Effects of Quebec’s Primary Health Care Reform on Access to Health Care

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Background

Primary health care
PHC is the backbone of the health care system, the point of entry for the majority of patients, and the largest source of regular care delivery. Primary health care can be distinguished from other forms of care through four main attributes: accessibility, longitudinality, comprehensiveness and coordination.

Primary health care reform in Quebec
Quebec’s groups de médecine de famille (GMF) reflect a team-based model of primary health care characterized by groups of physicians collaborating with nurses and other health professionals to provide patient care. The policy was introduced in late 2002 and participation by physicians and patients in GMFs is entirely voluntary.

The GMF program goals included:
- Improving access to primary health care, including outside of usual clinic hours
- Improving coordination and comprehensiveness of care, notably the appropriate use of preventive services

Access to health care
I first examine potential access to primary health care – that is, the ability to access needed care in a timely fashion. I use three measures to investigate and quantify the different facets of potential access.

I second, I examine realized access by measuring services actually used. I examine the reported receipt of certain preventive services in accordance with Canadian guidelines.

Objectives

- Evaluate the causal effect of the GMF policy reform on potential access to primary health care in Quebec.
- Determine if GMFs have improved potential access to primary health care outside of usual office hours.
- Assess the impact of the GMF policy reform on the utilization of recommended preventive health services in line with Canadian guidelines.
- Investigate reported barriers to access to identify possible avenues for further health policy intervention to improve access to primary health care.

Methods

Data
Canadian Community Health Survey

Administrative GMF data
Administrative data on the number of GMFs, total GPs, number of GPs by health region, and year reference periods, respectively.

Geographic category data
Eight geographic categories of health care availability based on residents’ census subdivision (CSD) and travel times to primary, secondary and tertiary forms of health care.

Final datasets
CCHS and GMF data were merged using region and year; geographic category data was merged to CCHS data using year and CSD. CCHS years and GMF years were matched so that GMF participation exposure was recorded before the CCHS access measures. The final sample was restricted to Quebec residents, 15 and over, and not living in the health regions of Nunavik, Terres-Criees-de-la-Baie-James, and Nord-du-Quebec. The main CCHS sample consisted of 113,816 subjects.

Variables

Dependent
Potential access
- Do you have a regular medical doctor?
- During the past 12 months, was there ever a time when you felt that you needed health care but you didn’t receive it?
- In the past 12 months, did you ever experience any difficulties getting the health information or advice you needed for yourself or a family member?
- Similar question for routine/on-going care and immediate care for minor health problems

Realized access
- Did you receive a seasonal flu shot in the last year?
- Similar concept for pneumonia and PAP test but with 2 and 3 year reference periods, respectively.

GMF participation
- Share of primary care physicians practicing in GMFs by health region and year
- Share of population enrolled in GMFs by health region and year

Covariates
- Presence of a regular medical doctor
- Age, sex, marital status, household education
- Enabling, immigration status and length of stay, household income, language spoken, sense of community belonging, geographic location category
- Need: number of physician-diagnosed chronic health conditions, self-reported health status

For the purposes of my analysis, I modify the DD design to use a continuous measure of GMF participation by year and health region to capture the effect of exposure to the GMF model. I add individual-level covariates to the model to test the underlying assumptions, to control for any differences in time-varying observable confounders, and to reduce the variance of the estimates.

Results

Conclusions
The significant impact of GMF participation on having a regular medical doctor is removed by the addition of region fixed effects. Controlling for time trends in the outcome across all regions, fixed differences between regions and observable time-varying confounders, increased GMF participation does not cause impact potential access to primary health care. Access to PHC services outside of usual office hours are also unaffected by increases in GMF participation, as is the utilization of preventive services.

The impact of GMF participation on access barriers is non-significant. However, geographic availability and time barriers show positive and significant effects for year fixed effects for several health care services, indicating possible avenues for future policy efforts into improving access to primary health care.

Difference-in-differences (DD)
I use a DD model to estimate the causal effect of the GMF policy on access. Essentially, I compare the change in access in more exposed regions before and after the policy, relative to the change in less exposed regions over the same period. This model assumes that pre-period trends in access are similar across more and less exposed regions and that, in the absence of the policy, trends in access would continue to be similar in both groups. The DD model includes year and region fixed effects to control for time trends in the outcome that are shared across regions and time-invariant differences between regions, so that the effect of GMF participation is measured using within-region changes over time.

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