Inter-organizational collaboration in primary health care (PHC) organizations: potential and challenge in new PHC models

Roxane Borgès Da Silva[1,2], Raynald Pineault[1,3,4], Carl-Ardy Dubois[1,2], Alexandre Prud'homme [1], Michel Fournier[5], Jean-Frédéric Levesque[6,7]

[1]Institut de recherche en santé publique de l'Université de Montréal; [2]Faculté des sciences infirmières de l'Université de Montréal; [3]Institut national de santé publique du Québec; [4]Centre de Recherche du Centre hospitalier de l'Université de Montréal; [5]Direction de Santé Publique du Centre Intégré Universitaire de Santé et de Services Sociaux du Centre-Sud-de-l'Île-de-Montréal; [6]Bureau of Health Information of New South Wales; [7]Centre for Primary Health Care and Equity, University of New South Wales

Background

Healthcare reforms launched in the early 2000s in Québec involved the implementation of new forms of PHC organizations: Family Medicine Groups (FMGs) and Network Clinics (NCs).

FMGs are composed of at least 6 physicians who must register between 9 000 and 13 000 patients. FMGs focus on multidisciplinary teams (nurses, other health professionals) to ensure full systematic follow-up to their patients.

NCs offer walk-in consultations 12 hours a day and 7 days a week to their population. They also offer on-site laboratory and radiology services.

As a complement to implementation of new forms of PHC organizations, the reform aimed to foster networking among PHC organizations and with hospitals to improve patients' experience of care.

Objectives

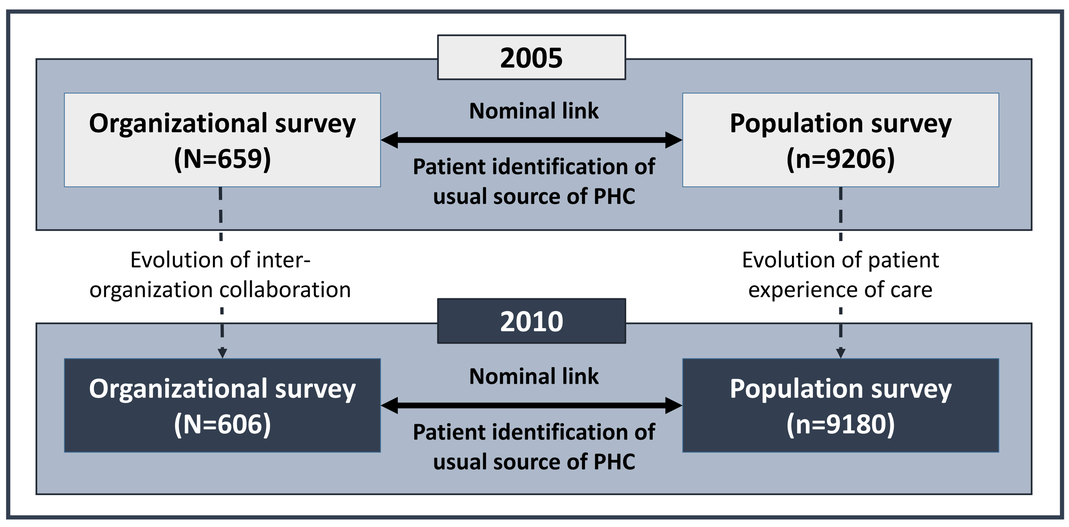
A. To describe the extent of inter-organizational collaboration among PHC organizations and with hospitals, and its evolution over time.

B. To identify which models of PHC organization are associated with more inter-organizational collaboration.

C. To determine the impact of inter-organizational collaboration on accessibility of services and continuity of care.

Methods

Study Design



Data analysis

Objectives A & B:

Dependent variables: PHC organizations that reported at least one collaboration with another PHC organization (horizontal) or/and with an hospital (vertical) for:

- Planning services (ex.: opening hours)
- Access to technical services such as radiology or laboratory
- Exchange of resources (ex.: loan of professionals)
- Follow-up patients

Independent variables: Type of PHC organization and period of time

Statistical analysis: Descriptive analysis (Chi-squared test)

Objective C:

Dependent variables: Patient accessibility and continuity scores (calculated on a 10 point-scale and then dichotomized: Q2,Q3,Q4 *vs* Q1)

Independent variables: PHC organizations that reported at least one horizontal collaboration and that reported at least one vertical collaboration

Control variables: Other organizational characteristics (ex.: number of physicians, prevailing mode of consultation, etc.) and patients individual characteristics

Statistical analysis: Multilevel logistic regressions

Results

Objective A

Table 1. PHC organizations (%) reporting at least one collaboration agreement with…

	2005 (N=659)	2010 (N=606)	p*	Contributing factors (nature of collaboration) Increase ↑	Decrease ↓
… another PHC organization (horizontal)	44,0	37,8	.025 ↓	Planning services	Access to technical services Follow-up patients
… an hospital (vertical)	50,4	44,6	.038 ↓	Exchange of resources	Follow-up patients

** Chi-squared test*

- In 2010, less than 50% of PHC organizations reported a collaboration agreement with another PHC organization and with an hospital;
- proportion of PHC organizations with a collaboration agreement decreased significantly between 2005 and 2010;
- collaboration agreements for access to technical services and for follow-up of patients significantly contributed to the overall decrease;
- collaboration agreements for planning services and exchange of resources moderately increased.

Objective B

Table 2. PHC organizations (%) reporting at least one collaboration agreement by type of PHC organization, 2010

	With another PHC organization %	p*		With an hospital %	p*	
FMG-NC (N=18)	61,1	.038	+	88,9	< .001	++
FMG only (N=89)	79,8	< .001	++	68,5	< .001	+
NC only (N=18)	55,6	.115		72,2	.017	+
CLSC - not FMG or NC (N=40)	47,5	.190		70,0	.001	+
Private group practice (N=237)	24,9	< .001	- -	37,6	.005	-
Private solo practice (N=204)	28,9	< .001	- -	30,9	< .001	- -

**Chi-squared test (each type was compared to all other type of PHC organization)*

- In 2010, new forms of PHC organization (FMG-NC, FMG, NC) reported significantly more collaboration agreements than traditional ones (private group and solo practice).

Objective C

Table 3. Impact of having at least one collaboration agreement on patient accessibility of services and continuity of care, 2010 (logistic regressions)

Patients of PHC organizations that had at least one collaboration agreement with…	Accessibility of services (Q1) OR	p	Continuity of care (Q1) OR	p
… another PHC organization (ref.: No)	**1.170**	.050	**1.056**	.570
… an hospital (ref.: No)	**1.204**	.031	**.938**	.518

- Patients of PHC organizations that had at least one collaboration agreement with another PHC organization and with an hospital reported better accessibility;
- Collaboration agreement was not significantly associated with better continuity.

Conclusion

Our results show that overall inter-organizational collaboration decreased from 2005 to 2010, but that new forms of PHC organizations seem to provide conditions for enhancing it. Inter-organizational collaboration influences positively accessibility but not continuity. The ongoing reform in PHC organization seems to have the potential for increasing accessibility, hopefully not at the expense of continuity.

For more information, please contact: roxane.borges.da.silva@umontreal.ca