Advancing Healthcare in British Columbia Through Medical Devices and Technologies

MEDEC’s Contribution to the BC Conversation on Health
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Executive Summary

MEDEC is the national association created by and for the Canadian medical device industry. MEDEC’s primary goals are to advance health outcomes for patients and to advance the growth of the industry. We are focused on ensuring access to proven, safe and innovative medical technology.

The medical device industry employs over 35,000 Canadians in close to 1,500 corporate facilities comprised of small, medium and large-sized businesses. It has over $6 billion in national sales per annum with approximately 8 per cent or $500 million in sales occurring in British Columbia.

MEDEC is pleased to present a submission as part of the Conversation on Health initiative by way of this report to the government of British Columbia on a key issue affecting the government’s ability to provide British Columbians with the highest quality care and improve the health system.

MEDEC is proposing as part of the discussion a solution to address part of this issue. A solution that also fits with the current government’s efforts to reduce wait times for an expanding list of key medical procedures; as well as maintaining and protecting the public’s confidence in the safety of the healthcare system. Namely, British Columbia needs to create a Medical Device Technology Fund. This would be a fund that could address non-drug technologies as adjuncts or substitutes to drugs and/or non-drug technologies that replace existing technologies.

We propose that British Columbia create a new Medical Device Technology Fund modeled after the former federal Diagnostic and Medical Equipment Fund (DMEF) administered through the provinces until its cessation in March 2006.

The restrictions of the former federal fund limited British Columbia to major capital purchases leading to the expansion of access to major diagnostics and did not allow the province the flexibility to address access to non-capital purchases, the majority of medical device technologies.

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1 The DMEF provided $1.5 billion over three years (2003-04 to 2005-06) to provinces and territories in support of specialized staff training and acquisition of equipment, recognizing that improved access to publicly funded diagnostic services is a priority for Canadians.
British Columbia has an opportunity to provide patients with access to the devices needed to improve their health as well as provide significant cost offsets to the BC Pharmacare Program and health region budgets. Currently, Canada, including BC, lags in the introduction, adoption and diffusion of medical device technology.

MEDEC proposes a fund be established by BC to improve patient access to new medical device technology and at the same time, provide the province with concrete data to demonstrate the cost-effectiveness of these devices. We propose the fund be established with a budget in year one of $60 million to facilitate the update of technology. It is anticipated that the ongoing annual costs would need to be considered for an initial three year period.

MEDEC proposes that the Ministry of Health establish a consultative process with MEDEC to develop the parameters for an ongoing program to help British Columbians receive the technologies that they and their healthcare providers have determined as best for them and to maximize the offset to the Pharmacare Program and regional budgets due to use of device technologies. In addition, the fund would alleviate clinicians’ concerns and their patient care decisions that are based solely on cost. Finally, the fund would assist to stimulate the home-grown device industry in British Columbia.
About MEDEC

MEDEC is the national association created by and for the Canadian medical device industry. The association acts as the primary source for advocacy, information and education on the medical device industry for members, the greater healthcare community, industry partners and the general public.

Medical devices are broadly defined by Canada’s Food and Drug Act to incorporate devices from medical technologies, to \textit{in vitro} diagnostics as well as homecare and assistive technologies. MEDEC members provide medical devices such as:

- Pacemakers and implantable cardioverter defibrillators
- Artificial heart valves
- Hip and knee implants
- Synthetic skin
- Scalpels
- Medical laboratory diagnostic instruments
- Blood glucose monitoring systems
- Intraocular lenses
- Cardiac catheters
- Dialysis equipment/supplies
- IV equipment/supplies
- An array of other operating room devices, hospital equipment and \textit{in-vitro} diagnostics

MEDEC’s primary goals are to advance health outcomes for patients and to advance the growth of the industry. We are focused on ensuring access to proven, safe technology and new, innovative medical technology.

Our members’ products help health practitioners strengthen health outcomes and are designed to enhance patient safety. Our industry is deliberately focused on innovation and the development of new medical technologies that deliver better care to more patients at a lower cost.

Our industry contributes significantly to the health and well being of Canadians. As a driver of innovation, the medical device industry can potentially become an engine of economic prosperity. Medical device advancements help save lives and improve patients’ and their families’ quality of life by:

- Improving the accuracy of diagnosis
- Enhancing treatments and cure of diseases
• Reducing long-term disabilities
• Helping to improve medical care.

The medical device industry:
• Employs over 35,000 Canadians in close to 1,500 corporate facilities comprised of small, medium and large-sized businesses
• Over $5 billion in national sales per annum with approximately 8 per cent or $500 million in sales occurring in British Columbia.
• The global average investment in research and development is 8 per cent of sales
• 1 in 10 Canadians live with some type of medical implant and thousands more depend on other medical devices and technologies
• Fundamental differences exist between medical devices and research-based pharmaceuticals
  o Much shorter product lifecycles
  o New products regularly bring added functions and clinical value
  o Industry can be more responsive to end users
  o Robust assessment process prior to committing funding

(Based on Q4-2005 Survey Results)

Creating a Medical Device Technology Fund

MEDEC is aware that the British Columbia Government established in 2007 a 100-million dollar fund to promote innovation and facilitate change within the healthcare system. The Minister of Finance, in consultation with the Minister of Health, will use the Health Innovation Fund to assist health authorities with the cost of implementing good practices, restructuring service delivery systems and eliminating key information bottlenecks. This funding however, did not explicitly include medical device technologies or a way for British Columbians to access them.

What MEDEC is proposing by this submission, is for the government to expand the approach to adopting innovation to include a new Medical Device Technology Fund. This would be a fund that could address non-drug technologies as adjuncts or substitutes to drugs and/or non-drug technologies that replace existing technologies (see Appendix 1 & 2 for specific examples). This fund could be modeled after the former federal Diagnostic and Medical Equipment

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Fund (DMEF) administered through the provinces until its cessation in March 2006.

It is important for the BC Government to understand that new and innovative medical devices are not a cost driver to the system. There is a significant body of evidence internationally to show that use of innovative medical devices can substantially reduce requirements for pharmaceuticals and reduce emergency room visits and hospitals stays. We propose that part of the new program allow for study to create a “made-in-British Columbia” body of evidence to verify the local applicability of this global conclusion.

British Columbia has the opportunity to create a regionally based health technology assessment system led by the provincial health region. The individual regions could be the assessment arm for provincial medical device funding decisions.

There are many examples of medical device technologies that have received positive health technology assessments that could provide immediate health benefits to patients as well as cost offsets to the British Columbia Ministry of Health if administered and tracked properly. Non-drug technologies are proving to change the healthcare landscape globally and within Canada. For example:

- Non-drug technologies are increasingly displacing drugs
- Focus on drugs may shift to devices as safety and effectiveness improve
- Emphasis on non-drug or hybrid technologies will become major disruptors if the following assumptions are realized:
  - Hospitals will become the focus for rapid and complex interventions
  - Investments will shift from 20-30 year amortized funding for chronic disease management to front-ended funding for acute interventions
  - The use of non-drug technologies for drug-resistant diseases will be challenged
  - Health human resources and systems will undergo realignments in response to technology-driven changes
- More sophisticated economic analysis will impact on decision making
- Post marketing studies will become increasingly important for long-term decision making

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3 Dr. Leslie Levin, Head, Medical Advisory Secretariat, Senior Medical, Scientific and Health Technology Adviser, British Columbia Ministry of Health and Long-Term Care, December 6, 2006, presentation “From Pill Popping to Bionic Man, The Future and Policy Implications.”
Very important to MEDEC is the ability to provide to the market in British Columbia access to the latest developed technologies and devices more easily adopted and propagated in other jurisdictions. Barriers in British Columbia are mostly due to the current funding structure and actual disincentives that exist around adopting new technology.

The federal Diagnostic and Medical Equipment Fund has expired however, there is an opportunity for British Columbia to demonstrate leadership by creating a similar but improved funding model that would help healthcare facilities and healthcare systems acquire new medical device technologies.4

Health Regions in British Columbia currently are working through their 2007/08 budgets and planning for 2008/09. For the providers and distributors of medical device technologies, a major challenge is where their product release fits within the region’s budgeting cycle. For example, if a new technology is released mid or even later in the year, regions do not have the new funds and are required to reallocate resources to purchase the recommended medical device technologies.

**What would the Fund look like?**

There is an opportunity to be more strategic in adopting medical device technologies that would be beneficial to patients in British Columbia through funds made available for technologies that come to market outside of the normal budget cycle.

This fund would allow the regions and the healthcare facilities within each region to acquire the technology. Individual clinicians, through their healthcare facilities would apply for funds to purchase the technology for the period of time (whether the rest of a fiscal year or plus fiscal year.) Based on evidence of the technology and what the technology is intended for, funds could be received and appear on a line item relative to the technology within the broader Provincial Medical Device Technology Fund. In essence, the regions and hospitals would receive the funds, and then the healthcare providers would get access to the newest technology available to patients. And, the Province would get the evidence to determine the appropriate use and reimbursement funding levels for the technology.

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4 New medical device technology is defined here as newly released technology or technology that has come to market which patients and healthcare providers have not been able to access.
In determining the amount of funding for this program, the former Federal DMEF model can be used. British Columbia received approximately $60 million dollars for the DMEF per year. We would suggest a similar amount be allocated for the BC Medical Device Technology Fund.

We propose the fund be established with a budget in year one of $60 million to facilitate the update of technology. It is anticipated that the ongoing annual costs would need to be considered for an initial three year period. MEDEC proposes that the Ministry of Health establish a consultative process with MEDEC to develop the parameters for an ongoing program to help British Columbians receive the technologies that they and their healthcare providers have determined as best for them and to maximize the offset to the Pharmacare Program and regional budgets due to use of device technologies. In addition, the fund would alleviate clinicians’ concerns and their patient care decisions that are based solely on cost. Finally, the Fund would assist to stimulate the home-grown medical device industry in British Columbia.

To measure the value of the technology and as a built-in condition for the funds being provided, government would benefit from live field studies on the application of the technology and its effectiveness. It is suggested that the provincial government would provide templates/frameworks developed by the Canadian Agency for Drugs and Technologies in Health (CADTH). These templates would be used by the clinician to enrol patients in the field study program that measures the effectiveness of the technology over the period of that program. Upon completion of these assessments, the government would have evidence as to the value of the technology and could then determine continued funding. In effect, create conditional reimbursement.

This new fund would not be restricted to major capital purchases, marking a major difference between it and the original DMEF. It could be used to acquire any medical device technology that would improve the health of British Columbians. Another major improvement would be the accountability in monitoring the fund’s distribution and the technology assessment that is built into the medical device technology fund.
Benefits to Government, Clinicians and Patients

The benefits of this type of approach include:

- Healthcare regions do not have to reallocate money from other programs to accommodate a new technology – instead new funding is acquired and specifically monitored.

- Governments benefit with current data on the cost effectiveness of the devices. In return for funding there must be a field study done on the value of the technology.

- Patients gain access to life-saving technologies not available in British Columbia for want of a proper program and funding to support it.

- Healthcare providers can practice modern medicine with access to the latest proven and recommended devices that will be rigorously assessed.

- The medical device industry would gain access to the marketplace in British Columbia with patients and clinicians becoming early adopters of innovation rather than laggards.
### Appendix 1

Non-drug Technologies as Adjuncts or Substitutes to Drugs

<table>
<thead>
<tr>
<th>Condition</th>
<th>Example of drugs used</th>
<th>Non-drug technologies as adjunctive or replacement to drugs, with potential for increasing utility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventricular arrhythmias</td>
<td>Amiodorone</td>
<td>Implantable cardiac defibrillator</td>
</tr>
<tr>
<td>Atrial fibrillation</td>
<td>Digoxin, coumadin, calcium channel blockers</td>
<td>Endocardial ablation</td>
</tr>
<tr>
<td>Heart failure with wide QRS interval</td>
<td>B-blockers, ACE inhibitors, diuretics, channel blockers</td>
<td>Bi-ventricular pacemakers</td>
</tr>
<tr>
<td>End-stage heart failure</td>
<td>B-blockers, ACE inhibitors, channel blockers, diuretics</td>
<td>Bridge to transplantation and destination ventricular assist devices</td>
</tr>
<tr>
<td>Acute MI with ST elevation</td>
<td>Thrombolysins</td>
<td>Coronary stents (primary angioplasty)</td>
</tr>
<tr>
<td>Parkinson’s disease</td>
<td>L-Dopa</td>
<td>Deep brain stimulation</td>
</tr>
<tr>
<td>Depression</td>
<td>Antidepressants</td>
<td>Deep brain stimulation</td>
</tr>
<tr>
<td>Urge incontinence</td>
<td>Anticholinergics</td>
<td>Sacral nerve stimulation</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Insulin</td>
<td>Pancreatic cell transplantation. Closed insulin delivery systems</td>
</tr>
<tr>
<td>Obesity</td>
<td>Lipase inhibitors, appetite suppressants</td>
<td>Bariatric surgery</td>
</tr>
<tr>
<td>Vertebral fractures</td>
<td>Pain medication</td>
<td>Vertebroplasty/balloon kyphoplasty</td>
</tr>
</tbody>
</table>

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5 Dr. Les Levin, Ibid
## Appendix 2

**Non-Drug Health Technologies Displacing Existing Technologies\(^6\)**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Non-Drug Technology</th>
<th>Newer technologies claimed more effective, safer or easier to use,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repair of aneurysms</td>
<td>Surgical repair</td>
<td>Endovascular graft repair</td>
</tr>
<tr>
<td>Fracture non-union</td>
<td>Autologous bone graft</td>
<td>Osteogenic protein 1 ® Autologous bone marrow</td>
</tr>
<tr>
<td>Dysfunctional uterus bleeding</td>
<td>Hysterectomy</td>
<td>Endometrial ablation</td>
</tr>
<tr>
<td>Stress urine continence</td>
<td>Colposuspension</td>
<td>Mid-urethral slings</td>
</tr>
<tr>
<td>Brain aneurysms</td>
<td>Surgical clipping</td>
<td>Endovascular coil embolisation</td>
</tr>
<tr>
<td>Coronary artery stenosis</td>
<td>Bare metal stents</td>
<td>Drug eluting stents</td>
</tr>
<tr>
<td>Small bowel bleeding</td>
<td>Push endoscopy</td>
<td>Wireless capsule endoscopy</td>
</tr>
<tr>
<td>Vertebral fractures</td>
<td>Vertebroplasty</td>
<td>Balloon kyphoplasty</td>
</tr>
<tr>
<td>Myocardial viability</td>
<td>Spectroscopy, dobutamine ECHO</td>
<td>FDG-PET, functional MRI</td>
</tr>
<tr>
<td>Coronary artery disease</td>
<td>Coronary angiography</td>
<td>64-slice CT angiography</td>
</tr>
<tr>
<td>Cancer imaging</td>
<td>CT, MRI</td>
<td>PET scan</td>
</tr>
<tr>
<td>Severe heart failure</td>
<td>Heart transplantation</td>
<td>Ventricular assist device</td>
</tr>
<tr>
<td>Cervical cancer screening</td>
<td>Cytological examination</td>
<td>Human papillomavirus testing</td>
</tr>
<tr>
<td>Degenerative disc disease</td>
<td>Spinal fusion</td>
<td>Artificial disc replacement</td>
</tr>
</tbody>
</table>

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\(^6\) Dr. Les Levin, Ibid