Should I Stay or Should I go? Factors associated with family physicians' decision to quit new primary care team in Quebec

Mehdi Ammi, PhD[1,2]
Erin Strumpf, PhD[2,3,4]
Mamadou Diop, BSc[2,3]
Julie Fiset-Laniel, BSc[2,3]
Pierre Tousignant, MD MSc[2,3]

[1] School of Public Policy and Administration, Carleton University
[2] ESPSS, Direction de santé publique CIUSSS du Centre-Est-de-l'Île-de-Montréal
[3] Dept. of Epidemiology, Biostatistics and Occupational Health, McGill University
[4] Dept. of Economics, McGill University

Annual CAHSPR Conference
Montreal, May 27 2015

espss
Équipe santé des populations et services de santé

New Primary Care Teams in Canada

- Delivery of primary care is increasingly relying on new inter-professional primary care teams (PCTs)

- Current focus is on recruitment of health professionals, but retention is also key
  - To maintain collaboration across health professionals on the team
  - To allow the models to reach their full potential and attain their expected outcomes (e.g. improved access and quality)

- Here we focus on retention of general practitioners (GPs)

Limited Evidence for Retention in New PCTs

- Current evidence on the physician retention
  - Remote and rural area
  - In the labor force

- Notable exception (Savageau et al. 2011): retention of PCPs in Massachusetts community health centers (CHCs)
  - More likely to stay: female, more experienced and working in Boston-area
  - But stated intention to remain in CHC; CHCs are closer to traditional team-based models (CLSC); US evidence does not necessarily apply to Canada

Quebec's Family Medicine Groups (FMG)

- 6-12 full-time equivalent physicians, working in close collaboration with nurses and other health professionals
- Roughly 58% (4K) of QC's GPs work in FMG as of 2013
- FMG maintain the same remuneration scheme as outside FMG (fee-for-service), but FMG physicians:
  - Get additional yearly *forfait* (lump sum) for FMG patient registration
  - Get additional fixed payments for after-hours availability
  - Get additional public funding for computer equipment and salaries for nurses and administrative assistants

Objectives

- General goal: examine the factors associated with family physicians' decision to quit Quebec's primary care teams (FMGs)

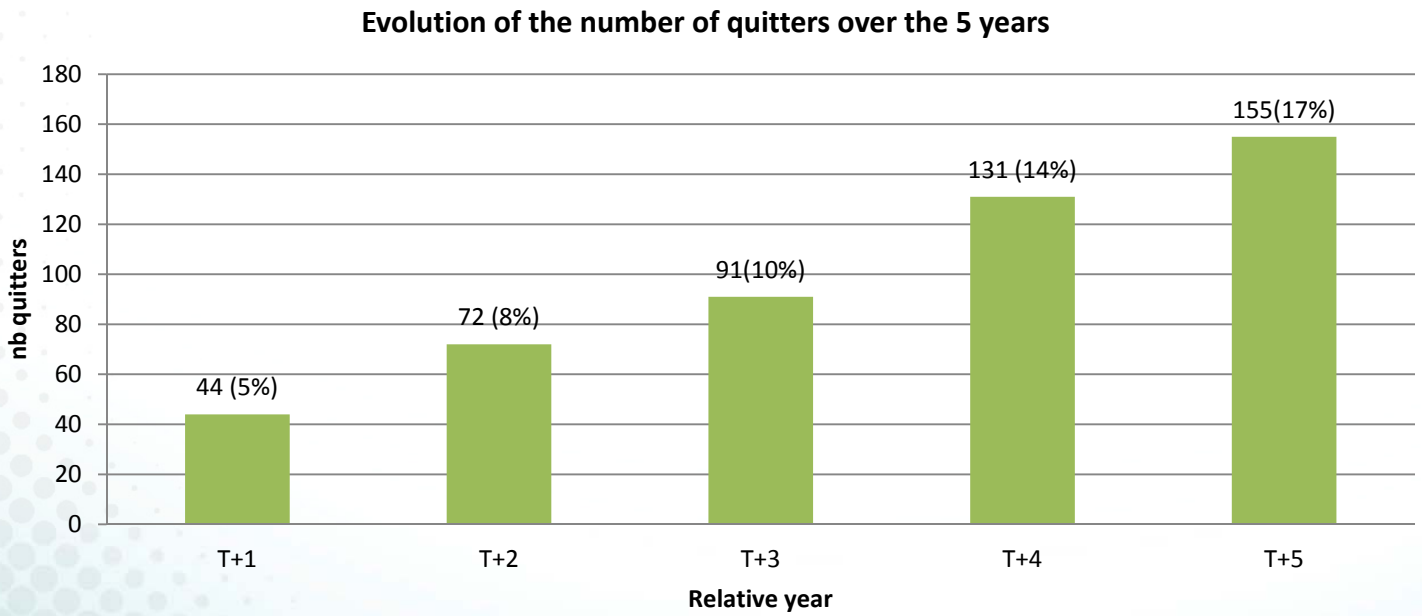
- Specific goals:
  - H1: compared to traditional model, different factors explain quitting
  - H2: more complex practice, more quitting
  - H3: more complex patient caseload, less quitting

Data

- Administrative data on 906 FMG physicians across the entire province of Quebec from 2000-2010
  - 5-year panel for each physicians after a “time-zero” = FMG participation
    - First wave of FMG physicians

- Information include demographics, activity in different practice locations, number of visits, number of patients, and demographic characteristics of their patient profile

Evolution of the Number of FMG Quitters



espss
Équipe santé des populations et services de santé

Carleton UNIVERSITY

	FMG Stayers	FMG Quitters
% Male	53.53	43.41
% QC university	96.76	92.73
Avg. Experience	19.10	14.25
Avg. Income strata	12.30 ($180k-$190K)	9.52 ($140k-$150k)
University region	28.54	41.77
Periph. region	44.00	35.65
Intermediate region	21.58	14.56
Remote region	5.87	8.02
# of patients	1782	1301
# of vulnerable patients	192 (11%)	56 (4%)
Avg. RUB	2.96	2.89
Avg. Deprivation	2.97	2.72
# of acts in ER	252.85	676.41
# of acts in private practice	3259.97	1249.27
# of diff practice location	2.99	3.12
N	751	155

Methods: Fixed Effects Logistic Regressions for Panel Data

- Fixed effects regressions to estimate the impact of time varying characteristics (e.g. # of vulnerable patients)

- Pooled models to estimate the effects of time-invariant characteristics (e.g. gender)

- Models include controls for years (factors varying in time not related to Xs), geographic region (factors varying across space not related to Xs) and geographic trends (factors varying across time and space and not related to Xs)

espss
Équipe santé des populations et services de santé

Carleton UNIVERSITY

H1: Difference w/ Traditional Models

	Pooled	FE	FE	FE	FE
Male	-0.32653	-	-	-	-
QC Univ.	-0.62571	-	-	-	-
Exp.	0.00495	0.77202***	-	-0.05677***	-0.05659***
Inc. Strata	-0.06522***	-0.09117**	-	-0.09879***	-0.09893***
N	4308	733	-	4293	4293
Year dum.	No	No	Yes	Yes	Yes
Geo dum.	No	No	No	Yes	Yes
Geo trends	No	No	No	No	Yes

- Compared to intermediate region, **higher likelihood to quit FMG in university and remote region** (n.s. in periph. region; results from cross-section with individual clusters only)

espss
Équipe santé des populations et services de santé

*FE with year dummies model did not converge

Carleton UNIVERSITY

H1: Difference w/ Traditional Models CONFIRMED

	Pooled	FE	FE	FE	FE
Male	-0.32653	-	-	-	-
QC Univ.	-0.62571	-	-	-	-
Exp.	0.00495	0.77202***	-	-0.05677***	-0.05659***
Inc. Strata	-0.06522***	-0.09117**	-	-0.09879***	-0.09893***
N	4308	733	-	4293	4293
Year dum.	No	No	Yes	Yes	Yes
Geo dum.	No	No	No	Yes	Yes
Geo trends	No	No	No	No	Yes

- No impact of gender. GPs in university region are more (not less) likely to quit
- But experience reduces quitting

espss
Équipe santé des populations et services de santé

Carleton UNIVERSITY

H2: Practice Complexity

	Pooled	FE	FE	FE	FE
Acts in ER	0.00022*	-0.00013	-0.00006	0.00026***	0.00026***
Acts in private prac.	-0.00042***	-0.00068***	-0.00066***	-0.00041***	-0.00041***
Acts in CLSC	-0.00074	-0.00111*	-0.00119*	-0.00077***	-0.00076***
# of different location	-0.22041**	-0.41537***	-0.19504	-0.11431*	-0.11759*
N	4461	777	777	4441	4441
Year dum.	No	No	Yes	Yes	Yes
Geo dum.	No	No	No	Yes	Yes
Geo trends	No	No	No	No	Yes

*All models control for acts in CHSCD, CHSLD, home care, hospital and other settings

espss
Équipe santé des populations et services de santé

Carleton UNIVERSITY

H2: Practice Complexity
REJECTED

	Pooled	FE	FE	FE	FE
Acts in ER	0.00022*	-0.00013	-0.00006	0.00026***	0.00026***
Acts in private prac.	-0.00042***	-0.00068***	-0.00066***	-0.00041***	-0.00041***
Acts in CLSC	-0.00074	-0.00111*	-0.00119*	-0.00077***	-0.00076***
# of different location	-0.22041**	-0.41537***	-0.19504	-0.11431*	-0.11759*
N	4461	777	777	4441	4441
Year dum.	No	No	Yes	Yes	Yes
Geo dum.	No	No	No	Yes	Yes
Geo trends	No	No	No	No	Yes

- More practice locations reduces (not increases) quitting
- But more acts in ER increases it

espss
Équipe santé des populations et services de santé

Carleton UNIVERSITY

H3: Patient Complexity

	Pooled	FE	FE	FE	FE
Vuln. patient	-	-0.01152***	-0.01426***	-0.01426***	-0.01427***
RUB	-	-0.02310	0.02977	0.02977	0.02606
Material deprivation	-	-0.58100***	-0.55265***	-0.55265***	-0.55259***
N	-	4432	4432	4432	4432
Year dum.	No	No	Yes	Yes	Yes
Geo dum.	No	No	No	Yes	Yes
Geo trends	No	No	No	No	Yes

*All models control for total number of patients, patients in perinatal settings and number of patients 75+. Pooled model did not converge.

espss
Équipe santé des populations et services de santé

Carleton UNIVERSITY

H3: Patient Complexity
CONFIRMED

	Pooled	FE	FE	FE	FE
Vuln. patient	-	-0.01152***	-0.01426***	-0.01426***	-0.01427***
RUB	-	-0.02310	0.02977	0.02977	0.02606
Material deprivation	-	-0.58100***	-0.55265***	-0.55265***	-0.55259***
N	-	4432	4432	4432	4432
Year dum.	No	No	Yes	Yes	Yes
Geo dum.	No	No	No	Yes	Yes
Geo trends	No	No	No	No	Yes

- Seeing more vulnerable and materially deprived patients reduces quitting
- But RUB has no effect

espss
Équipe santé des populations et services de santé

Carleton UNIVERSITY

Limitations

- Administrative data: no information on the work satisfaction and personal motivations that can explain quitting
  - But observe real quitting, not intent to quit
- Globally understand the pattern of selection: why do GPs join FMG in first place?
  - Possible to do with our data
- Lack of information on where the GPs go after leaving FMG

Conclusion

- Factors associated with the decision to quit new PCT (FMG) are different of those in traditional models

- Dealing with more complex patient reduces quitting; higher number of practice location does too

- Policy and research attention is currently focused on the recruitment in and the expansion of PCTs
  - A better understanding of the factors associated with the quitting decision will help policy-makers to develop strategies to improve retention in these new structures

espss
Équipe santé des populations et services de santé

Carleton UNIVERSITY

Acknowledgement

- Members of l'Équipe santé des populations et services de santé de la Direction de santé publique du Centre intégré universitaire de santé et de services sociaux du Centre-Est-de-l'île-de-Montréal

espss
Équipe santé des populations et services de santé

Carleton UNIVERSITY

Full Model Results

- Exp: reduce quitting

- ER: increase quitting
- # of practice location: reduce quitting

- Vulnerable patient: reduce quitting
- Material deprivation: reduce quitting

- So globally support the conclusion for all hypothesis