



**BCMA Presentation to the  
Royal Commission on the Future of  
Health Care in Canada**

***A Vision for Sustaining Medicare***

March 12, 2002  
Vancouver, British Columbia

The British Columbia Medical Association (BCMA) is the recognized representative organization of the approximately 8,000 medical professionals in the province. The mandate of the organization includes the advancement of the practice interests of physicians and a key role in advocating on behalf of doctors and their patients for sound public policy initiatives.



## **Introduction**

New thinking is required to ensure that Canadians have timely access to medically necessary services.

Canada's public health care program has been shaped by the principles of the Canada Health Act (CHA): universality, comprehensiveness, accessibility, portability and public administration. Although these principles remain basically sound, today's reality demands that they be subjected to serious review and refinement through a clear articulation of their scope and limits. The health care system must become more patient focussed and deliver more available, timely and continuous care of high quality. BC doctors, therefore, agree with the opinion of the Royal Commission that the Canada Health Act should be revisited.

Fiscal constraints, compounded by increasing demand, a growing and aging population and technology costs, continue to mount. Too often in the past, initiatives in health care reform have attempted to manage the sustainability crisis by introducing a series of supply side measures to control costs. However, improved efficiency alone cannot meet the demands expected in the future. Alternative options for relieving pressure on the public system need to be explored.

The BCMA is committed to restoring Medicare. In May 2001, the BCMA released a major policy paper, "Turning the Tide – A New Course for Health Care", containing twenty-nine recommendations for restoring the Medicare program.<sup>1</sup> Today's presentation is based on that research and will focus on: (1) a values-based vision for health care (2) redefining Medicare (3) effective public-private partnerships, and (4) reorganizing care delivery.

## **A Values-Based Vision for Health Care**

The health care system is desperate for practical, quality leadership. Patients, providers and the general taxpaying public deserve a clear vision statement for their health care program. The vision must go beyond the generalities of the broad system objectives contained in the CHA and provide meaningful guidance for patient care, expectations and management direction.

This must be the first priority for renewing the health system. The doctors of BC concur with the Canadian Medical Association<sup>2</sup> that a values-based approach to change must apply and adhere to seven underlying principles:

- 1) Patient-centred focus: reforms focus on meeting the needs of patients rather than the system;

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<sup>1</sup> *Turning the Tide - Saving Medicare for Canadians, Part II of II, A New Course for Health Care*, May 2001, [www.bcma.org/turningthetideII/turningthetideII.pdf](http://www.bcma.org/turningthetideII/turningthetideII.pdf)

<sup>2</sup> *Getting the Diagnosis Right: Toward a Sustainable Future for Canadian Health Care Policy, Part I of II*, Brief to the Royal Commission.

- 2) Inclusion: key stakeholders must be engaged in early, ongoing and meaningful consultation;
- 3) Accountability: all stakeholders assume some level of accountability for the health care system;
- 4) Universality: health care must be available and accessible to all Canadians, with health resources allocated on the basis of relative medical need;
- 5) Choice: patients must have freedom to choose their physician, to switch their physician and/or seek a second opinion;
- 6) Physicians as agent of patient: physicians must continue to act as an agent for the patient, acting in their patient's best interest; and
- 7) Quality: the Canadian health care system must continuously strive to provide quality care.

With reference to these principles, a vision statement must be developed that is clear, explicit and provides an appropriate context for Medicare that fosters realistic expectations for services and programs. One such vision can be found in "Turning the Tide: A New Course for Health Care."

Principles, however, are only meaningful if they are applied, and change is only useful if it improves care. Today in British Columbia, patient access to care is unacceptably poor. Medicare must provide better. Canadians must be *guaranteed* timely access to publicly funded health care services. A Patient Charter that guarantees timely care, while outlining the roles and responsibilities of individuals would be a positive development.

As a corollary to a care guarantee, patients must be given the right to directly purchase care that cannot be provided within the guarantee period. The public program must be held to account.

### ***A Note on Inclusivity and Collaboration***

On March 5<sup>th</sup>, 2002 BC's provincial government moved to unilaterally end the arbitration process between government and doctors, as well as enact legislation against any future arbitration. This occurred despite the government's full commitment to the arbitration process since taking office and in defiance of the Canada Health Act that requires a dispute resolution process as a method for resolving compensation issues with physicians.

Although cooperation should be encouraged through information-sharing, joint planning, collaboration, advance notice and early consultation, disputes will naturally occur between major parties within the health care system. To resolve these disputes, mechanisms must be available that are timely, efficient, effective and transparent, allow for the possibility of non-adversarial solutions, be

appropriate for the specific sectors in which the disputes arise, and provide for the expert assistance of third parties.<sup>3</sup>

The doctors of BC believe that binding arbitration is a fair method for resolving most contentious issues between government and other health care providers. Binding arbitration allows both parties to air their differences in a private arena and permits decisions to be made by an objective, neutral third party, without compromise to patients. There are too many instances where disputes between health care providers and provincial governments have dragged on, while at the same time compromising patient care. Avoidance of highly conflicted relationships, that put politics ahead of patients, should be a priority.

### **Redefining Medicare: Establishing a Balanced Scope of Coverage**

No country in the world has been able to pay first dollar coverage for timely access to all health services. Maintaining a sustainable publicly funded health care program will require a determination of which services across the continuum should be available under the public program.

The Conference Board of Canada estimates that by 2020 health care will consume 53% of government revenues in British Columbia<sup>4</sup>. Such expenditure growth is not sustainable.

In Canada, physician and hospital services are essentially both universal and comprehensive programs, as patients are generally not required to pay fees to access these services. Despite this almost universal and comprehensive coverage, private expenditures for health care have increased, largely due to shifts towards other types of care, such as pharmaceuticals. According to the Canadian Institute of Health Information (CIHI)<sup>5</sup>, in 2000 the average Canadian spent an estimated \$478 on drugs, an increase of 8.1% over the previous year, a significant portion of which was paid privately.

Canada is unique from most other countries in that it tends to spread the extent of public coverage less evenly across the broad spectrum of health services (i.e. prescription drugs, home care, long-term care etc.). Evidence of this is seen by 2001 data comparing OECD nations, ranking Canada first for public expenditures on physicians as a percentage of total health care costs, but relatively low for in-patient and outpatient care, as well as prescription drugs<sup>6</sup>. The fact that public expenditures on other areas of the health care system, such as pharmaceuticals,

<sup>3</sup> Choudhry, Sudit, *Bill 11, The Canada Health Act and the Social Union: The Need for Institutions*. [www.law.utoronto.ca/facsites/choudhry/bill\\_11.pdf](http://www.law.utoronto.ca/facsites/choudhry/bill_11.pdf)

<sup>4</sup> *The future cost of health care in Canada: balancing affordability and sustainability*. Ottawa: The Conference Board of Canada; 2001.

<sup>5</sup> *Spending on Drugs Outpaces Other Health Care Spending, Reports CIHI*. Ottawa: Canadian Institute for Health Information; 2001, [www.cihi.ca/medrls/14mar2001.shtml](http://www.cihi.ca/medrls/14mar2001.shtml)

<sup>6</sup> Canada ranked first of 11 countries for the percentage of public expenditures spent on physician services (98.7%). But for inpatient (86.3%) and outpatient care (57.5%), Canada ranked 9 of 12, and for prescriptions 12 of 13 (31.2%), *Health Data 2001*, Paris: Organization for Economic Co-operation and Development; 2001.

are low may prove to have negative consequences with respect to access, as well as be more costly over the long-term. As noted by the CMA some drug treatments are simply outside the reach of many Canadian families, although this may be the most efficacious and cost-efficient route<sup>7</sup>.

In this context, difficult choices exist that will require Canadians to assess the relative merits and desirability of maintaining first dollar coverage over a diminishing set of services and programs, or expanding the set of services and programs covered while foregoing the principle of first dollar coverage for physician and hospital services. Covering a broader range of services, all under uniform terms and conditions, may in fact prove to be the most effective policy approach.

We agree with the statement expressed in the Commission's interim report that "Canadians need a greater say in determining what health services should or should not be publicly covered." A decision to restrict or amend the scope of coverage must be a policy choice implemented by government, based on economic factors, public opinion, and medical input. This is a matter of economic rationing, not medical necessity. The choice of rationing methods must be determined by the public through an explicit and transparent process.

### **Effective Public-Private Partnerships**

In order to sustain the predominantly single payer public health system, an effective integration of public and private delivery is required. This will entail the contracting out of publicly funded medical services to private health care facilities.

The potential advantages of contracting with the private sector include stimulating competition between partners, reducing overhead fees, encouraging economies of scale, and enhancing flexibility, innovation and efficiency while remaining highly responsive to patient needs<sup>8</sup>.

### ***Private delivery does not equate to private funding***

The issue of public-private partnerships is clouded when interest groups allege the introduction of a 'two-tiered health care system'. "Two-tier" arises within the context of financing, not delivery, mechanisms. Distinctions must be made between these variants in public-private partnerships. Figure 1 portrays, using common examples, the various relationships that exist between public and private sectors with respect to care delivery and financing.

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<sup>7</sup> *Getting the Diagnosis Right: Toward a Sustainable Future for Canadian Health Care Policy, Part 1 of two part brief to the Royal Commission on the Future of Health Care in Canada.* Ottawa: Canadian Medical Association; 2001.

<sup>8</sup> *Private Participation in BC's Health System: Shades of Gray,* Health Association of BC, August 2000.

**Figure 1: Public/Private Relationships in Health Care**

		CARE DELIVERY	
		PUBLIC	PRIVATE
FINANCING	PUBLIC	PUBLIC DELIVERY/ PUBLIC FINANCING  <i>(e.g. hospital stay)</i>	PRIVATE DELIVERY/ PUBLIC FINANCING  <i>(e.g. doctors' office care)</i>
	PRIVATE	PUBLIC DELIVERY/ PRIVATE FINANCING  <i>(e.g. co-payment charges for ambulance services)</i>	PRIVATE DELIVERY/ PRIVATE FINANCING  <i>(e.g. cosmetic surgery)</i>

The Canadian health care system currently employs the use of many private facilities, both for-profit and not-for-profit, to deliver publicly funded services. Examples include physician offices, diagnostic centres, long-term care facilities, home care agencies, and pharmacies<sup>9</sup>. The system would not function without private sector involvement.

Due primarily to technological advances, there are increasing examples to be found in diagnostic, therapeutic, and surgical areas, where services that traditionally have been performed within a public hospital setting can now be safely and effectively done in a private facility.

It is evident that public funding is no longer keeping pace with the health system's capital requirements. Only 3% of the public health budget is being invested for capital expenditures in Canada<sup>10</sup>. The question is not one of whether private delivery should exist, but one of how society can make the most efficient and effective use of the private and public facilities that make up the entire health care delivery system.

Moving services from the upper left public delivery/public finance quadrant of Figure 1, to the upper right private delivery/public financing quadrant should be more openly considered. If publicly funded services can be delivered more efficiently through the private sector, the option should be pursued.

<sup>9</sup> Since 1995, the BC College of Physician and Surgeon has been accrediting private diagnostic services and facilities. In June 2000, there were 49 private surgical facilities (providing insured and non-insured services) in BC as compared to 16 facilities in 1989. In addition, privately run care organizations currently provide 25% of the long-term care beds and home support system in BC. (Reference: footnote 8.)

<sup>10</sup> *Canadian Public Sector Health Expenditure By Area*, Canadian Institute of Health Information, 1999.

## **Reorganizing Care Delivery**

### ***Existing Primary Care Problems***

There are already signs that the numbers of family practitioners are dropping relative to population. Furthermore, medical students are opting not to choose family medicine. According to the Canadian Resident Matching Service (CARMS), only 28% of the 2001 class of medical graduates listed Family Medicine as their first choice of residency training, a number that has been declining steadily for each of the last 3 years.

As a result of these declining numbers, many patients are being left without a permanent family physician. In BC there are an estimated 100,000 patients without a GP. The College of Family Physicians of Canada (CFPC) estimates that approximately 30% of Canadians are currently having difficulty accessing a family doctor and that Canada currently requires at least 3,000 additional family doctors<sup>11</sup>. Many of these orphan patients must rely on walk-in clinics or emergency departments, which are not only more costly but impede continuity of care.

More and more family physicians are also deciding to reduce their scope of practice. A 2001 National Family Physician Workforce Survey (NFPWS) tells us that 23.8% of GPs in BC indicated that within the last two years they have reduced their scope of practice (e.g., dropped obstetrics, emergency, or palliative care), compared to 7.9% who have expanded their scope of practice. More GPs are also deciding to practice in walk-in clinics, where there is less comprehensive care. For example, according to the same survey, 18.5% of GPs in Canada identified a free-standing walk-in clinic as a practice setting, up from 10% in 1997<sup>12</sup>.

Part of the reason why many are deciding to reduce the scope of their practice is because general practitioners are already working long hours. Again the CFPC's 2001 National Family Physician Workforce Survey reveals that GPs in BC carrying out regularly scheduled office, hospital and after-hours on-call duties, are working an average of 73 hours per week.

### ***Primary Care Renewal***

A strong primary care sector is essential to a properly functioning health care system. The BCMA is supportive of efforts to better integrate and coordinate care delivery, when done in practical ways that are designed to improve overall quality. These improvements must be accomplished in a coordinated and flexible fashion, and in ways that respect the patients' desire to maintain their physician as their first point of contact.<sup>13</sup>

<sup>11</sup> College of Family Physicians of Canada (CFPC), *Not enough family physicians to meet patient needs*, October 25, 2001, [www.cfpc.ca/communications/newsreleases/nr25october2001.asp](http://www.cfpc.ca/communications/newsreleases/nr25october2001.asp)

<sup>12</sup> College of Family Physicians of Canada, Initial Data Release of the 2001 National Family Physician Workforce Survey (2001), [www.cfpc.ca/research/janus/\\_pdf/2001nfps-v7.pdf](http://www.cfpc.ca/research/janus/_pdf/2001nfps-v7.pdf)

<sup>13</sup> 88% of the public want a physician as their first point of contact, Pollara Research, 1997.



Full spectrum primary care practice must be promoted, ensuring the system is patient focused, accessible, coordinated, continuous, comprehensive, appropriate and accountable.

In "Turning the Tide – A New Course for Health Care", the BCMA makes the following recommendation, which is relevant for the Commission:

*"As a further step to coordinate improved patient access, the government of British Columbia should develop, with family and general practitioners, primary care delivery models that:*

- a) encourage and support the provision of a full spectrum of primary care services;*
- b) advance collaborative practice and productive alliances amongst FP/GPs; and*
- c) promote the use of funded nursing and other ancillary personnel within family physician offices under the physician's management and jurisdiction".*

### **Fixing the Primary Care System**

A first caution to the Commission is that 'primary care reform' is not well supported by the Canadian public, notwithstanding the interest of policy advisors and provincial, territorial and federal governments. The vast majority of people report a good primary care experience and primary care is certainly not where they report their increasing concerns with respect to acceptable access. As Hutchinson et. al.<sup>14</sup> point out in their recent research, the Canadian public is apprehensive over associated issues of privacy and choice.

Second, primary care reform is not a panacea for the sustainability problem. While the models that have been piloted to date may, arguably, provide better overall quality care, there is no evidence to suggest that these models have reduced costs or are generally applicable to the entire health care system. Quality must be the primary goal, but it will likely come with a higher price tag.

The BCMA is particularly surprised with the apparent conclusions of the Commission that the predominant payment modality for physicians should be altered from fee-for-service. This reasoning is faulty and should be reconsidered.

Available evidence does not support the apparent attraction to alternative payment modalities. In the Hutchinson article referenced previously, the authors note the following:

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<sup>14</sup> "Primary Care in Canada: So Much Innovation, So Little Change", Brian Hutchinson, Julia Abelson, John Lavis, Health Affairs, 2001 May-Jun; 20(3):166-31.

*"As we assess the state of evidence regarding primary care physician payment methods based on the strongest, most relevant studies we have been able to identify, we see the following: (1) There is suggestive evidence that patients' assessments of overall satisfaction and access/availability are more positive in settings with FFS as opposed to salary or capitation payment." (2) There is minimal or conflicting evidence regarding patients' assessments of continuity, comprehensiveness, coordination, technical quality, and interpersonal aspects of care. (3) There is minimal evidence regarding practice patterns (for example, frequency of home visits and length of office visits)." (4) There is suggestive evidence that capitation payment results in higher rates of referrals to specialists. (5) There is minimal or conflicting evidence regarding quality, utilization, and costs of care." (6) There is minimal evidence regarding differences in use of nonphysician providers in FFS versus capitated practices." (7) There is suggestive evidence of better preventive care performance by salaried and capitated physicians than by FFS physicians." Effects of the range and mix of providers, working relationships and division of labor in multidisciplinary teams on health outcomes, patient and provider satisfaction, and cost-effectiveness with differing patient populations remain to be established. At best we have some research evidence about particular providers. For example, primary care NPs working in collaborative relationships with physicians can provide effective primary health care, although evidence regarding cost-effectiveness is scant and inconclusive."*

BC doctors agree with this assessment. However, we must all be practical. The research shows that no payment modality has superiority over another. Different payment modalities appeal to different practitioners. Primary care renewal can occur under any payment modality. As we face increasing physician shortages, let us concentrate on the ends, better integrated and coordinated care, and less on the means, i.e. capitation.

### ***Coordinated Specialty Care***

#### *Problems facing Canada's Specialty Care System*

There are a number of major problems currently facing Canada's specialty care system, including:

- A decade of inadequate funding for hospitals, home care and long-term care programs that have left huge gaps in the system's ability to respond to patient needs. At 2.22 beds per 1,000 population, the acute care bed supply in BC is critically low<sup>15</sup>.

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<sup>15</sup> This ratio translates into 2,150 fewer beds than was recommended by the Seaton Commission in 1991.

- Lack of available medical specialists and long waiting times for specialty services. 61% of Canadian physicians reported restricted availability of medical specialists and consultants, while 66% reported major problems with long waiting times for surgical or hospital care.<sup>16</sup>
- Short supply of diagnostic medical equipment such as MRI and CT Scans<sup>17</sup> and, where equipment is available, it is often inadequate<sup>18</sup>.

### ***Fixing Canada's Specialty Care System***

To address these problems and stabilize the existing acute and chronic delivery systems, immediate re-investments are needed. This will require stable funding from both levels of government. Although, total cash transfers to the provinces and territories through the CHST will rise from \$12.5 billion in 1997-98 to \$21.0 billion in 2005-06, they are not sufficient. These reinvestments are not included in the CHST cash floor, nor are they intended to grow over time through an escalator. When considering the government has cut CHST funding by 33% since the beginning of April 1996, these "tentative half-measures" are insufficient in fostering short-, medium, and/or long-term planning<sup>19</sup>.

Reinvesting in acute and chronic care requires expanding British Columbia's professional training and recruitment programs for physicians, nurses, and other health care providers. A 10% cut in undergraduate medical enrolment that was implemented in 1993 is now affecting the supply of active physicians<sup>20</sup>. There are existing and predictable shortages in virtually every provider category. The supply of specialists will need to grow faster in the future in order to adequately meet the increasing needs of our growing and aging population.

As an immediate solution to provider resource problems, a health human resource strategy is needed, involving, at a minimum, three initiatives:

1. Better coordination of licensing and immigration requirements between the provincial and federal governments;

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<sup>16</sup> Blendon R., Schoen C., Donelan K., Osborn R., DesRoches C.M., Scoles K., et al., *Physicians' views on quality of Care: a five country comparison*. Health Affairs 2001; 20(3): 233-243.

<sup>17</sup> According to the Organization for Economic Cooperation and Development (OECD), Canada has only 1.7 MRI units per million population. Among the 29 OECD countries, only Poland, Greece, Hungary, and the Czech Republic report fewer MRI units per million than Canada (OECD Health Data, 1999).

<sup>18</sup> According to the Canadian Association of Radiologists, recent exposure of the serious inadequacy of up to 63% of Canada's x-ray and diagnostic imaging equipment serves as a prime example of a health care system in severe distress and putting patients at risk.

<sup>19</sup> *Getting the Diagnosis Right: Toward a Sustainable Future for Canadian Health Care Policy*, Part 1 of two part brief to the Royal Commission on the Future of Health Care in Canada. Ottawa: Canadian Medical Association; 2001.

<sup>20</sup> Barer M, Stoddart G., *Toward Integrated Medical Resource Policies for Canada*, Winnipeg: Manitoba Health; 1991.

2. Development of provincial health human resource and service plans to better identify resources; and
3. Incentive packages that include payment, relief, and educational opportunities.

Concurrently, both levels of government must develop a long-term planning strategy from which provincial service plans can be adopted. Such plans must adhere to the values-based vision for health care as defined earlier and ensure the effective use of scarce human, capital and technological resources.

Care delivery must become more integrated, planned, efficient, and responsive to patient needs. As care and technology has advanced, there has been increasing pressure on the system to provide the best available care in all areas of the country. However, delivering health care in the ways Canadians are accustomed to cannot be sustained. British Columbia, for example, has already reached the point where care of certain types of specialty services are not universally nor readily available. The shortage of specialists and the high cost of technology will extend these circumstances. Therefore, alternative approaches to delivering and receiving care are both required and inevitable.

Determining where care is made available will become an increasingly relevant policy matter. The design of delivery systems that are built around a series of regional care centres, seems inevitable. As a corollary to the concept of regional centres, family and general practitioners will be called upon to provide more specialized care in areas of the province where specialist services are not available. This will require specific programs to support new and existing general practitioners in obtaining enhanced skill training.

The challenge will be to plan and adapt without abandoning the principle of 'reasonable access', particularly given the province's geography. This process cannot be accomplished without meaningful provider and public input.

Furthermore, economic logic suggests that smaller facilities, designed for a specific procedural purpose, are capable of delivering services in a more efficient manner than large hospital institutions. In fact, information included in the recent Canadian Institute for Health Information release would suggest that high volume facilities can produce better outcomes<sup>21</sup>. If quality and efficiency can both be enhanced, there is even greater reason to examine such an option.

In this regard, now is the opportune time to reassess the role of public hospitals. These facilities might be better utilized if there were a greater focus on high intensity surgical and medical treatments and interventions. To a large extent, hospitals have been evolving along this path over several years, as a result of funding cuts and a lack of capital resources. This evolution might be formalized, with a concurrent plan for addressing lower intensity cases.

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<sup>21</sup> *Health Care in Canada*, Ottawa: Canadian Institute for Health Information, 2001.

## ***Patient Transfer Mechanisms***

In the future, patients can expect to either travel more frequently for specialized services, or receive these services through the use of 'tele-medicine' technology, under the care and guidance of their chosen family physician. As a consequence, much more effective patient transfer mechanisms, strategies and support programs will be integral to success.

Ensuring that emergency and trauma cases are met requires a fast, efficient, and reliable ambulance service with sufficiently qualified paramedical staff and appropriate equipment. This is particularly important for provinces such as BC, which has a population of over 4 million residing in an area of approximately 1 million sq. km.

## ***Information Technology***

All levels of government have identified IT as a means to improve health care delivery and create efficiencies. In December 2000, as part of the Federal/Provincial Health Ministers Accord, the federal government established Canada Health Infoway Inc., an arms-length organization with the mandate to accelerate development of health information systems. This group was provided an initial budget of \$500 million to investigate electronic health records, telehealth, security, privacy, and health surveillance. The fundamental component of any IT system, however, will be the development of an Electronic Health Record (EHR).

Although advanced technologies are being piloted in a number of provinces and have the potential for improving access to specialized services that would not otherwise be available; BC doctors are concerned that the focus of many of these initiatives is overly geared towards administrative and surveillance purposes. The primary objective of any electronic record system must be to improve patient care, while respecting individual privacy rights. The development of these initiatives must include substantive and meaningful input from patients, professional regulatory bodies, privacy agencies, and physicians.

Furthermore, any government sponsored electronic record initiative must provide appropriate financial and operational support for equipment, training, software, and connectivity related to electronic record systems for hospitals, physician offices, and other agencies. Limited skills in the use of electronic information and technology, coupled with limited electronic collection of health information by physicians and nurses at the point of care, are barriers to the implementation of the electronic health record. In addition, the "building block systems" (e.g. hospital, community clinic, long term care, physician office, laboratory and community pharmacy systems) necessary to provide the clinical data are either not in place, or have been implemented inconsistently<sup>22</sup>.

<sup>22</sup> Office of Health and the Information Highway, Health Canada, P/T Advisory Committee on Health Infrastructure Blueprint and Tactical Plan for a pan-Canadian Health Infrastructure, *A Report on F/P/T Collaboration for the Planning of the Canadian Health Infrastructure*, December 2000, [www.hc-sc.gc.ca](http://www.hc-sc.gc.ca), July, 2001.

The removal of these barriers and long-term sustainable government funding to support the implementation of equipment in physicians offices is required to make significant advances in the area of IT. Other countries, such as the UK<sup>23</sup>, have been much more active in this regard. The CMA estimates the start-up costs of a national health information infrastructure connecting physicians, hospitals, and long-term care institutions at \$4.1 billion, with yearly operating costs after the 5-year implementation of \$830 million.<sup>24</sup>

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<sup>23</sup> Under its "GP Computer Reimbursement Scheme," the National Health Service in the UK currently covers 50% of the computer purchase and 100% of training costs associated with putting integrated computers in GP offices.

<sup>24</sup> *Getting the Diagnosis Right*, based on costing study prepared by PriceWaterhouseCoopers for the CMA (2000).