrative link between a patient and family physician. It entails a family physician, primary care team, or other clinician formally acknowledging ongoing responsibility for a patient's care. Enrolment is operationalized in Canada via provincial health-care system policies and billing codes, and is also known as rostering or empanelment. Enrolment connects unaffiliated ("orphan") patients to physicians but can also formalize preexisting patient-physician relationships.

Continuity refers to care that is delivered through a trusting, caring patient-physician relationship with a developed sense of responsibility, cooperation, shared information, and coordination of care among clinicians. The decades-long literature on continuity of care captures a holistic, comprehensive concept and highlights three distinct but related components of continuity:

- *longitudinal or contact* continuity, which reflects repeated interactions with a minimum number of clinicians or clinicians on the same team
- *informational* continuity, which refers to the fact that patient information is collected, collated, and possibly shared between different clinicians
- *relational or interpersonal* continuity, which refers the trusting and caring dimensions of a patient-physician relationship.

In some studies, a fourth dimension of continuity is distinguished, namely:

- *coordination* among clinicians to manage a patient's health needs.[4]

Affiliation is having a usual source of care, revealed through repeated interactions between the patient and physician over time. It can be operationalized quantitatively from administrative data, often accessible to managers within the health system and usually made available for research purposes. Affiliation is conceptually aligned with having a family physician or regular source of care, which is different from enrolment and from the elements of continuity of care other than contact continuity. Our patient and clinician research team members emphasized the importance of distinguishing repeated contacts from the creation and reinforcement of a mutual sense of responsibility between the patient and physician.

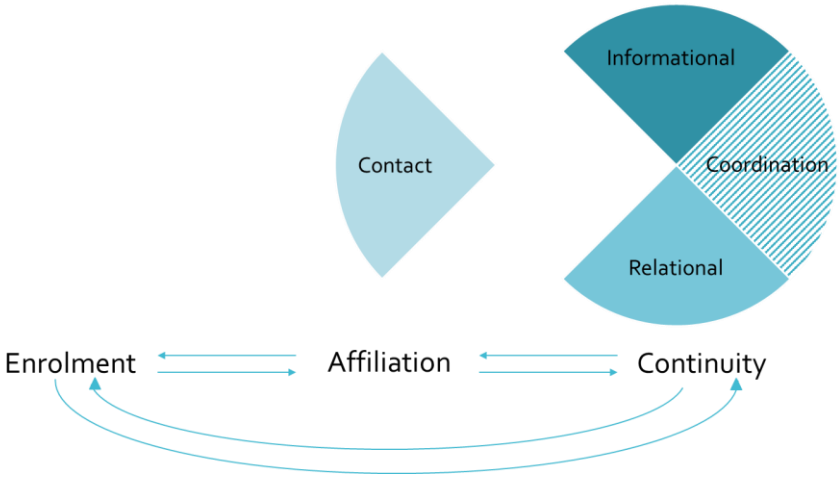
This language and conceptualization are consistent with other definitions and frameworks in the literature. In a report prepared by a research group for the Canadian Health Services Research Foundation, affiliation is used for "having a regular physician", distinguishing this from the strength of the patient-physician relationship. Similarly, work carried out as part of the IMPACT (*Innovative Models Promoting Access-to-Care Transformation*) research program made the distinction between "access to services" and "access to care", which parallels our distinction between affiliation and continuity. Others use a different word to capture similar ideas and use "attachment" to describe situations where patients successfully found a new physician

[4] For in-depth discussions of *continuity* measures used in research, see articles [4] to [11] in the reference list.

and were accepted into their practice, still with the expectation or hope of developing a relationship with that physician over time.[5]

The following figure illustrates our understanding of how the concepts of enrolment, affiliation and continuity are interrelated.

Figure 1: Representation of the conceptual framework and interactions between concepts



Affiliation is likely the outcome that could be affected by enrolment policies in the short term, and that would likely occur prior to the subsequent effects of those policies on other outcomes of interest such as the quality of the relationship, care coordination or information sharing.

The relationship between 'enrolment' and 'affiliation' is in fact quite complex. Enrolment and affiliation are likely related, but the causal relationships could easily go in both directions. On one hand, enrolment has the potential to create and improve affiliation. On the other hand, patients may be affiliated before or in the absence of any formal enrolment. Affiliation may even increase the likelihood that patients are enrolled in response to new policies. For example, in some cases, enrolment is only offered to patients who are already part of a physician's practice.[6]

Similarly, the concepts of 'affiliation' and 'continuity' are likely to be related, but again, the causal relationships could go either way. Patients who have a regular source of care are more likely to develop a trusting relationship with that physician, and patients who receive care from physicians they trust are more likely to exclusively seek care from those physicians.

The relationships between the three concepts are even more complex. Continuity of care—like affiliation—may impact a patient's likelihood of being enrolled. Whether enrolment impacts continuity of care remains an open question.

[5] See articles [11] to [13] in the reference list.
[6] See article [2] in the reference list.

Measurement challenges

A number of research studies over the last few decades have suggested robust findings of positive correlations between various measures of continuity and numerous outcomes suggesting that there is "something there" over time and across different health care systems. However, measures of continuity used in health services research rarely correspond to the different components of continuity defined here. Caution and nuance are therefore required.

For example, some continuity research uses measures of the *concentration of care (affiliation)*, usually from administrative data. In this case, the focus is on the proportion of primary care visits that are made to the enroling physician or to the physician the patient sees most often. This type of research is based on quantitative data and uses indices such as the UPC (usual provider continuity) index or the Bice-Boxerman index.[7]

Other work has sought to measure the degree of trust in the physician or the degree to which the patient values interpersonal relationships (relational continuity) in the care provided. In these cases, information is collected through patient questionnaires.[8]

A meta-analysis of studies examining the relationship between interpersonal continuity and patient satisfaction included numerous studies that use concentration of care measures of continuity which does not capture personal trust and responsibility. In another review of 12 studies on the same topic, five studies measured continuity using quantitative concentration-of-care measures and seven measured continuity using patient reports.[9] These studies demonstrate the confusion around the related concepts of affiliation or concentration of care and continuity of care.

Data gaps

In Quebec and many other jurisdictions, the data available do not allow us to evaluate many of the dimensions we are really trying to measure when we are interested in continuity of care. This is an important limitation of analyses based on administrative data. Administrative data such as RAMQ data provide quantitative measures of longitudinal continuity of care—for example, to assess the concentration, distribution or sequence of care—, but they do not reflect the quality of the patient-physician relationship or the aspects of continuity that relate to the coordination of care or sharing of information.

The evaluation of reforms and the monitoring of health system performance often relies on administrative data and thus essentially on measures of enrolment and affiliation. For example, in Quebec, there has been a recent interest in fidelity rates, or the proportion of visits made to the physician with whom the patient is enroled. While

[7] See articles [7], [8], [14] and [15] in the reference list for examples of gender studies.
[8] See articles [16] to [18] for examples of gender studies.
[9] For reviews of the literature on the subject with quantitative data, qualitative data, mixed methods and survey data, see articles [19] to [27] in the reference list.

useful, these indicators do not capture the desired objectives of the "Quintuple Aim" or even the objectives of the reforms.

Our patient-partners have pointed out that in a context where it can be very difficult to switch family physicians, patients may see the same physician for reasons that have nothing to do with trust or a productive relationship, but simply because the physician is available when and where the patient needs them. While administrative health data would reveal that they are “affiliated” to a usual source of care, in reality they do not have continuity of care in the holistic sense that we understand it.

Filling data gaps and investing in qualitative and quantitative surveys to understand other aspects of patient care is critical. Although health surveys routinely ask respondents whether they have a family physician or a regular source of care, more effort and resources need to be devoted to understanding how different people answer this question and why. Does a 'yes' answer reflect for them the notion of enrolment, affiliation or continuity? Is a "yes" or "no" response influenced by patient characteristics or by the organization of the health care system itself?

Major takeaways

We have tried to show here that careful attention to the definitions of the concepts of enrolment, affiliation and continuity in the conceptualization, collection and analysis of data leads to a better understanding of what is actually being measured. Our conceptual framework and the distinctions we make between the different concepts have enriched our reflections on the potential impacts of implementing measures such as primary care enrolment policies aimed at improving patient access to primary care.

It has also allowed us to identify some gaps in data availability and access, gaps that limit our ability to deepen our understanding of patient-physician relationships and continuity of care in the holistic sense that we understand it.

Having access to a regular source of care is almost universally seen as a good thing, partly because there is a tendency to confuse concepts and assume that repeated contact is evidence of a meaningful and strong relationship. We know very little about how affiliation is experienced by people with different preferences, health conditions, or urgency of health care needs.

Improving access to and quality of primary care requires assessing the impacts of patient enrolment policies with measures that actually capture the outcomes of interest such as affiliation and continuity of care. By being honest and clear about what we can actually measure and evaluate with the data we have, we create an opening for more creative approaches to health policy evaluation.

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