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Characteristics of physicians and patients who join team-based primary care practices: Evidence from Quebec's Family Medicine Groups

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ABSTRACT

Purpose: New models of delivering primary care are being implemented in various countries. In Quebec, Family Medicine Groups (FMGs) are a team-based approach to enhance access to, and coordination of, care. We examined whether physicians' and patients' characteristics predicted their participation in this new model of primary care.
Methods: Using provincial administrative data, we created a population cohort of Quebec's vulnerable patients. We collected data before the advent of FMGs on patients' demographic characteristics, chronic illnesses and health service use, and their physicians' demographics, and practice characteristics. Multivariate regression was used to identify key predictors of joining a FMG among both patients and physicians.
Results: Patients who eventually enrolled in a FMG were more likely to be female, reside outside of an urban region, have a lower SES status, have diabetes and congestive heart failure, visit the emergency department for ambulatory sensitive conditions and be hospitalized for any cause. They were also less likely to have hypertension, visit an ambulatory clinic and have a usual provider of care. Physicians who joined a FMG were less likely to be located in urban locations, had fewer years in medical practice, saw more patients in hospital, and had patients with lower morbidity.
Conclusions: Physicians' practice characteristics and patients' health status and health care service use were important predictors of joining a FMG. To avoid basing policy decisions on tenuous evidence, policymakers and researchers should account for differential selection into team-based primary health care models.

1. Introduction

Primary health care has been widely cited for its potential to improve population health, ensure access to care and control costs [1–4]. However, many Canadians do not have a primary care physician and even among those that do, timely access can be difficult [5,6]. In response, integrated primary care models have been implemented across

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Canada and internationally. These newer models include one or more of the following components: enhanced access through extended hours and/or telehealth; teams of health professionals; patient rostering; referral to specialists by primary care physicians; implementation of electronic medical records; and blended physician remuneration methods [1,2,7].

In 2002, Quebec established Family Medicine Groups (FMG) (groupes de médecine de famille), a group of physicians and other health care providers caring for enrolled patients. Nurses, whose salaries are paid by the ministère de la Santé et des Services sociaux (MSSS), are integrated within each group. The intention is that they participate in health promotion, disease prevention, and case management, and facilitate links with specialists and CLSCs (*Centre Local de Services Communautaires*)—community-based clinics that provide both health and social services. Other key features of FMGs include: voluntary participation by both physicians and patients, fee-for-service payment with additional funding for operational costs and a small bonus per patient registered, and a contractual agreement between the physicians and the MSSS, including coverage for after-hours care [8,9]. The financial incentives for physicians to participate in FMGs, including both enrollment fees and other payments, are small compared to the incentives in other jurisdictions (e.g. Ontario) whose reform models include larger per enrollee payments, performance-based payments, and blended remuneration models. Therefore while financial incentives may play some role, it is likely that physicians who join FMGs have some preference for working in a group, interdisciplinary, and/or team-based practice. As of March 2012, there were 239 groups across the province employing 3657 family physicians (55%) and covering 2895,639 patients (36%) [10]. There are many similarities between Quebec's FMGs, Ontario's Family Health Teams [7,11], and the U.S.'s Patient-Centered Medical Homes [12,13].

In parallel to the creation of FMGs, the MSSS implemented, in January 2003 [14], a 7$ premium per examination for each patient registered as vulnerable. This initiative was meant to encourage care management of patients with chronic conditions. In order to receive the bonus, physicians first identify a patient with one or more of the eligible conditions[1]. The physician and the patient then cosign RAMQ's form entitled *Registration with a Family Doctor*. The contract consists of the physician's agreement to take responsibility for the patient and ensure follow-up of any health problems. In exchange, the patient agrees to identify the physician as his single family doctor and is informed that the physician will receive extra remuneration to do so.

While enthusiasm regarding the potential benefits of integrated primary care remains high [16], relatively little research exists that can help us understand its impacts. Specifically, though participation in these models is voluntary, we know little about the types of patients and physicians more likely to join, nor whether any differences would be large enough to bias simple comparisons of participants and non-participants.

Other studies have examined the relationship between newer primary care models and health services utilization. Ontario's capitation model (Primary Care Network) performed the best on screening, treatment, and control rates for hypertension [17] and their patients had fewer emergency department visits [18]. The rates of health promotion and chronic disease management were higher in Community Health Centres than in other models [19–21]. Patients who joined Family Health Networks or Family Health Groups showed some improvements in preventative screening and diabetes management that could be related to the incentive payments offered to physicians [22] and Alberta's Primary Care Networks had similar diabetes-related outcomes [23]. Quebec's Family Medicine Groups delivered more preventive care compared to traditional fee-for-service models [24]. A pre-post analysis of one U.S. medical home model showed an 18% reduction in inpatient admissions and a 36% reduction in readmissions [25]. Kantarevic et al. [26] found that physicians in a Family Health Group (Ontario's enhanced fee-for-service group model) were more productive then physicians in a traditional practice.

A large body of literature has demonstrated significant selection in older primary care models, namely U.S. health maintenance organizations [27–29]. With the exception of Kantarevic et al. [26], none of the studies described above address the potential for differential selection of patients and physicians. In order to properly evaluate these team-based models, careful attention needs to be given to the type of physicians and patients that are joining them. Understanding who is participating in new models will shed light on potential selection bias, and suggest potential policy adjustments to attract non-participants. In this study, we aim to address these gaps.

2. Methods

2.1. Design

2.1.1. Population and cohorts

We conducted a retrospective, cohort study of all patients registered as "vulnerable" in Quebec between 2002 and 2005. These are essentially chronically ill and/or elderly patients: those who use the majority of health care services and may benefit more from primary health care interventions than healthier individuals. Because all physicians receive a small income bonus for registering vulnerable patients[2], we expect to capture nearly the entire population of patients who meet these

[1] In 2002 the RAMQ defined a vulnerable patient as a person who is either 70 years old or above, or has at least one of the following conditions: psychosis, chronic obstructive pulmonary disease (COPD), moderate to severe asthma, pneumonia, cardiovascular disease, cancer associated with past, present or future chemotherapy or radiotherapy treatments, cancer in a terminal phase, diabetes, alcohol or hard drug withdrawal, drug addiction treated with methadone, HIV/AIDS, a degenerative disease of the nervous system or a chronic inflammatory disease [15].

[2] Physicians receive $7 per examination of a vulnerable patient in a private practice setting [14].