Health Policy 120 (2016) 682–689

Contents lists available at ScienceDirect

Health Policy

journal homepage: www.elsevier.com/locate/healthpol

# Nurse practitioners, canaries in the mine of primary care reform

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ARTICLE INFO

*Article history:*
Received 7 July 2015
Received in revised form 14 March 2016
Accepted 29 March 2016

*Keywords:*
Nurse practitioner
Primary care
Quebec
Reform

ABSTRACT

A strong and effective primary care capacity has been demonstrated to be crucial for controlling costs, improving outcomes, and ultimately enhancing the performance and sustainability of healthcare systems. However, current challenges are such that the future of primary care is unlikely to be an extension of the current dominant model. Profound environmental challenges are accumulating and are likely to drive significant transformation in the field. In this article we build upon the concept of "disruptive innovations" to analyze data from two separate research projects conducted in Quebec (Canada). Results from both projects suggest that introducing nurse practitioners into primary care teams has the potential to disrupt the status quo. We propose three scenarios for the future of primary care and for nurse practitioners' potential contribution to reforming primary care delivery models. In conclusion, we suggest that, like the canary in the coal mine, nurse practitioners' place in primary care will be an indicator of the extent to which healthcare system reforms have actually occurred.


## 1. Introduction

A strong and effective primary care capacity has been demonstrated to be crucial for controlling costs, improving outcomes and ultimately enhancing the performance and sustainability of healthcare systems [1–4]. However, the primary care capacities of Canada's provincial healthcare systems are meager in comparison to those of other rich countries [5–13]. Moreover, the weakness of primary care in Canada is not a transient feature. Despite being identified as a priority in all provinces and despite significant investments, the promised results have not materialized [5,6]. This suggests that the causes are structural in nature and that the current situation is likely a product of deeply-rooted systemic characteristics [14,15].

As we argue, current challenges are such that the future of primary care is unlikely to be an extension of today's dominant model. Very significant environmental

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http://dx.doi.org/10.1016/j.healthpol.2016.03.015

challenges are accumulating and likely to drive significant transformation in the field.

In this article, we summarize and integrate the findings from two originally unrelated research projects to consider scenarios for the future of primary care delivery models and the potential role of nurse practitioners (NPs) in primary care reform. We use the term NP to describe nurses with graduate level university training and an extended scope of practice, including some prescribing rights, which allows them to diagnose autonomously and treat a variety of common conditions.

At the conceptual level, we use and extend the concept of "disruptive innovations" proposed by Christensen and colleagues [16–18] to discuss empirical data derived from two separate but surprisingly complementary research projects. The first was on primary care NP integration in Quebec. The second focused on core stakeholders' perceptions of the challenges facing Quebec's healthcare system and solutions to overcome them. The unexpected level of convergence in the results of those projects prompted us to reflect on NPs' role and position in the context of primary care reform. In the first section, we present and discuss the concept of "disruptive innovations" and its contribution to understanding primary care system reform. We then briefly describe the data and results of both projects and how their intersection supports a discussion of different scenarios for the future of primary care delivery.

## 2. Disruptive innovations and healthcare reform

Nearly two decades ago, Christensen [19] developed the concept of disruptive innovations that has since been further discussed and applied in several other publications [16–18]. The core idea is that from time to time a truly radical innovation will fundamentally reorganize a field by changing the very nature of products and the way they are embedded in a market. The process is somewhat similar to the concept of paradigm change in the evolution of science [20]. An interesting feature of the process as described in Christensen's works is that disruption is usually brought about by products or services that may be viewed, at least in the beginning, as not as good as the dominant ones. This is because, as dominant products evolve, they grow ever more sophisticated and expensive, until they exceed the needs of most consumers.

This idea was specifically applied to the field of healthcare by Christensen et al. [16], who argued that the autonomous evolution of the healthcare services market is poorly matched to the evolution of patients' needs. The sophistication, specialization and price of healthcare services are all steadily increasing, with little benefit to most patients. Care is mainly delivered in excessively expensive structures (general hospitals) by a highly skilled and ever more specialized workforce, but without much consideration for service convenience or for optimizing the efficiency of processes. Healthcare is also a particularly interesting context in which to apply the notion of disruption because of growing evidence that, in healthcare, less is often more [4,21–28]. In other words, the clinical benefits of many invasive, intensive and expensive treatments and of technology-intensive models of care are often modest at best. This implies that many patients would benefit from more primary care than specialized care, more home care than hospital care, and more low-tech interventions than heroic medicine. Likewise, whenever possible, substituting family doctors for specialist physicians, and nurses, pharmacists and other professionals for family doctors allows efficiency and clinical gains [29–37].

Regarding the optimization of care delivery, it should be noted that the disruption framework is a highly functionalist perspective focused on the technical aspects of care. Such a perspective disregards social factors at play in the definition of diseases, legitimate health interventions and professional boundaries. We believe redefining professional boundaries (who treats whom) will have an important impact on the definition of illness and care (how to treat what). Perspectives anchored in structuralist traditions [38–41] suggest that disrupting the status quo involves much more than replacing physicians by nurses for the same technical intervention. Moving toward interdisciplinary primary care teams has implications for professional boundaries, the nature of the professions involved and what is understood by primary care and health. Conceiving of the disruption of the care delivery status quo as a complex social phenomenon will be useful in understanding the challenges involved.

With respect to the necessary conditions for change, the disruptive innovations conceptual framework is anchored in economic theory and underlying rational behavior approaches. It stresses that neither technological innovations nor market forces on their own could explain disruptions. It is the combination of an innovation (technological enabler), a viable business model to develop this innovation, and a market for it (value network) that will imbue a given innovation with disruptive potential. Thus, disruptive potential does not depend so much on an innovation's intrinsic characteristics as on its compatibility with the larger context and market.

In Canada's healthcare market, most services are covered by provincial, universal and public insurance systems funded through general taxation (Beveridgean System). Services are free for patients at the point of care. In Quebec, where our studies were conducted, hospitals and other health institutions are generally funded though historically set budgets. Non-physician staff and professionals are almost entirely salaried from those budgets, whereas physicians are mostly paid through fee-for-service (FFS) from a separate envelope. There is thus no employment tie between hospitals and physicians practicing inside their walls, and even less direct control over primary care physicians outside hospitals. Over the past decade, a bundle of financial incentives has been rolled out for physicians to increase patient rostering and improve accessibility and continuity, but with limited effect. Given the nature of the healthcare services market in Canada and Quebec, three aspects of the framework as presented by Christensen et al. [16] warrant discussion. First, for the overwhelming majority of care provided, patients incur no co-payments and thus are not sensitive to the cost of services provided. Yet the overall costs of healthcare services are borne by all citizens and exert a powerful pressure on public finances. Moreover, even if patients are not sensitive to the cost of