Budget 2009: Economic Stimulus through Targeted Investments in Health Infrastructure

Brief to the Minister of Finance's Roundtable

January 12, 2009

Dr. Robert Ouellet, MD
President

ASSOCIATION MÉDICALE CANADIENNE
CANADIAN MEDICAL ASSOCIATION

A healthy population...a vibrant medical profession
Une population en santé...une profession médicale dynamique

The Canadian Medical Association (CMA) is the national voice of Canadian physicians. Founded in 1867, CMA's mission is to serve and unite the physicians of Canada and be the national advocate, in partnership with the people of Canada, for the highest standards of health and health care.

On behalf of its more than 70,000 members and the Canadian public, CMA performs a wide variety of functions. Key functions include advocating for health promotion and disease/injury prevention policies and strategies, advocating for access to quality health care, facilitating change within the medical profession, and providing leadership and guidance to physicians to help them influence, manage and adapt to changes in health care delivery.

The CMA is a voluntary professional organization representing the majority of Canada's physicians and comprising 12 provincial and territorial divisions and 45 national medical organizations.

ASSOCIATION MÉDICALE CANADIENNE

CANADIAN MEDICAL ASSOCIATION

Executive Summary

With economic growth having slowed, Budget 2009 provides an historic opportunity to invest in initiatives that will stimulate the Canadian economy in the short term while also strengthening it in the long term. With the federal government now considering several areas for potential fiscal stimulus, the Canadian Medical Association (CMA) views infrastructure spending as the government's best option. In order to provide much-needed immediate economic stimulus and a responsible, long-term strategy to achieve economic stability, the CMA recommends the federal government invest $2.4 billion in health infrastructure upgrade initiatives to be carried out over the next two years. These initiatives fall into three priority areas:

1) **Accelerating existing or "construction-ready" capital projects in health care facilities.**

The CMA recommends a federal investment of $1.5 billion over two years to accelerate existing hospital and health facility construction projects. While investments in physical infrastructure are required across the continuum of care, a focus on hospital construction — specifically on construction-ready projects already approved at the provincial level — will allow funds to flow more quickly and thus provide a more immediate economic stimulus. Federal investment in hospital and health facility construction will create 16,500 jobs over two years and 11,000 jobs in 2009 alone. These projects may be financed through existing public-private partnerships (P3s). With targeted and strategic federal investment, health facility capital projects would also stimulate further investment in the form of private-sector financing of these capital projects.

2) **Accelerating implementation of electronic medical records.**

Health system information technology is an area where infrastructure investments are needed and would provide significant return on investment through immediate economic stimulus and improved health system efficiency in the medium and long term. CMA recommends that the federal government make a strategic "strings attached" $225-million investment in an Electronic Medical Record Patient Transition Fund that could be managed by the Canada Health Infoway.

3) **Modernizing information systems in small- and medium-sized health care facilities.**

A federal investment of $700 million over two years to upgrade information system hardware and software in small- and medium-sized hospitals could be implemented within the next eight quarters and begin to create 7,700 jobs and rapidly improve health care efficiency.

These health infrastructure investments would create 27,000 new jobs over the next two years:

1. 16,500 jobs for existing hospital building projects that are "construction ready";
2. 4,950 jobs for electronic medical records (EMR) implementation for community-based health care offices;
3. 7,700 jobs for hospital information systems in small- and medium-sized hospitals.

Introduction

In these challenging economic times, the federal government is to be commended for casting a wide net in search of effective and immediate measures to stimulate Canada's economy. Of course, Canadians must also be assured that we will not be mortgaging our future by doing so.

In order to both provide much-needed immediate economic stimulus and a responsible, long-term strategy to achieve economic stability, the CMA recommends that the federal government invest $2.4 billion in health infrastructure upgrade initiatives to be carried out over the next two years. These investments would stimulate further provincial/territorial and private-sector investment. To be clear: these recommendations are in the context of a fiscal stimulus plan and do not encompass CMA's entire long-term vision for high-quality and patient-focused health care.

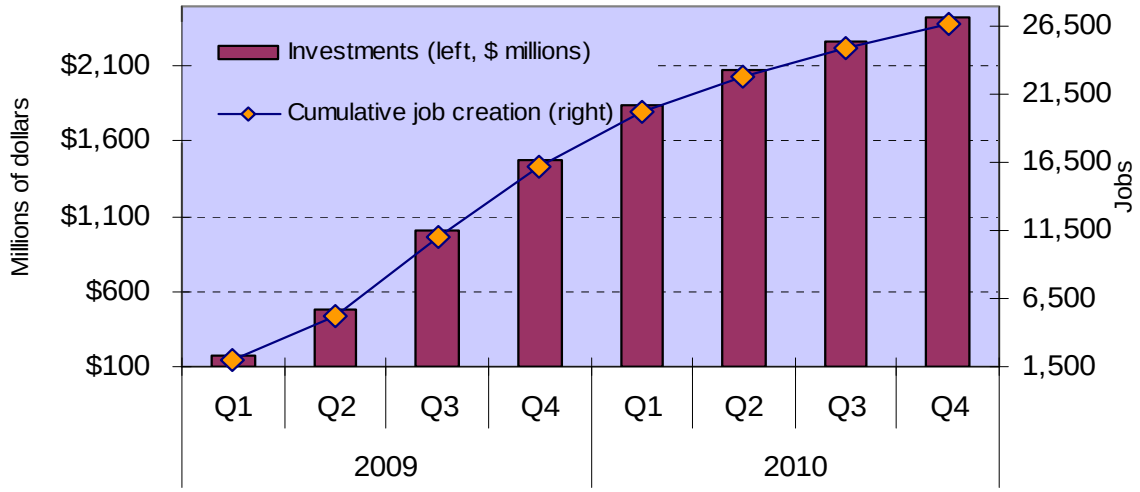
The CMA initiatives fall into three priority areas:

1) Accelerating existing or "construction-ready" capital projects in health care facilities;
2) Accelerating implementation of electronic medical records;
3) Modernizing information systems in small- and medium-sized health care facilities.

A critical factor in these recommendations is the fact that the federal government already has in place funding mechanisms to deliver stimulus funds rapidly in all three areas. Canada Health Infoway is such an established vehicle for the EMR initiative and the upgrading of hospital information systems. The Canada Foundation for Innovation or an expanded "Building Canada" program are initiatives that have organizations in place to administer the investments in hospital construction projects. Additionally, these initiatives are flexible in both size and duration.

Most economists agree that increasing infrastructure spending generally will boost the economy by creating jobs. In no sector is this more true than health care. Infrastructure investments, will lead to higher employment and more spending on products and services, and generate higher overall demand.[i] (See Appendix A for investment and job creation quarterly forecasts 2009/2010[ii]). *The Business Register* of Statistics Canada reports there were 75,615 establishments in the health service delivery (HSD) industry in 2003, employing 1.3 million people. That year, they accounted for 3.3% of all Canadian business establishments and 7.6% of total employment. In 2003, the GDP of the HSD industry was larger than wholesale trade, retail trade, and the upstream oil and gas mining industry, and almost as large as the construction sector. Physicians' offices (30,120 establishments) accounted for almost 39% of all HSD establishments and employed 142,000 people, or almost 11% of all HSD employees. By targeting investment in the three areas outlined above, the government will respond to Canadians' desire for a strengthened health care system, support Canada's competitive advantage and create 27,000 jobs in the next two years (Figure 1).

Figure 1 Stimulating nearly 27,000 quality jobs, improving efficiency
Health Infrastructure Cumulative job creation and expenditures



Source: Canada Health Infoway estimates and Informetrica infrastructure multiplier metric, 2008

1. Accelerating Health Facility Construction Projects

The CMA recommends that the federal government invest $1.5 billion over two years to accelerate hospital and/or health facility projects that are "construction ready".

In 2001 the CMA identified inadequate investment in buildings, machinery and equipment and in scientific, professional and medical devices as major hurdles to timely access to health care services. While spending has increased in health care since then, governments have placed a lower priority on capital investment when allocating financial resources for health care.

The CMA recommends a federal investment of $1.5 billion over two years to accelerate existing hospital and health facility construction projects. This does not capture all the capital requirements in the health system in the medium- and long-term. While investments in physical infrastructure are required across the continuum of care, a focus on hospital construction — specifically on construction-ready projects — will allow funds to flow more quickly and thus provide a more immediate stimulus to the economy. Federal investment in hospital and health facility construction will create 16,500 jobs over a two-year period and 11,000 jobs in 2009 alone. These projects may be financed through existing public-private partnerships (P3s).

With targeted and strategic federal investment, health facility capital projects can also stimulate further investment in the form of private-sector financing of capital projects. Across Canada hospitals are seeking to develop innovative approaches to financing capital infrastructure. The CMA agrees with other organizations such as the Canadian Healthcare Association about the need to explore the concept of entering into public-private partnerships to address capital infrastructure needs as an alternative to relying on government funding. Joint ventures and hospital bonds are but two examples of P3 financing.

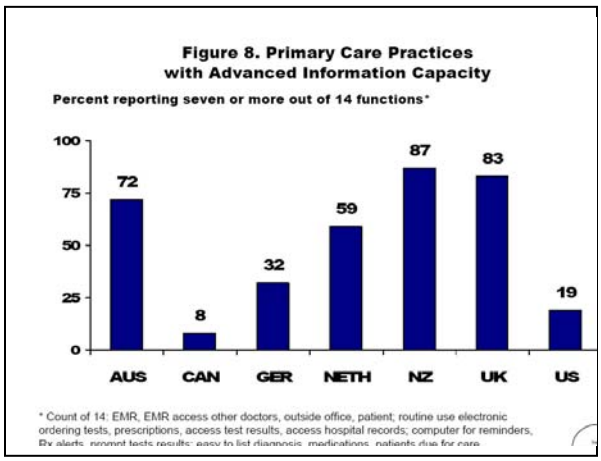
As these types of partnerships are pursued, the CMA recommends that governments establish uniform requirements and regulations to ensure the transparency of the tendering process and adequate measuring of quality of care and cost-effectiveness in both public and private settings.[iii]

The federal government has long showed great leadership in partnering to build Canada's health care system — the Hospital Construction Grants Program of 1948 and the Health Resources Fund Act of 1966. Today our country and our health care system need a new vision for replacing aging physical infrastructure.

2. Electronic Medical Records – Accelerating Coverage for 26 Million Patients

CMA recommends that the federal government invest $225 million over two years to accelerate the implementation of an interoperable electronic medical record across Canada.

International studies confirm that Canada lags behind nearly every major industrial country when it comes to the adoption of health information technology (Figure 8). The Conference Board of Canada[iv], the Organization for Economic Co-operation and Development (OECD)[v], the World Health Organization[vi], the Commonwealth Fund[vii], and the Frontier Centre for Public Policy all rate Canada's health care system poorly in terms of value for money and efficiency. The impact of this underinvestment is longer wait times, poorer quality, greater health system costs and a severe lack of financial accountability — especially when it comes to federal dollars.



Health system information technology is an area where infrastructure investments are needed and would provide significant return on investment through immediate economic stimulus and improved health system efficiency in the medium- and long-term. CMA recommends that the federal government make a strategic, "strings attached,"[1] $225-million investment in an Electronic Medical Record Patient Transition Fund that could be managed by the Canada Health Infoway.[2] The fund would finance EMR capital equipment acquisition and EMR change management and transition support, specifically the conversion of 26 million patient records in 30,000 physician offices.

This federal investment would be matched by provincial-territorial funds and would thus provide a total of $450 million in economic stimulus and create 5000 new jobs over two years. While public funds would kick-start this initiative, they would stimulate considerable private sector activity in the provision of EMR capabilities across Canada. Assuming the current trend prevails, the ongoing management of the data holdings would be outsourced to private sector companies based on application service provider arrangements.

> "Electronic information in health care is an essential transformative tool. Information technology – systems such as telehealth, electronic health records, electronic prescribing, and wait-list management systems – offers tremendous opportunity to advance the quality of care in many ways."
>
> Health Council of Canada –June 2008

[1] The conditions of this health information investment should include:

- Fifty-fifty FPT cost sharing;
- Involvement of the clinical community in the input and oversight of the program;
- Use of consistent standards.

[2] See Table l in Appendix A for full investment horizon details.

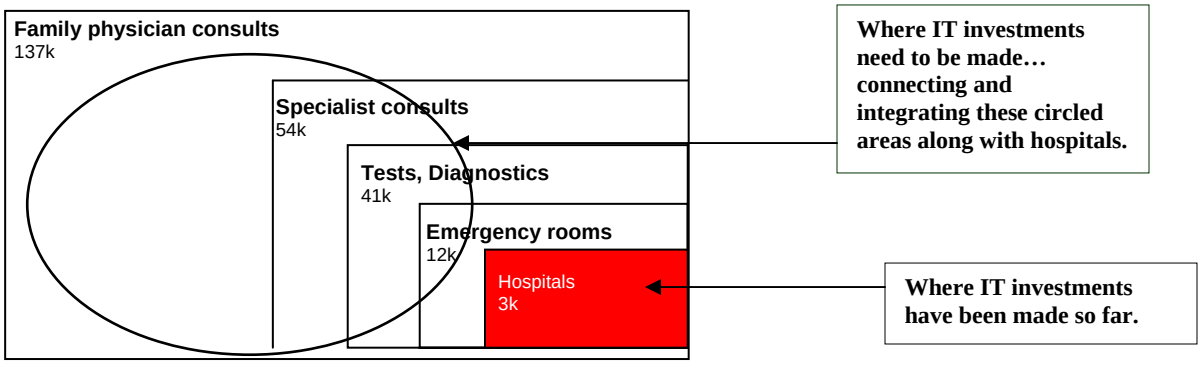
Moreover, these investments are consistent with the Building Canada plan's focus on broadband and connectivity, and with Advantage Canada's goals of creating a knowledge advantage and an infrastructure advantage.

Beyond providing immediate stimulus to the Canadian economy, a fully realized EMR system will improve patient outcomes, system efficiency and accountability and save billions of dollars annually. Technology consulting firm Booz Allen Hamilton found that the benefits of an interconnected Electronic Health Record (EHR) in Canada could provide annual system-wide savings of $6.1 billion.[viii] These savings would come from reduced duplicate testing, transcription savings, fewer chart pulls and less filing time, reductions in office supplies and reduced expenditures due to fewer adverse drug reactions. The study also found that the benefits to health care outcomes would equal or surpass these annual savings, thus providing a possible combined annual savings of $12.2 billion.

By reducing wait times, an interoperable EMR will contribute to saving the Canadian economy billions of dollars each year. A study commissioned by the CMA conservatively calculated that excessive wait times involving just four procedures (joint replacements, cataract surgery, coronary artery bypass grafts and MRIs) cost the economy over $14 billion in 2007 due to lost output and government revenues.[ix]

The Electronic Medical Record Patient Transition Fund focuses on community care and the physician offices where most patient visits occur. Most of the emphasis on connectivity in Canadian health care to date has not focused on the point of care, even though the number of patient interactions with hospitals is greatly exceeded by the number of visits to physicians' offices.[x] Thus, patient-physician office interactions outnumber patient-hospital interactions by a ratio of 18 to 1. In Ontario (Figure 2), just 3,000 of an average of 247,000 patient visits per day, or 1.2%, are made in hospitals.

Figure 2 Patient visits per day in Ontario (Canada Health Infoway)



3. Modernizing Hospital Information Systems

The federal government should invest $700 million over two years to modernize information systems in small- and medium-sized hospitals.

Aging information systems in small hospitals (fewer than 100 beds) and medium-sized hospitals (100 to 300 beds) create considerable inefficiency in patient care and administration. While larger hospitals have upgraded their information systems, hundreds of smaller facilities have information systems that are at least 10 years old.

This means that patients are often forced to provide their personal and health information many times: when checking in to the emergency department, then when having a diagnostic test performed, and again when being admitted to hospital. Each step creates room for error and needlessly wastes the time of health care staff and patients. In addition, these discrete systems may not be networked, a situation that risks compromising patient care.

A federal investment of $700 million over two years to upgrade information system hardware and software in small- and medium-sized hospitals could be implemented within the next eight quarters and begin to create 7,700 jobs and rapidly improve health care efficiency. The $700 million investment is based on a recent conservative estimate for outfitting hospitals across the country (see Appendix B).

There are at least 70 medium-sized Canadian hospitals requiring major system upgrades immediately at a cost of $15 million per hospital. The distribution of these hospitals would help spread out the fiscal stimulus regionally and mitigate against potential labour shortages.

The $700-million recommendation assumes that the majority of hospital information system investments (64%) would need to be focused on the hardware and professional services related to implementing the new systems, with the rest focused on system software. It is important to note that these investments would help support related Canadian software, hardware and professional services firms over the next 24 months and beyond. More importantly, the hospital information system sector is a multibillion dollar global industry.

A fiscal stimulus investment in this sector now would help Canadian firms to capitalize on a golden opportunity to export these goods and services, which are increasingly in high demand.[xi] It is also important that patients be involved in evaluating these systems in order to improve care and system efficiencies. As Roger Martin, Dean of the Rotman School of Business noted: “We can dramatically improve the production of globally competitive health care product and services firms, but only if we work to significantly improve the demand side (patients) of our innovation equation.”[xii] This is in line with the CMA’s call for patient-focused funding.

Conclusion

That these are extraordinary economic times is beyond question, but the CMA contends that it is precisely during such times that opportunities often present themselves. We think the federal government must continue to examine and leverage all available policy levers at its disposal, including studying how the tax system could be used to support renewal within the health care sector.

The tax system's level of support for people facing high out-of-pocket expenses remains a particularly pressing question. Currently, the medical expenses tax credit provides limited relief to those whose expenses exceed $1,637, or 3% of net income. The 3% threshold was established before medicare was introduced. Does it still make sense in 2009? Are there ways to enhance this provision to reduce financial disincentives facing many Canadians when they have to pay for health services?

The CMA encourages the federal government to undertake a comprehensive review of these and other tax questions pertaining to health. By itself, tax policy will not solve all the challenges facing Canada's health care system, but the CMA believes that the tax system can play a key role in helping the system adapt to changing circumstances, thereby complementing the other two components of our renewal strategy.

Similarly, the government must remember that almost five million Canadians do not have a family physician and that Canada needs 26,000 more doctors to meet the OECD average of physicians per population. The federal government wisely recognized the urgency of this situation when it committed to several targeted and affordable measures to begin to address the doctor shortage. It should follow through on its election commitment to take first steps towards addressing the shortage, including contributing $10 million per year over four years to provinces to allow them to fund 50 new residencies per year in Canada's major teaching hospitals, and $5 million per year over four years to help Canadian physicians living abroad who wish to relocate to Canada. These initiatives would begin to increase the supply and retention of physicians in areas of priority need, and could bring back as many as 300 Canadian physicians over four years.

Today, the federal government is focused on instituting specific, strategic and immediate economic stimulus measures, and rightfully so. However, we must not let the urgent crowd out the important in terms of building a sustainable health care system that provides timely access to quality health care services for all Canadians.

Appendix A. Investment and job creation profile estimates 2009-10

Program ($'s millions)	Fiscal Stimulus Healthy Jobs, Competitive Economy									
	2009				2010				2-year	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Total	
A. Electronic Medical Record, Patient Transition Fund*										
EMR capital equipment acquisition: software/hardware	$ 20	$ 20	$ 30	$ 40	$ 50	$ 30	$ 20	$ 15	$ 225	
EMR paper to electronic record change management	$ 20	$ 20	$ 30	$ 40	$ 50	$ 30	$ 20	$ 15	$ 225	
Electronic Medical Record subtotal of F/P/T monies	$ 40	$ 40	$ 60	$ 80	$ 100	$ 60	$ 40	$ 30	**$ 450**	
EMR Federal share based on 50/50 F/P/T cost sharing	**$ 20**	**$ 20**	**$ 30**	**$ 40**	**$ 50**	**$ 30**	**$ 20**	**$ 15**	**$ 225**	**A**
B. Hospitals -clicks and bricks										
Hospital Information System (clicks)										
Hardware/software=+> hospital management systems**	$ 60	$ 80	$ 100	$ 120	$ 120	$ 100	$ 70	$ 50	**$ 700**	
Hospital Construction ("Fiscal stimulus" bricks and mortar)	**$ 100**	**$ 200**	**$ 400**	**$ 300**	**$ 200**	**$ 100**	**$ 100**	**$ 100**	**$ 1,500**	
Hospitals Subtotal	**$ 160**	**$ 280**	**$ 500**	**$ 420**	**$ 320**	**$ 200**	**$ 170**	**$ 150**	**$ 2,200**	**B**
Total	**$ 180**	**$ 300**	**$ 530**	**$ 460**	**$ 370**	**$ 230**	**$ 190**	**$ 165**	**$ 2,425**	**Total**

*Using Canada Health Infoway as a conduit of this connectivity "strings attached" cash.
Assuming 30,000 physician/community medicine offices to integrate into the system at $12,500 per office that is $450 million.
**Based on estimates made by Branham Group (12/08). Existing projects could get started within 3 months and new projects within 6 months.

Program (jobs created)	Fiscal Stimulus Healthy Jobs, Competitive Economy*									
	2009				2010				2-year	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Total	
A. Electronic Medical Record, Patient Transition Fund*										
EMR capital equipment acquisition:software/hardware	220	220	330	440	550	330	220	165	2,475	
EMR paper to electronic record conversion investments	220	220	330	440	550	330	220	165	2,475	
Electronic Medical Record subtotal of F/P/T	**440**	**440**	**660**	**880**	**1,100**	**660**	**440**	**330**	**4,950**	**A**
B. Hospitals -clicks and bricks										
Hospital Information System (clicks)										
Hardware/software=+> hospital management systems**	660	880	1,100	1,320	1,320	1,100	770	550	**7,700**	
Hospital Construction ("Fiscal stimulus" bricks and mortar)	1,100	2,200	4,400	3,300	2,200	1,100	1,100	1,100	**16,500**	
Hospitals Subtotal	**1,760**	**3,080**	**5,500**	**4,620**	**3,520**	**2,200**	**1,870**	**1,650**	**24,200**	**B**
Total	**1,980**	**3,300**	**5,830**	**5,060**	**4,070**	**2,530**	**2,090**	**1,815**	**26,675**	**Total**

*For example: a $1 billion increase in infrastructure spending (at nominal prices and allocated to a representative mix of types of infrastructure) in 2008 should increase the size of the real economy by about 0.13 per cent in 2008, or by $1.3 billion in nominal terms. In 2008, this adds 11,500 to overall employment.
The investment to jobs conversion methodolgy used above was adapted from a recent paper prepared by Informetrica for the Federation of Canadian Municipalities.
See: Macroeconomic Impacts of Spending and Level-of-Government Financing
Informetrica Limited, May 31, 2008 see: www.fcm.ca//CMFiles/Final%20Informetrica1LUG-5312008-7682.pdf

B. Projected Costs to Implement / Upgrade Hospital Information Systems[3]

Assumptions

1. Total number of hospitals in Canada = 734
    a. % small hospitals (< 100 beds) = 69%
    b. % medium hospitals (< 300 beds) = 18%

2. Components in hospital information systems
    a. Finance & Administration
    b. Admission, Discharge, Transfer (ADT) System
    c. Patient Information System
    d. Radiology Information System
    e. Laboratory Information System
    f. Pharmacy Information System
    g. Coding & Abstracting System

3. Cost to implement complete HIS for medium size hospital = $15 million
    a. Ratio of software to hardware and professional services – 1:1.8
    b. Software = $5,357,143
    c. Hardware & Professional Services = $9,642,857

4. Small hospitals (i.e. < 25 beds) would not have the resources to manage a full HIS
    a. Cluster implementations among 8 hospitals
    b. Number of clusters = 33 (total # of hospitals = 270)

5. Small hospitals would have greater requirement for full implementation of HIS
    a. % of hospitals requiring full implementations = 50%
    b. Number of hospitals (exclusive of clusters in #4) = 117
    c. Total number including clusters in # 4 requiring full implementation = 91
    d. Cost to implement full HIS – 60% of medium hospital implementation = $9 million

6. Medium sized hospitals with systems > 10 years old would require full implementation
    a. % of hospitals requiring full HIS implementation = 30%
    b. Number of hospitals= 40

7. Major system upgrades are estimated at 40% of cost of a full HIS
    a. Cost to complete system upgrade = $6 million
    b. % small hospitals (# of beds between 25 – 99) requiring upgrade = 30%
    c. Number of hospitals = 70
    d. % of medium hospitals requiring upgrade = 30%
    e. Number of hospitals = 40

Investment Needed

1. Investment required for small hospitals – full implementation
   $ 9,000,000 x 91 = $ 819,000,000

2. Investment required for small hospitals – system upgrade
   $ 6,000,000 x 70 = $ 420,000,000

3. Investment required for medium hospitals – full implementation
   $ 15,000,000 x 40 = $ 600,000,000

4. Investment required for medium hospitals – system upgrades
   $ 6,000,000 x 40 = $ 240,000,000

5. Total investment for HIS for small and medium size hospitals
   $ 2,079,000,000

[3] Prepared for the Canadian Medical Association by Branham Group December 2008
see: http://www.branhamgroup.com/company.php

References

[i] Will Stimulus Help Employment in a 21st Century Economy? *Wall Street Journal*, Dec. 5, 2008.

[ii] These estimates were derived using the principle of an employment multiplier and adapted using the methodology applied by Informetrica for an infrastructure study they prepared for the Federation of Canadian Municipalities (05/08).

[iii] Improving performance measurement, quality assurance and accountability in the public-private interface — CMA Policy Statement, *It's still about access! Medicare Plus*, July 2007

[iv] A Report Card on Canada see: http://sso.conferenceboard.ca/HCP/overview/health-overview.aspx

[v] Organization for Economic Co-operation and Development [OECD] (2007). OECD Health Data 2007. Version 07/18/2007. CD-ROM. Paris: OECD.

[vi] World Health Organization [WHO] (2007). World Health Statistics 2007. see: http://www.who.int.

[vii] *Mirror, Mirror on the Wall: An International Update on the Comparative Performance of American Health Care*
May 15, 2007 (updated May 16, 2007) | Volume 59
Authors: Karen Davis, Ph.D., Cathy Schoen, M.S., Stephen C. Schoenbaum, M.D., M.P.H., Michelle M. Doty, Ph.D., M.P.H., Alyssa L. Holmgren, M.P.A., Jennifer L. Kriss, and Katherine K. Shea
Editor(s):Deborah Lorber see: www.commonwealthfund.org/publications/publications_show.htm?doc_id=482678

[viii] Booz, Allan, Hamilton. *Canada Health Infoway's 10-Year Investment Strategy: pan-Canadian electronic health record*, March 2005-09-06.

[ix] *The economic cost of wait times in Canada*, January 2008. This study was commissioned by the Canadian Medical Association to analyze the economic costs of wait times in Canada's medical system. The CMA's membership includes more than 67,000 physicians, medical residents and medical students. It plays a key role by representing the interests of these members and their patients on the national stage. Located in Ottawa, the CMA has roots across the country through its close ties to its 12 provincial and territorial divisions.
See: www.cma.ca/multimedia/CMA/Content_Images/Inside_cma/Media_Release/pdf/2008/EconomicReport.pdf

[x] Sources: Physician visits - CIHI - Physicians in Canada: Fee-for-Service Utilization 2005-2006. Table 1-21. Hospital contacts - CIHI - Trends in Acute Inpatient Hospitalizations and Day surgery Visits in Canada 1995-1996 to 2005-2006 and CIHI -National Ambulatory Care Reporting System - Visit Disposition by Triage Level for All Emergency Visits - 2005-2006.

[xi] Canada boasts a sophisticated network of providers, many globally-recognized hospitals, and a number of major centres for health research. We spend aggressively in global terms on health research, which is supported nationally by the Canadian Institutes of Health Research (CIHR). But against this backdrop lies a mystery: why do so few Canadian health care firms sell their products and services in the international market? Only nine sell as much as $100 million of any product or service to customers outside the country, with total sector sales outside Canada of less than $5 billion. This sector total compares unfavourably with the foreign sales of individual firms such as Bombardier at $22 billion, and Magna International at $14 billion; overseas health-care sales are even dominated by the export of sawn logs, at $9 billion. see:
http://www.rotman.utoronto.ca/rogermartin/Canadianhealthcaremystery.pdf (accessed January 7, 2009)
From: Roger, Martin, The Canadian Health Care Mystery: Where Are the Exports? *Rotman* magazine (Winter 2006).

[xii] Ibid.