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BC Office

How Can We Create a Cost-Effective System of Primary and Community Care Built Around Interdisciplinary Teams?

CCPA SUBMISSION TO THE SELECT STANDING COMMITTEE ON HEALTH

By Marcy Cohen, Research Associate, Canadian Centre for Policy Alternatives—BC Office

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The BC Office of the Canadian Centre for Policy Alternatives welcomes the opportunity to share our views and recommendations in response to the question posed by the Select Standing Committee on Health: *how can we create a cost-effective system of primary and community care built around interdisciplinary teams?* We very much agree with the panel that answering this question is critical to ensuring the long-term sustainability of a high quality, cost-effective public health system. Our analysis of the available evidence leads us to believe that a shift to more interdisciplinary team-based care will also address many of the access challenges in rural and remote communities across BC.

Established nearly twenty years ago, the BC Office of the Canadian Centre for Policy Alternatives investigates the key challenges facing our province and provides independent public policy research and analysis. We work with a team of over fifty staff and volunteer research associates to develop and put forward real, workable solutions, and share our findings as widely as possible to advance social, economic and environmental justice in our province.

Since 2004, the Canadian Centre for Policy Alternatives has published seven research studies looking at the restructuring of primary and community care services in British Columbia and at the benefits of moving to a more integrated interdisciplinary service delivery model.

Summary

- There is very strong and conclusive international evidence showing that countries with a strong primary care orientation have lower health care costs, less medication use, better health outcomes and reduced health inequities.
- Patient centred, team-based care is increasingly recognized as the optimal strategy for delivering on the four pillars of effective primary care: defined as care that is comprehensive, co-ordinated, continuous, and the first point of contact with the health system.

- Both the Conference Board of Canada and Canadian College of Family Physicians are strong advocates for team-based primary care, arguing that interdisciplinary teams should be the standard of practice and a centrepiece of health system transformation in Canada.
- Community Health Centres (CHCs) have been providing interdisciplinary team-based primary care in Canada since the early days of Medicare. In Ontario, where CHCs are widely used, they have proven more effective than other primary care models in delivering high quality, comprehensive primary care, avoiding unnecessary emergency room visits, and in providing access to primary care for people with significant mental health challenges. The Ontario CHCs are community-governed, serve high-needs, low-income populations in both urban and rural communities, and provide a much broader range of health promotion and community development activities than is common in more traditional medical practices.
- Many people in BC, and particularly those living in rural communities, have difficulty accessing a regular family physician; team-based care is increasingly recognized as an effective strategy for improving access to care.
- With the fee-for-service (FFS) funding model there are few financial incentives for sharing service provision and decision-making with other team members. Health professionals are increasingly recognizing that fee-for-service funding is the most significant barrier to implementing an interdisciplinary model for primary care delivery.
- In BC almost all of the provincial funding to support primary care reform has focused on providing fee-for-service family physicians with an increasing array of financial incentives to provide care to particular patient groups. Funding to integrate other health professionals into primary care practices and/or to facilitate team-based approaches in home and community care delivery has been significantly lower and always time limited.
- All of the academic articles that find health and cost benefits of BC's financial incentive program for fee-for-service physicians have been written by physicians or researchers affiliated with or contracted to the incentive program. Independent assessments of the program from BC's Auditor General and the Centre for Health Services and Policy Research are considerably more critical.
- There are few opportunities in BC for younger physicians to work in "full service" primary care settings supported by an interdisciplinary team, where they are able to work a reasonable number of hours and effectively manage their work and family commitments. As a result, the majority of younger physicians in BC are increasingly choosing to work in practices, like walk-in clinics, where they are able to limit their responsibilities and have control over their hours of work. Unfortunately, these so-called "low responsibility" practices are less effective at providing care that is comprehensive, coordinated and continuous.
- While BC physicians have resisted efforts to introduce team-based care and alternative payment mechanisms up to now, this will not necessarily be the case in

the future, particularly if these efforts prioritize younger physicians, underserved rural and urban communities, and home and community care.

- What BC needs is more leadership from the Ministry of Health and a policy commitment to increase access to different funding and delivery models, support the expansion of interdisciplinary team-based care, and build on what is already in place on a small scale here in BC and on a larger scale in other jurisdictions.

Recommendations

We recommend the following seven priorities for the Select Standing Committee on Health.

1. Advocate that team-based primary care become the standard model for primary care delivery in BC and the top priority for the Ministry of Health for the foreseeable future. This model would include a much wider range of activities and health providers than is typical in a traditional family physician's office and would help BC achieve the following six goals:
 - Increasing access, care co-ordination, comprehensiveness and continuity in primary care provision;
 - Improving the quality of care provided to people living with chronic conditions;
 - Increasing access to health care in rural communities;
 - Providing more opportunities for younger physicians to work reduced hours and still be part of a full-service practice;
 - Increasing the cost-effectiveness of the overall health care system;
 - Reducing health inequities.
2. Advocate that the Ministry of Health develop a policy framework to address the systemic barriers that limit the capacity of the health system to move in the direction of more team-based primary care. Such a policy framework would include:
 - A strategy for increasing the availability of alternatives to fee-for-service funding for physicians that are better aligned with team-based primary care and therefore more likely to facilitate its expansion;
 - A governance and leadership structure for team-based primary care practices focused on improving, monitoring, and evaluating the cost-effectiveness, timeliness, and quality of care;
 - A strategy for optimizing the use of communication technology in primary care that is linked to the acute and community care systems;
 - A provincial mandate that supports all team members to fully utilize their expertise and experience and includes education for all health professionals in the core competencies of inter-professional collaboration;
 - A process for reviewing the appropriateness of remuneration increases for physicians.

3. Further investigate the viability and effectiveness of different funding models for delivering team-based primary care and prepare a report for the Legislature reviewing the following Canadian and US examples:
 - The seven capitated family practices in Langley;
 - The salaried Community Health Centres in Ontario, the Family Care Clinics in Alberta and the Patient Centre Medical Homes in the US (e.g. Group Health in Seattle and Kaiser Permanente in California);
 - The mixed funding models of team-based care in BC including the Community Health Centres, the combined fee-for-service and salaried model in Northern BC, and other examples of team-based primary or community care in the six Health Authorities.

4. Advocate that the Ministry of Health address the following policy issues specific to the situation in BC including the need for:
 - A new governance structure for primary care reform that provides an opportunity, not only for family physicians, but for a much wider range of health professionals, health care staff and community stakeholders to take leadership in developing a primary reform agenda that supports interdisciplinary team-based care and is responsive to community needs;
 - Research to identify the specific policies needed to support younger physicians to work in full service team-based primary care practices;
 - A review of the different approaches to performance measurement for primary care that have been successfully implemented in other jurisdictions, with the goal of developing specific policies for improving, monitoring, and evaluating the cost-effectiveness, timeliness, and quality of care.

5. Share what the Select Standing Committee on Health learns about how to introduce team-based primary and community care with a broad stakeholder group of representatives from the Health Authorities, health providers, community groups and patients, and work with these stakeholder groups to develop recommendations on specific funding and delivery options that would facilitate the long-term shift to more patient-centred, prevention-oriented and comprehensive team-based models of care with a priority emphasis on:
 - Addressing the needs of underserved rural and urban communities;
 - Addressing the need for more team-based primary care in home health, assisted living, residential care, adult day care and community mental health services;
 - Optimizing the deployment of younger physicians in new team-based funding and delivery models.

Definitions

Primary Care is the entry point to the health care system where the majority of health problems are identified and treated and where other health services can be mobilized and co-ordinated. In Canada it most often means a visit to the office of a family physician but can also include consultation with a nurse practitioner, advice from a pharmacist, telephone calls to a nurse information line, etc.

Team-Based Primary Care is primary care that includes a wider range of prevention, health promotion and chronic care management activities than is typical in the traditional office of a family physician. Staffing on primary care teams vary depending on the needs of the patient population and may include registered nurses, nurse practitioners, licenced practical nurses, community developers, mental health outreach workers, medical office assistants, physiotherapists, clinical social workers, psychologists, behavior therapists,¹ pharmacists, etc. The goal of interdisciplinary team-based care is to improve access, quality and the cost-effectiveness by ensuring that everyone on the team is working collaboratively and each team member is able to fully utilize their expertise and experience.

Community Care refers to the health and personal services that some people require to remain in their homes or to live in a community facility such as Assisted Living and Residential Care. It includes home support, nursing and physiotherapy, adult day care services, assisted living, residential care, community mental health services, etc. As more people with higher needs are being supported to live at home or in community facilities, the need for interdisciplinary team-based care is increasingly seen as essential to improving care quality and avoiding unnecessary hospital visits.

I. Introduction

Since 2004, the Canadian Centre for Policy Alternatives has published seven research studies looking at the restructuring of primary and community care services in British Columbia and at the benefits of moving to a more integrated interdisciplinary service delivery model. Now, more than at any time in the past, leading national policy and professional associations (e.g. of physicians, nurses, etc.) also acknowledge the importance of increased access to team-based primary and community care:

- In 2012 the Conference Board of Canada organized a Summit on **Sustainable Health and Health Care** with opinion leaders and experts from across the country.² Five priorities for reform emerged from the Summit. The first was “*a strong consensus that interdisciplinary family care teams should be the standard model of primary care and that those teams should be expanded and strengthened in all provinces and territories,*” and they should include a clear focus on the care needs of “*seniors and other vulnerable populations.*”³ Interestingly, the other four priorities identified at the Summit—new physician compensation models, more standardized access information technology, a greater focus on preventative care and more accountability—are also critical for the effective delivery of team-based primary care.

- In 2011 the Wait Time Alliance—an organization made up of 14 national specialist medical groups and the Canadian Medical Association—concluded that the most **cost-effective strategy** for improving timely access to hospital emergency and elective surgical care is not to provide more funding for surgeries per se, but instead to increase access to community health services for patients classified as Alternative Level of Care (ALC).⁴ ALC patients are those who no longer need hospital services but continue to occupy a hospital bed because the community health services they require are not available. Most often ALC patients are the frail elderly. In its annual reports the Wait Time Alliance argues that increased access to home care, residential services and interdisciplinary team-based care is critical to reducing the pressure in hospital emergency and surgical services.

As an interesting side note on this last point, between 2006 and 2011 BC saw a 35.5 per cent increase in the portion of hospital days that were ALC, growing problems of hospital overcrowding and long waits in emergency.⁵ By 2013 only 34 per cent of BC physicians were satisfied with their access to hospital beds—the lowest level of satisfaction among physicians in any province in the country.⁶

This Submission reviews the literature on team-based care in order to provide more clarity as to why it is increasingly seen as critical to reducing pressure on hospitals services and as the centrepiece of health care reform in Canada, and yet continues to be so difficult to implement. To set the context for this discussion, however, it is important to look briefly at the history of primary care reform in Canada and at the different ways that primary care reform has been defined.

II. A Brief History of Primary Care Reform in Canada

Beginning in the mid-1990s evidence of the critical importance of primary care began to emerge in the seminal research of Barbara Starfield. She compared health systems across the industrialized world and was able to demonstrate conclusively that countries with a strong primary care orientation had lower costs, less medication use, better health outcomes⁷ and reduced health inequities.⁸ Starfield identified four key pillars of effective primary care: care that is comprehensive, co-ordinated, on-going (i.e. longitudinal), and provides patients with the first point of contact to the health system.

Largely on the basis of the international evidence, two major commissions on health reform in Canada, the National Forum on Health (1997) and the Romanow Commission on the Future of Health Care in Canada (2002), introduced recommendations to strengthen and reform Canada's primary care delivery system. For ten years (1997 to 2006) the federal government targeted funding to the provinces for primary care reform initiatives designed to enhance the four features of effective primary care identified in Starfield's research. In the first round of funding, the focus was on innovative and integrated delivery models, inclusive of both primary and community care and physicians and non-physician providers.⁹ Many of the projects funded experimented with alternatives to fee-for-service payment systems that better support interdisciplinary care. Over time these goals were modified, in some provinces at least, in response to lobbying efforts by provincial physicians' organizations anxious to reinforce the centrality of the family physicians' role and to retain fee-for-service funding.¹⁰

In other words, the priorities for primary care reform have varied over time in Canada depending on the relative power and influence of physicians' organizations and the leadership provided by federal and provincial governments, community organizations and/or other provider groups (e.g. nurses). Some reform initiatives have included a broad team of health professionals and para-professionals. More often than not, however, funding has been targeted primarily for family physicians.¹¹ In this context, it is important to note that there has been a community-driven interdisciplinary model of primary care, Community Health Centres (CHCs) in place in some communities since the early days of Medicare. More recently, a growing body of evidence from Ontario shows that Community Health Centres have been more effective than other primary care models in delivering high quality care particularly for high-needs, low-income populations in both urban and rural communities.¹²

Increased support for interdisciplinary primary care is also called for in the 2009 discussion paper from the College of Family Physicians of Canada (CFPC) where they argue that "medical homes" should become the standard model for delivering primary care in Canada.¹³ Medical homes are physician-led, patient centered and team-based. The idea originates in the United States where a number of not-for-profit health care organizations introduced the Patient Centered Medical Homes (PCMH) model as a way of more efficiently and broadly entrenching Starfield's four pillars of effective primary care.¹⁴ A growing body of evidence on PCMH practices in the US shows that the shift from the traditional family practice model to a PCMH improved health outcomes and, in some cases, reduced total per-capita costs.¹⁵

The next two sections summarize the evidence of the benefits and barriers of moving to a team-based model of delivering primary and community care and include references to the literature on both Community Health Centres and Patient Centred Medical Homes.

III. Why Team-Based Primary and Community Care? And Why Now?

1) Improved Quality of Care

Today in Canada the majority of health services and expenditures are for people living with chronic conditions. It is estimated that two thirds of medical admissions via emergency rooms are due to the exacerbation of a chronic disease, and 80 per cent of primary care physician visits are related to chronic conditions.¹⁶ Not surprisingly, more effective management of chronic conditions in the community—to avoid unnecessary emergency room visits and hospital admissions—has become a key goal of primary care reform in Canada. The research tells us that way best way to improve the quality of care for people living with chronic conditions is to ensure that care is co-ordinated, comprehensive, continuous and timely (same day access).¹⁷ Slow progress in achieving this goal has been attributed to the limited implementation of interdisciplinary teams in primary care.¹⁸ The research summarized below looks at recent evidence showing how team-based care improves care quality, particularly for people living with chronic conditions:

- An international meta-analysis assessed the effectiveness of strategies to improve care co-ordination by looking at 36 randomized control trials comparing

primary care practices that provided co-ordinated care and those that did not.¹⁹ They found a 20 per cent reduction in hospital admissions among patients with chronic medical conditions and a 31 per cent reduction in emergency room visits for patients over 65 within practices providing co-ordinated care. The four interventions identified as effective were: 1) case management by an individual other than the primary care clinician; 2) expanded and improved utilization of interdisciplinary team members; 3) promotion of patient self-management and 4) patient education.

- In Quebec researchers examined 37 primary care practices in three regions of the province and developed a composite quality score to measure the organizational characteristics associated with high quality primary care.²⁰ The key characteristics identified were: physician remuneration model (i.e. mostly salary or hourly pay as opposed to mostly fee-for-service); sharing of administrative resources (group as opposed to solo practice); the presence of allied health professionals and/or a medical specialist; and mechanisms for maintaining and evaluating provider competence and ease of access to care.
- In Ontario considerable research is now available comparing the salaried interdisciplinary Community Health Centres (CHCs) to other Ontario-based primary care funding models (i.e. fee-for-service, capitation, blended payment). CHCs have proved more effective in managing chronic conditions,²¹ reducing emergency visits,²² ensuring a strong community orientation²³ and providing better access to people with serious mental health issues.²⁴ The evidence showing that Community Health Centres do better in managing chronic conditions points to the greater inter-professional collaboration and longer consultations as key driving factors.²⁵ The stronger community orientation reflects the broader outreach and engagement of communities and the greater attention paid to assessing health needs and monitoring and evaluating the effectiveness of their programs and services.²⁶ The Community Health Centres in Ontario serve higher needs patients in both urban and rural communities and have the following key features: community governance, salaried physicians, interdisciplinary teams, and a much broader range of health promotion and community development activities than is common in traditional medical practices.

Taken together this research shows that moving towards more team-based care is one of the key] changes needed to improve the quality of primary care delivery.

2) More Cost-Effective

The most systematic tracking of the efficiently gains associated with interdisciplinary team-based primary care is found in the evaluation literature on Patient Centred Medical Home (PCMH) interventions from the U.S. The goal of these evaluations is to calculate the return on investing in health care teams. The researchers calculate the cost of increasing the non-physician complement in primary care practices and then redesigning the care so that everyone is working collaboratively and each member of the team is fully utilizing their expertise and experience. The return on investment is measured by the reduction and/or increase in overall total per capita health costs.

Reports from 26 evaluation reports conducted between 2010 and 2012 point to lower total per capita health care costs in the majority of cases, achieved primarily through reduced utilization of hospital and emergency services.²⁷ A systemic review of 19 academic studies found moderate improvements in preventative care, reduced emergency room visits but inconclusive evidence of overall cost savings.²⁸ While more research is needed to determine why some PCMH initiatives appear to succeed in reducing costs while others do not, evidence from two recent peer reviewed articles suggests that the longer and more fully a PCMH model is implemented the more evidence accumulates of improved quality and reduced total per capita health care costs.²⁹

In Canada there has been limited research examining the cost-effectiveness of team-based primary care due, in large measure, to the limited implementation of standardized, system-wide information systems in health care. To address this shortfall in information, the Conference Board of Canada decided to estimate the annual health and cost benefits with better management of two chronic conditions: adult Type 2 diabetes and depression.³⁰ They chose to focus on these two conditions because of the high quantity and quality of empirical evidence showing significant clinical benefits when patients with these conditions have access to interdisciplinary team-based care.³¹ They found that if all patients in Canada with these two chronic conditions had access to team-based primary care in 2011, there would be a 15 per cent reduction in complications from Type 2 diabetes and an 8 per cent increase in productivity in the population with depression. This would amount to a combined savings of \$262 million dollars in direct health care costs and \$2.7 billion dollars in productivity gains.³²

While there is clearly some evidence of improved cost savings with team-based care, the research methodologies described above are somewhat limited in that they do not take into account the longer term benefits of team-based care as it relates to: 1) potential savings from reductions in health inequities and 2) potential savings from reductions in the demand for new hospital services. Given these limitations, it is helpful to return to the very strong and well-established international evidence from Barbara Starfield showing that health systems with a stronger primary care orientation have lower costs, higher quality outcomes and reduced health inequities. This research should be considered alongside more recent evidence demonstrating that patient-centred, team-based care is the most effective strategy for implementing Starfield's four pillars of primary care. In combination this research provides a strong rationale for making primary care transformation the centrepiece of health reform in Canada.

3) Increased Access

It is very common to hear people talk about the difficulty they are experiencing in finding a family physician and easy to conclude that there must be a physician shortage. Yet, according to a 2012 report from the Canadian Institute for Health Information (CIHI), there are more doctors per capita in Canada today than at any time in the past.³³ In every province in the country, there has been a major expansion of medical schools since the early 2000s. Over the five years from 2007 to 2011, the number of physicians in Canada increased three times faster than the country's population.³⁴

Why then all this talk about a physician shortage? A review of the literature on changes in physician supply and preferences reveals a number of intersecting explanations for why

patients have difficulty finding a family doctor despite the increasing number of physicians per capita. These include: the long-term trend for physicians to work fewer hours,³⁵ the increase in the portion of female physicians in the workforce,³⁶ the under-representation of physicians in rural communities, and the growth in walk-in clinics.³⁷

The evidence of a long-term reduction in the hours worked by family physicians reflects an increased priority placed on family and work-life balance among younger physicians, and is particularly pronounced among female physicians. In response to the 2007 National Physician Survey, 60 per cent of medical students and 52 per cent of residents stated that achieving a balance between their family and professional lives was the most important factor in establishing a fulfilling career in medicine.³⁸

Very recent and significant research conducted by the Centre for Health Services and Policy Research (CHSPR) at UBC indicates that many younger physicians are achieving this balance by choosing to opt out of establishing their own fee-for-service practice and work in practices such as walk-in clinics, where they have fewer responsibilities and more control over their hours of work (as they are not running their own business and do not have to provide on-call care).³⁹ The CHSPR researchers used five indicators to differentiate between “high responsibility” physicians, who work in “full service” practices, providing ongoing, comprehensive and coordinated care, and “low responsibility” physicians who do not. They found that only 24 per cent of primary care physicians in BC work in “high responsibility” practices and they tend to be older on average. Remarkably, only 8 per cent of younger physicians work in the “high responsibility” practices, while 55 per cent work in the “low responsibility” group (with the remainder somewhere in the middle, a “mixed responsibility” group).

The growth of walk-in clinics and other types of “low responsibility” practices goes against what the research tells us is needed to maximize both quality of care and its cost-effectiveness.⁴⁰ Yet it is clearly the preferred delivery model for many young physicians and is seen as more convenient by many patients because of the longer hours of operation (including weekends) and because there is no need to book an appointment ahead of time.⁴¹ In addition, because so many people today do not have a family physician, walk-in clinics are one of the few options available to them when they need to access medical care. In 2013, approximately 60 per cent of the 4.6 million Canadian patients without a regular family physician went to a walk-in clinic for their medical care (another 13 per cent went to emergency).⁴²

Increasing access to team-based primary care can address these dual challenges; that is, the need for easier access to high quality “full-service” primary care for a greater portion of the population and at the same time the need of family physicians for better work-life balance. Recent research findings demonstrate that the capacity of a primary care practice to increase access and provide all the recommended preventative, chronic and acute care interventions is greatly enhanced when that practice includes non-physician providers (e.g. nurses, mental health and substance abuse counsellors, case managers, pharmacists etc.) with the appropriate skills and expertise.⁴³ There is also a growing body of evidence showing that a well-functioning primary care team can reduce work stress and physician burnout by allowing the physicians to access the support and expertise of other providers, and control their hours of work while knowing that their patients’ needs are being met.⁴⁴

Community Health Centres (CHCs) have been very successful at increasing access to primary care in rural Ontario.⁴⁵ When the number of CHCs in Ontario was doubled in 2007/08, half of the new centres were established in rural locations and many were satellite units of larger CHCs. This greatly increased access to health services in very small communities.⁴⁶ As Adrianna Tetley, the executive director of Ontario CHC's Association pointed out in recent interview, the team-based model of CHCs facilitates rural recruitment and retention because health professionals are more willing to work in a rural area if they are part of team. As she put it, "no one today wants to have total responsibility for a population 24/7."⁴⁷

These well-documented benefits of interdisciplinary, team-based primary care lead us to our first recommendation.

Recommendation One: That the Select Standing Committee on Health advocate that team-based primary care become the standard model for primary care delivery in BC and the top priority for the Ministry of Health for the foreseeable future. This model would include a much wider range of activities and health providers than is typical in a traditional family physician's office and would help BC achieve the following six goals:

- **Increasing access, care co-ordination, comprehensiveness and continuity in primary care provision**
- **Improving the quality of care provided to people living with chronic conditions**
- **Increasing access to health care in rural communities**
- **Providing more opportunities for younger physicians to work reduced hours and still be part of a full-service practice.**
- **Increasing the cost effectiveness of the overall health care system**
- **Reducing health inequities**

IV. Barriers to Implementing Team-Based Primary Care and How to Overcome Them

In the Conference Board of Canada's recent research report, *Getting the Most out of Health Care Teams: Recommendations for Action*, the authors note that there has been an increased interest in interdisciplinary teams over the last decade, facilitated by changes in provincial health care funding and incentive structures, and new educational programs for new provider groups (e.g. nurse practitioners).⁴⁸ At the same time, they are very clear that "much more could be done."⁴⁹ Researchers working with the Canadian Foundation for Healthcare Improvement came to similar conclusions, arguing that Canada lags behind many other high-income countries in access to coordinated, patient-centred, team-based primary care.⁵⁰

In a survey of non-physician health professionals working in primary care (e.g. nurses, psychologists, midwives, etc.), the Conference Board of Canada identified "funding models and financial incentives as the most significant barrier to interdisciplinary, collaborative primary care practice."⁵¹ In commenting on this finding, the Conference Board researchers noted that when primary care funding flows through one provider—most commonly in the form of fee-for-service remuneration for family physicians—there are "few financial

incentives for sharing service provision and decision-making with other team members.”⁵² They also noted that teams are less effective when the payment mechanism for the physician (most often fee-for-service) differs from the payment mechanism for the other members of interdisciplinary team (most often salaried health professionals such as nurses, pharmacists, etc.)⁵³

Ontario, the province that has taken the lead in developing alternative forms of payment for primary care provision, recently established a working group and commissioned a study to examine how to structure compensation in their team-based primary care practices more consistently and fairly.⁵⁴

Alberta, like Ontario, has been a leader in primary care reform in Canada. In 2005 the Alberta government introduced Patient Care Networks (PCNs) as a way of supporting physicians to move away from sole practices and to facilitate more of a “medical home” model, where care is comprehensive, prevention-oriented and team-based.⁵⁵ The core funding for the Primary Care Networks, however, continued to be primarily fee-for-service payments to physicians and as a result the shift to team-based care was quite limited. By 2012 there were 2500 physicians in 400 Primary Care Networks but only 600 other health professionals working in them.⁵⁶

In an attempt to improve access to primary care in high-needs, underserved communities in urban and rural Alberta, the provincial Ministry of Health introduced a new team-based model for primary care provision, Family Care Centres. In many ways, these are very similar to the Community Health Centres in Ontario. All the staff, including the physicians, are paid on an hourly basis; the teams often include a very broad range of non-physician health care providers (e.g. nurse practitioners, registered and licensed practical nurses, mental health professionals, social workers, etc.); the local community is included in the development and governance of the centre; the centres are not-for-profit; and the focus is on the broader determinants of health as well as the more traditional forms of medical care.⁵⁷

A recent report prepared by the Alberta Medical Association for the provincial Ministry of Health acknowledges that the “FFS [fee-for-service] model does not incent or align well with comprehensive team-based care.”⁵⁸ And yet as Tracy Imai, the Director of the Family Care Centres Unit for Alberta Health, notes many older physicians who are close to retirement are resistant to moving away from fee-for-service funding.⁵⁹ Her advice for BC is to target younger physicians who are keen on alternatives to fee-for-service funding and are more open to working collaboratively with non-physician health professionals.⁶⁰

In addition to finding that the fee-for-service funding model is a barrier to implementing team-based care, the Conference Board has identified a number of additional practice- and system-level barriers related training, governance and accountability. Their March 2014 report recommends a number of strategies for addressing these barriers including: establishing strong and stable governance and leadership within primary care practices focused on improving, monitoring, and evaluating the cost-effectiveness, timeliness, and quality of care; optimal use of communication technology; supporting all team members to fully utilize their expertise and experience; and mandating system-wide education for all health professionals in the core competencies of inter-professional collaboration.⁶¹

There are other larger financial barriers standing in the way of team-based primary care models related to the pressures on provincial health budgets to decrease the rate of growth in health spending that come after reductions in federal transfer payments and years of slow economic growth.⁶² While there is a growing body of evidence that team-based care, once established, can improve both quality and cost-effectiveness, there is an initial up-front investment required if non-physician health professionals are to be integrated into more traditional family practices. In recent years, very significant increases in physician remuneration combined with the reduction in the rate of increase in overall health spending appear to be making the transition towards team-based care more challenging.

Dramatic Increases in Physician Remuneration in Recent Years

Between 1998 and 2011, physician remuneration in Canada increased on average by approximately 7 per cent a year, well above the inflation rate and much faster than the average weekly earnings increases in all health and social service occupations.⁶³ It is important to note that over the same time period physicians' workload (their average hours of work) declined. In BC, between 2001/02 and 2011/12 payments to physicians increased by 64 per cent (from \$2.2 billion to \$3.6 billion) even though total days worked declined by 7 per cent.⁶⁴ While growth in physician remuneration in 2014 is projected to be more modest (4.5 per cent), the increases are still higher than for any other category of health spending.⁶⁵

Increased access to primary care is facilitated by a shift to team-based care delivery and yet increases in remuneration for physicians may be reducing the capacity of provincial governments to make these changes. As a recent article in the Canadian Medical Association Journal noted, quoting Stephen Birch, a professor at the Centre for Health Economics and Policy Analysis at McMaster University, if this continues "the trend could 'threaten the sustainability of a publicly funded system,' as government and patients become dissatisfied with the balance of access for dollars spent."⁶⁶

Recommendation Two: That the Select Standing Committee on Health advocate that the Ministry of Health develop a policy framework for addressing the systemic barriers that limit the capacity of the health system to move in the direction of more team-based primary care. Such a policy framework would include:

- **A strategy for increasing the availability of alternatives to fee-for-service funding for physicians that are better aligned with team-based primary care and therefore more likely to facilitate its expansion.**
- **A governance and leadership structure for team-based primary care practices focused on improving, monitoring, and evaluating the cost effectiveness, timeliness, and quality of care;**
- **A strategy for optimizing the use of communication technology in primary care that is linked to the acute and community care systems;**

- A provincial mandate that supports all team members to fully utilize their expertise and experience and includes education for all health professionals in the core competencies of inter-professional collaboration;
- A process for reviewing the appropriateness of remuneration increases for physicians

V. Funding Models that Support Team Based Primary Care Delivery

Given the general consensus that fee-for-service payment mechanisms are not well aligned with interdisciplinary care, it is important to consider alternative funding models. While no model is perfect, two approaches—capitated funding and salary—hold considerable promise if implemented with appropriate safeguards in place. A number of countries, including Canada, have also experimented with pay-for-performance incentives and funding models, but this approach has not lived up to its promise (see below).

Definitions: Primary Care Funding Models

Fee-For-Service (FFS) is the most common payment model for physicians in Canada. With a fee-for-service funding model services are unbundled and each service provided by a physician (such as an office visit, test, medical procedure, etc.) is paid for separately based on a set schedule of fees. The fee-for-service funding model creates a financial incentive for physicians to provide more treatments because payment is dependent on the quantity of care, rather than the quality of care.

Capitation is often referred to as population-based funding model because the primary care practice receives a set amount each month to provide for all of the primary care needs of the patient population enrolled with the practice. The size of the monthly reimbursement for each patient enrolled varies depending on the age, gender and health needs (i.e. the level of complexity) of the patient. Unlike fee-for-service, where physicians are reimbursed for each patient visit, with capitation the reimbursement is based on the number of patients served and the needs of the patient population.

Capitated (or population-based) funding models pay the primary care practice, rather than the individual physician, a set amount of money for each patient served by the practice on a monthly basis. This gives the practice the freedom to decide how to allocate funding among different teams members based on the health needs of their patient population. For capitated funding to work effectively, two conditions (or safeguards) need to be put in place. The first is a reliable measure of the complexity of the health needs in the population served to ensure that primary care practices are reimbursed at a higher rate for patients with complex health needs—otherwise the funding model would incentivize “cherry picking” of patients with less complex needs.⁶⁷ The second safeguard required is a system for ensuring that primary care practices are not unfairly penalized if one of their patients routinely seeks care from multiple primary care providers (in many jurisdictions per capita payments are reduced when patients access multiple providers).

In Langley BC, a very promising capitated funding model has been in place for more than 10 years. It includes seven family practices, 20 physicians and 35,000 patients and is funded by the Ministry of Health.⁶⁸ The care in these family practices is provided by interdisciplinary teams that include registered nurses, nurse practitioners and medical office assistants, all of whom are supported to fully utilize their experience and expertise. The capitated funding formula in Langley includes a well-recognized measure for complexity of patient needs, and both the physicians and patients report high levels of satisfaction with the model. In fact, 85 to 90 per cent of patients in these capitated practices get the majority of their care from their primary provider, compared to 45 to 55 per cent of patients in many fee-for-service doctors' offices.⁶⁹

The Langley capitated practices also report that their hospital admission rates have been significantly reduced.⁷⁰ Unfortunately, the Ministry of Health has not commissioned any independent research on the potential cost and health benefits of expanding the Langley model. Given that the administrative infrastructure is already in place within the Ministry of Health for funding capitated practices, expanding this delivery option would be relatively easy. One of the obstacles to implementation may well be the long-standing reluctance of the BC Medical Association, which recently changed its name to Doctors of BC, to champion this model (see also page 16).

Another promising alternative to the fee-for-service funding model is paying primary care physicians a salary. In the Ontario Community Health Centres, the Alberta Family Care Clinics and in many non-profit health organizations in the US, physicians, like other staff, are salaries employees. Kaiser Permanente (KP), the largest not-for-profit health organization in the US is a leading example of an organization that pays its physicians a salary and is widely recognized as providing high quality, cost-effective primary care.⁷¹ Concerns are often raised about the efficacy of paying physicians a salary since salaries provide no direct financial incentive to increase volume and/or improve quality of care.⁷² Kaiser Permanente has successfully dealt with this concern by putting a very strong emphasis on measuring performance, reporting everything transparently, and using this information to “continually and relentlessly” provide feedback to clinicians.⁷³ In addition, Kaiser Permanente has made significant investments in leadership training to ensure that all clinicians are equipped with the skills and capacity to implement the changes identified through the performance measures.

In the 1990s, Kaiser Permanente experimented with a compensation scheme that rewarded physicians for meeting performance targets, and penalized them if they did not (pay-for-performance). What emerged was “a negative, destructive environment focused too heavily on pay.”⁷⁴ The lesson Kaiser Permanente took from this experience was that performance could not be managed effectively with financial incentives. Kaiser Permanente has, however, maintained some limited bonuses as a very small share of overall pay. These bonuses are not paid to individuals but awarded instead to an entire team based on their overall performance (i.e. as measured in a patient satisfaction survey) and are shared among team members.⁷⁵

The UK also invested massively in pay-for-performance incentives for family physicians beginning in 2004, and their experience has been extensively studied. The evidence reveals that the improvements in the volume and quality of care, which this funding model was designed to incentivize, have been very modest at best, while the costs have been extremely

high.⁷⁶ In 2014/15, the share of family physicians' pay coming from PFP incentives was significantly reduced and there are on-going discussions about making incentives more team based.

The implications for shifting to a more team-based model of primary care in BC are very clear: financial incentives, if used at all, should be a small portion of total compensation and should be focused on the positive performance of the entire interdisciplinary primary care team, rather than on physicians alone.

Recommendation Three: That the Select Standing Committee on Health further investigate the viability and effectiveness of different funding models for delivering team-based primary care and prepare a report for the Legislature reviewing the following Canadian and US examples:

- The seven capitated family practices in Langley;
- The salaried Community Health Centres in Ontario, the Family Care Clinics in Alberta and the Patient Centre Medical Homes in the US (e.g. Group Health in Seattle⁷⁷ and Kaiser Permanente in California);
- The mixed funding models of team-based care in BC including the Community Health Centres, the combined fee-for-service and salaried model in Northern BC,⁷⁸ and other examples of team-based primary or community care in the six Health Authorities.

VI. The BC Story of Primary Reform and Community Care Restructuring

1) A Brief History of the Fee-for-Service Incentive Program

When the federal government initially provided funding for provincial primary and community care reform initiatives in 1997, BC established a number of innovative projects including home-based care for the frail elderly and people living with psychosis. The greatest portion of the funding went to seven primary care practices, funded through a capitated formula, that provided 24/7 access to medical care and a broad range of prevention and health promotion services.⁷⁹ The BC Medical Association, however, did not support the shift from fee-for-service to capitated funding and was very vocal in its opposition to these primary care initiatives.⁸⁰

With the second round of federal primary care transition funding from 2000 to 2006, the BC government abandoned its focus on alternatives to fee-for-service funding models, and decided instead to distribute most of the available funding through the Health Authorities.⁸¹ Many Health Authorities' projects included non-physician health care providers who worked alongside fee-for-service physicians to better support people with chronic conditions. Beginning in 2003, financial incentives were provided directly to fee-for-service physicians to encourage them to provide more comprehensive care for two chronic conditions: diabetes and congestive heart failure.

In 2006, when the federal transition funding came to an end, the province did not step in to provide ongoing funding and as a result many of the Health Authorities' projects with

non-physician providers were discontinued. What the provincial government did agree to fund on an ongoing basis, and in fact expanded greatly, were the fee-for-service incentives to physicians. In 2007, the provincial government, through negotiations with the BC Medical Association, allocated \$454 million over four years to “the full-service practice incentive program.” This program provided additional funding to physicians to offer more ongoing, comprehensive and preventative care to patients with chronic and/or complex conditions.⁸² Oversight for this program was provided through the General Practice Service Committee, a joint Ministry of Health and BC Medical Association committee. Since then, additional funding and more incentives have been added, including in the most recent five-year contract between the Ministry of Health and the Doctors of BC (the new name of the BC Medical Association) negotiated in the fall of 2014.

By 2011/12 more than \$1 billion had been invested in primary care reform in BC, and family physicians who participated in the incentive program received on average an increase in their annual incomes of \$27,000 a year.⁸³

2) Evidence of the Health and Cost Benefits of Fee-For-Service Incentives

While there is a very broad consensus on the importance of supporting physicians to provide “full-service” care and for the BC Practice Support Program that trains physicians and medical office assistants (MOA) on how to make the needed changes in how they deliver care to patients with chronic conditions,⁸⁴ there is much less clarity as to the cost and health benefits of the fee-for-service incentives. As noted earlier in the Submission, there is considerable evidence from other jurisdictions to show that financial incentives are not effective in improving physicians’ performance (see page 15). The only academic articles reporting positively on the cost and health benefits of BC’s financial incentives for physicians are written by physicians involved in running the program for the General Practice Service Committee or by researchers hired by the Committee to evaluate the program.⁸⁵ Independent assessments of the impact of the fee-for-service incentive program have been far more critical.

Very recently published research from the Centre for Health Services and Policy Research (CHSPR) at UBC looks specifically at whether the fee-for-service incentives have achieved the stated goal of the program; that is to increase the number of full-service family physicians in BC. The researchers matched the ten dimensions of full-service practice (including access outside of office hours, services for people with chronic conditions, etc.) from the General Practice Service Committee with Barbara Starfield’s the four pillars of effective primary care (access, continuity, comprehensiveness and coordination).⁸⁶ They found that from 1991 to 2010, access, coordination and continuity had declined significantly and there was little change on most of the dimensions of comprehensiveness of care. Since many of the fee-for-service incentives were not introduced until 2007/08, it is unfortunate that this study does not include more recent data. The long-term and very significant decline in access, continuity and coordination suggests that something more fundamental is at work here. This is reinforced in a second and related research paper from the Centre for Health Services and Policy Research at UBC referenced earlier in this Submission (see page 10). In that study, researchers found only 24 per cent of all physicians and only 8 per cent of younger physicians worked in “high responsibility” (i.e. full-service) practices. All of which points to the fact that it is becoming increasingly difficult for

physicians who are not working in an interdisciplinary team to provide ongoing, comprehensive and coordinated care.

Another independent perspective on the effectiveness of physician services is provided by a 2014 performance audit by the BC Auditor General.⁸⁷ The Auditor General found that even though nine per cent of the provincial budget goes to physician services, the government does not know if these services “are high quality or offering good value for money spent” and thus has a limited “ability to make informed decisions.”⁸⁸

These limitations stem from the fact that the Ministry of Health has not defined and is not tracking either the quality or cost-effectiveness of physician services. Concretely, in terms of the fee-for-service incentives, it means that although the vast majority of family physicians are billing for a variety of incentive payments, there is no independent tracking to ensure that these incentives are: 1) making a difference in terms of the health outcomes for patients and 2) the most cost effective strategy for ensuring that care is co-ordinated, comprehensive and continuous. As the Auditor General noted:

In the current fee-for-service model, physicians can only charge for services that they perform themselves. This restricts physicians from working in interdisciplinary teams, which have been shown to improve patient satisfaction, access and equity.⁸⁹

Further to this point, a study of 137 randomly selected primary care practices in Ontario shows that high quality chronic care management is associated with the presence of a nurse practitioner and lower patient to family physician ratios.⁹⁰ Yet the fee-for-service funding model is incompatible with the utilization of nurse practitioners and lower patient ratios.⁹¹

In addition, a recent BC survey found that 71 per cent of newly practicing family physicians would prefer a non-fee-for-service practice model and 86 per cent “identified the payment model as very or somewhat important in their choice of future practice.”⁹² In the open ended comments three themes emerged: frustration with fee-for-service billing, with the focus on quantity and not quality of care, and with the lack of choice in primary care practice options. While this was a very small survey, it points to the need for further research to understand how different funding and team-based delivery options could facilitate younger physicians to work in “high responsibility”, full-service primary care.

3) BC Investments in Team-Based Community Care Services

The introduction of interdisciplinary teams would also be beneficial in BC’s home and community care services, that is residential care, home support, home nursing, adult day care centres and other services accessed primarily by seniors and people with disabilities. Since the late 1990s there has been a growing demand for these services as patients are discharged from hospital earlier, support for institutional care has declined, and the portion of the population aged 75 and over has increased.

Because the growth of home and community services has not kept pace with demand, the limited services that are available are increasingly focused on higher needs clients.⁹³ To effectively serve a higher needs client population, greater access to coordinated team-based social support and medical care is required.⁹⁴ Yet the current reality on the ground suggests the opposite is happening—care is becoming less, not more team-based. Inadequate staffing levels in home support mean that the services provided are very limited and narrowly

defined, and collaboration with case managers, home care nurses and family physicians is more difficult to achieve.⁹⁵ Similarly, in residential care residents are much frailer with more complex needs, and yet short-staffing makes team-based care less feasible.⁹⁶

Given the importance of these services for an aging population and the benefits of caring for people at home or in the community rather than in the hospital, it is important for BC to increase access to interdisciplinary teams not only in family physicians' offices but also in home care/home support, adult day care, assisted living and residential care. Yet, provincial funding to support team-based approaches in community care has been very modest and always time limited.

Over two years from 2008 to 2010, \$24 million (half from the province and half from the Health Authorities) was allocated to 25 Integrated Health Networks designed to provide better integration of primary care with home and community care for people with significant health challenges.⁹⁷ When the provincial funding ended, many of these projects were either discontinued or significantly scaled back. In 2012, the province announced it would allocate up to \$50 million annually for three years to the "Home is Best" program.⁹⁸ This program is designed to support high needs clients, who would otherwise be in residential or acute care, to remain in their own homes for as long as possible. There are a variety of projects funded under this program, including many team-based services led by non-physician health professionals. Provincial funding for this program will end on March 31, 2015. It is uncertain how many of the projects will be picked up by the Health Authorities, particularly given that funding increases for health care have shrunk in recent years.⁹⁹

Recommendation Four: That the Select Standing Committee on Health advocate that the Ministry of Health address the following policy issues specific to the situation in BC including the need for:

- **A new governance structure for primary care reform that provides an opportunity, not only for family physicians, but for a much wider range of health professionals, health care staff and community stakeholders to take leadership in developing a primary reform agenda that supports interdisciplinary team-based care and is responsive to community needs;**
- **Research to identify the specific policies needed to support younger physicians to work in full service team-based primary care practices;**
- **A review of the different approaches to performance measurement for primary care that have been successful implemented in other jurisdictions with the goal of developing specific policies for improving, monitoring, and evaluating the cost-effectiveness, timeliness, and quality of care.**

Recommendation Five: That the Select Standing Committee on Health share what it learns about how to introduce team-based primary and community care with a broad stakeholder group of representatives from the Health Authorities, health providers, community groups and patients, and work with these stakeholder groups to develop recommendations on specific funding and delivery options that would facilitate the long-term shift to more patient-centred, prevention-oriented and comprehensive team-based models of care with a priority emphasis on:

- **Addressing the needs of underserved rural and urban communities;**

- **Addressing the need for more team-based primary care in home health, assisted living, residential care, adult day care and community mental health services;**
- **Optimizing the deployment of younger physicians in these new team-based funding and delivery models.**

VII. Conclusion

There can be little doubt of the growing support for team-based delivery strategies and the mounting evidence that team-based care has many advantages over more traditional forms of family medicine. There is also an emerging consensus among many stakeholders that fee-for-service funding is the biggest barrier to the implementation of team-based delivery strategies, and a growing sense that a generational shift is under way with younger physicians much more open to funding alternatives that allow for better family work-life balance.

BC's Ministry of Health appears to be continuing to promote the more traditional model of primary care, having just signed a five-year agreement with the Doctors of BC, which extends and further entrenches the reliance on fee-for-service incentives for physicians as the key strategy for making improvements in primary care. At the same time, at the September 2014 Union of BC Municipalities conference, the Minister of Health Terry Lake acknowledged that "it is going to be a challenge to reach the ambitious goal of providing all British Columbians with their own general practitioner by 2015."¹⁰⁰ He went on to say:

not everybody is going to have a GP for everything...that sort of model is historic and teams of health professionals now is the model. The sentiment is still there to make sure everyone in BC is connected to primary care but it may not be a stand-alone GP.¹⁰¹

The constraints of the five year agreement with the Doctors of BC represent a significant challenge to moving BC's health system in the direction of a more team-based model of primary and community care. The recommendations in this Submission represent a multi-pronged strategy for addressing this challenge and other barriers standing in the way of successfully implementing interdisciplinary team-based primary and community care.

The Canadian Centre for Policy Alternatives appreciates the opportunity to share our research and recommendations with the Select Standing Committee on Health on how we can create a cost-effective system of primary and community care built around interdisciplinary teams.

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- ¹ The embedded behaviourist is a new approach to counselling services. It is core role in Patient Centred Medical Homes (PCMHs) in the US and is being added into primary care here in Canada See for example: <http://www.cwcpcn.com/ihaveaphysician/cct/behavioural-health-consultant.cfm>. VCH has a small pilot project as well.
- ² Daniel Muzyka et al., July, 2012.
- ³ *Ibid.*, page 11.
- ⁴ Wait Time Alliance, June, 2011, pages 1 and 12.
- ⁵ Marcy Cohen, July, 2012, page 15-18
- ⁶ National Physicians Survey 2013a
- ⁷ Barbara Starfield, Oct, 1994, p. 1132; Barbara Starfield (1998)
- ⁸ Barbara Starfield, 2005, pp. 457-592.
- ⁹ Marcy Cohen et al., April 2009a pages 12-16
- ¹⁰ *Ibid.*
- ¹¹ Juanita Barrett et al., Dec 2007.
- ¹² Richard H. Glazier et al, March 2012.
- ¹³ College of Family Physicians of Canada, 2009.
- ¹⁴ *Ibid.* page 5. Thomas Bodenheimer et. al., March/April 2014, page 167
- ¹⁵ Marci Nielsen et al., January 2014; January 2014; Kevin Grumbach et al, November 2010.
- ¹⁶ M. W. Morgan et al., 2007.
- ¹⁷ *Ibid.*
- ¹⁸ Juanita Barrett et al., Dec 2007, page ii
- ¹⁹ Andrea C. Tricco et al., Sept. 2014.
- ²⁰ Marie-Dominique Beaulieu et al., 2013.
- ²¹ G.M. Russell et al, July/August 2009, pages 309-18.
- ²² Richard H. Glazier et al, March 2012
- ²³ Laura Muldoon et al. July 2010, pages 676-83..
- ²⁴ Institute for Clinical Evaluative Services, 2012, Comparison of Primary Care Models in Ontario. This information is from a power point slides prepared by Adrianna Tetley from the Ontario Association of Community Health Centres showing that the portion of CHCs patients with a serious mental illness is more than twice that of other primary care models in Ontario.
- ²⁵ G.M. Russell et al, July/August 2009, page 309.
- ²⁶ Laura Muldoon et al., July 2010, page 676.
- ²⁷ Marci Nielsen et al. January 2014; Kevin Grumbach et al, November 2010.
- ²⁸ George L. Jackson, et al., pages 169-178.
- ²⁹ Marci Nielson et al, page 19; M.L. Paustian et al., 2014, pages 52-74
- ³⁰ D.D. Maeng et al., 2012, pages 149-55.
- ³¹ Conference Board of Canada, June 2013, page 3.
- ³² *Ibid.*
- ³³ *Ibid.* page 14.
- ³⁴ Canadian Institute for Health Information, November 15, 2011.
- ³⁵ *Ibid.*
- ³⁶ Lynda Buske, April 13, 2004; Diane Watson, et. al., 2006, pages 1620-8. Family physicians under 45 worked fewer hours in direct patient 2003 than physicians in the same age group 10 and 20 years earlier.
- ³⁷ National Physician Survey, 2013b. By 2013 more than 43 per cent of family physicians were women who work on average 5.5 hours a week less than their male counterpart.
- ³⁸ David Andreatta, Sep. 26 2013, In 2012 18 per cent of Canadians, or about 6 million people, lived in rural communities, while only 8.5 per cent of the country's 75,142 doctors served these communities.
- ³⁹ The Ottawa Citizen, April 28, 2008. Information extracted from the National Physician Survey 2007, <http://www.canada.com/story.html?id=a953a06a-18fa-4f48-833c-cb6fa92dbd39>,
- ⁴⁰ Kimberlyn McGrail et al, 2015, (in press).
- ⁴¹ *Ibid.*
- ⁴² Judith B. Brown et al., 2002, pages 202-2006.

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- ⁴² Statistics Canada, June 12, 2014.
- ⁴³ The College of Family Physicians, Sept. 2012; Justin Altschuler, 2012, Pages 396-400; Mitesh S. Patel et al., June 2013, pages 509-515.
- ⁴⁴ Christine Sinsky et al., May/June 2013 pages 272-273 Susan Okie (November 2008). pages 2305-2309.
- ⁴⁵ Interview with Adrianna Tetley, Executive Director of the Ontario Association of Community Health Centres Nov. 20, 2014.
- ⁴⁶ Ibid. The CHC hub and satellite structure helps to control overhead costs and the sharing of expertise related to quality improvement, outreach programming and specialty staff.
- ⁴⁷ Ibid.
- ⁴⁸ Thy Dinh, et al., March 2014, Page ii and 2.
- ⁴⁹ Ibid.
- ⁵⁰ Monica Aggawal and Brian Hutchison, December 2012, page 1.
- ⁵¹ Thy Dinh, et al., March 2014, page 17
- ⁵² Ibid.
- ⁵³ Ibid. page 18.
- ⁵⁴ Ibid. page 18. Interview with Adrianna Tetley, Nov. 20, 2014.
- ⁵⁵ Bill Tholl and Kelly Grimes, Oct 2012, page iii
- ⁵⁶ Ibid., page iii.
- ⁵⁷ Alberta Health, June 2013.
- ⁵⁸ Alberta Medical Association, Dec 2013, page 35.
- ⁵⁹ Telephone interview Tracy Imai, Director of the FCC Unit, Alberta Health, Sept. 8th, 2014
- ⁶⁰ Ibid.
- ⁶¹ Thy Dinh, et al., March 2014, pages 13-36.
- ⁶² Canadian Institute for Health Information, October 2013.
- ⁶³ Lauren Vogel, November 5, 2013, page 1386; Greg Marchildon and Livio DiMatteo (2011), page vi. From 1998-2008 the annual rate of growth physician spending was 6.8 per cent. In 2008-9 the increase was 9/6%; in 2009-10 it was 7.9 and 2010-11 it was 6 per cent.
- ⁶⁴ Office of the Auditor General, February 2014, page 14.
- ⁶⁵ Canadian Institute for Health Information, October 2013.
- ⁶⁶ Lauren Vogel, November 2013, page 1386
- ⁶⁷ Conference Board of Canada, April 2014.
- ⁶⁸ Alister F. Frayne, June 2012, pages 250-51.
- ⁶⁹ Ibid.
- ⁷⁰ Ibid.
- ⁷¹ Conference Board of Canada, April 2014, page 10
- ⁷² Ibid. page 6.
- ⁷³ Ibid. page 10.
- ⁷⁴ Ibid.
- ⁷⁵ Ibid.
- ⁷⁶ Ibid. page 7-10; Brian Serumaga, et. al., January 2011.
- ⁷⁷ Robert Reid et al, May 2010.
- ⁷⁸ Marcy Cohen et al, January 2012, pages 37-38.
- ⁷⁹ Marcy Cohen et al, April 2009a, page 12.
- ⁸⁰ British Columbia Medical Association, Sept. 2002.
- ⁸¹ Ibid. page 13-14.
- ⁸² Ibid. page 13 and 15.
- ⁸³ Ruth Lavergne et al., 2014 pages 34 and 44.
- ⁸⁴ Marcy Cohen et al, April 2009a, page 15
- ⁸⁵ G. Mazowita and W.J. Cavers, 2011; Marcus Hollander Sept. 2009.
- ⁸⁶ Ruth Lavergne et al., 2014, page 33.
- ⁸⁷ Office of the Auditor General, February 2014.
- ⁸⁸ Ibid. page 5.

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- ⁸⁹ *Ibid.* page 28.
- ⁹⁰ G.M. Russell et al, page 309.
- ⁹¹ Nurse Practitioners are independent health professionals and cannot be reimbursed through the fee-for-service system. Fee-for-service rewards volume not the quality of care making it more difficult for physicians to have longer appointments with their patients who have multiple or complex chronic or acute health issues.
- ⁹² Vanessa Brcic et al., May 2012.
- ⁹³ Marcy Cohen et al, April 2009a, pages 8-9
- ⁹⁴ *Ibid.* page 17.
- ⁹⁵ Marcy Cohen et al, 2006. Joanne Franko (forthcoming)
- ⁹⁶ Marcy Cohen et al., April 2009b
- ⁹⁷ Marcy Cohen et al. April 2009a, page 12-16.
- ⁹⁸ Ministry of Health, March 2013.
- ⁹⁹ Canadian Institute for Health Information, October 2013. BC has the second lowest per capita spending in the country. In 2001 BC was 2nd highest in per capita spending.
- ¹⁰⁰ Kelly Sinoski, September 23rd, 2013, "Primary care for everyone still the goal," *Vancouver Sun*
- ¹⁰¹ *Ibid.*

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