

A Proposed Direction for Medical Technology in BC and a Proposed Role for Government

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Executive Summary:

To ultimately improve patient care, the BC government should consider shifting efforts from standardizing client systems, to subsidizing (perhaps completely), open interoperability standards, and reducing risk frictions (privacy / contract reconciliation concerns) because it would increase the rate and lower the cost of physician EMR (Electronic Medical Record) adoption, the key challenge to achieving the benefits of a pan Canadian system.

The Challenge and Opportunity:

Canada's and by extension BC's medical system are closely tied to Canadian identity. This was evidenced in 2004 by the selection of Tommy Douglas as the Greatest Canadian on the CBC program.ⁱ The principles are embodied in the Canada Health Act, the cornerstones of which are: public administration, comprehensiveness, universality, portability, and accessibility.ⁱⁱ These goals must coexist with the Canadian Privacy Act and its echo, Bill 73, which extends disclosure requirements to government contracted private companies.ⁱⁱⁱ

However, like other medical systems worldwide, the BC Medical system is under a variety of (albeit debated) pressures including but not limited to cost pressures (from inflation, an aging population, and new technologies)^{iv}, and capacity pressures (evidenced by a shortage of family physicians^v and long surgery waiting lists, especially in orthopedics^{vi}). Many studies have suggested a pan Canadian and by extension pan BC EMR can contribute to reducing costs in the system.^{vii}

The Key – Adoption:

The savings of a pan Canadian EMR are predicated on adoption.

Technology adoption is commonly modeled using Moore's "Chasm" model – which espouses coddling "technologist and visionaries", the front of the adoption curve, as relationship bridges or beachheads – the seeds of the peer adoption, critical to breaking the pragmatic early majority and developing adoption momentum yielding a standard.^{viii,ix}

Studies suggest complexity / physician resistance, and cost pressures / lack of perceived value are the primary hurdles to EMR adoption.^{x,xi}

Further literature suggests interoperability is key to providing that value^{xii,xiii}, but that increased interoperability does not correlate with improved value.^{xiv} Indeed some literature suggests more than half the costs of adoption will accrue to front line care providers^{xv}, while many of the benefits of the EMR adoption will accrue to system payers and as such, it is appropriate for them to bear the cost of implementation.^{xvi}

The technology adoption curve is echoed in reported adoption hurdles and differential rates by support countries / states – consider the multi-beachhead approach to EMR adoption in Israel which yielded 90%+ adoption – a standout in terms of time to adopt and overall adoption rate – this despite a lack of interoperability suggesting strong niche benefits.^{xvii} Consider also the rate of adoption of EMRs by physicians in Canada by province – adoption in Alberta continues to lead despite multiple predictions that other provinces would pass it.^{xviii} Both suggest that not restricting offerings helps EMR adoption. Further, a focus on interoperability is more influential than client incentives or

standards as evidenced by Denmark and it's near 100% adoption in contrast to the Alberta EMR program.^{xix}

PITO – the Declared Principles, and some Considerations:

Declared Principles:

The literature suggests the PITO (Physician Information Technology Office^{xx}) program embraces the following principles:^{xxi}

- a) Funding requires selecting one of 6 short listed client applications
- b) Funding requires choosing an ASP (Application Service Provider) service
- c) Funding requires a three party contract amongst Provider, Government, and Physician
- d) Funding requires a physician “PITO Commitment”
- e) Funding has a limited and uncertain future.
- f) Funding contemplates more than just software but includes service and support
- g) Funding contemplates the full integrated solution including PPN (Private Physician Network)
- h) Funding requires “core data set” uploading

Considerations:

Much study and effort have been put towards the PITO project, and reasons for optimism regarding the program include:

- a) a significant number of physician applications^{xxii} and
- b) significant efforts to develop interoperability standards from the network level (PPN)^{xxiii}, and communication (XML and to a lesser degree HL7).^{xxiv}

However, some have communicated causes for concern. Specifically:

- a) the shortage of certified vendors 1 year later^{xxv}
- b) the uncertainty around future funding and interoperability^{xxvi}
- c) the potential exposure of PITO sanctioned vendors and perhaps physicians to legal sanctions when reconciling privacy law requirements in light of Bill 73, and the requirement to share a Core Data Set with government agencies^{xxvii}
- d) the anticipated long term costs (slowed adoption and greater expense especially through slowed interoperability)^{xxviii} of a closed application standard,
- e) the slowed adoption in Alberta since adopting a BC modeled RFP,^{xxix} and
- f) the uncertainty around the sanctity of the bid process.

Conclusion - A Proposed Role for Government:

There is merit in the BC Government retargeting PITO by:

- a) redoubling its investments in and encouragement of interoperability (e.g. PPN, XML and HL7),
- b) eschewing efforts to standardize the client, and
- c) clarifying how Bill 73 and the Canadian Privacy Act reconcile with its own standard contracts.

By shifting a focus away from the client and onto interoperability, we can borrow heavily from Denmark's experience – a rapid escalation to almost 100% technology adoption^{xxx}, and Israel's experience (allowing niche client development) – a rapid escalation to almost 90% adoption.^{xxxi} This adoption might include embracing industry offerings which ease establishing interoperability.^{xxxii}

By avoiding client standardization, PITO would avoid supporting if not creating a closed standard (and its associated costs^{xxxiii}) and allow the flourishing of established and niche products eliminating work in ways not currently contemplated by PITO, embrace physician determined practice processes as opposed to bureaucrat defined, and leverage the adoption efforts of technologists and visionaries as opposed to disenfranchising them, even if that subset is just 20% as proposed by PITO^{xxxiv}, or higher.^{xxxv}

By clarifying how Bill 73 and the Canadian Privacy Act reconcile with its own standard contracts could well relieve the concerns of vendors and physicians alike.

- ⁱ CBC Website, <http://www.cbc.ca/greatest/standings/> reviewed on Oct 20, 2008
- ⁱⁱ Health Canada Website (2005), http://www.hc-sc.gc.ca/hcs-sss/alt_formats/hpb-dgps/pdf/pubs/2005-hcs-sss/2005-hcs-sss-eng.pdf , reviewed on Oct 20, 2008.
- ⁱⁱⁱ Davis and Company (2004), Health Law Bulletin, <http://www.davis.ca/publication/Health-Law-Bulletin-Bill-73-Freedom-of-Information-and-Protection.pdf> , Reviewed Oct 20, 2008
- ^{iv} Canadian Centre for Policy Alternatives Website (Marc Lee, 2006), http://www.policyalternatives.ca/documents/BC_Office_Pubs/bc_2006/aging_healthcare.pdf , reviewed on Oct 20, 2008.
- ^v BC Conversation on Health (2007), http://www.bcconversationonhealth.ca/media/SGP_Conversation%20on%20Health_Submission.pdf , reviewed on Oct 20, 2008.
- ^{vi} Canadian Centre for Policy Alternatives Website (Marc Lee, 2006), http://www.policyalternatives.ca/documents/BC_Office_Pubs/bc_2006/aging_healthcare.pdf , reviewed on Oct 20, 2008.
- ^{vii} Infoway Website (2006), http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/Conference%20Executive%20Summary_EN.pdf , reviewed on Oct 20, 2008.
- ^{viii} Wikipedia, http://en.wikipedia.org/wiki/Crossing_the_Chasm , reviewed on Oct 20, 2008
- ^{ix} Linowes, Summary of Crossing the Chasm, <http://www.parkerhill.com/Summary%20of%20Crossing%20the%20Chasm.pdf> , reviewed on Oct 20, 2008
- ^x Medical Enterprise Management Associates, http://www.mema-asso.com/Opinion_Education/EMR_-_Barriers_to_Adoption/emr_-_barriers_to_adoption.htm , reviewed Oct 20, 2008
- ^{xi} Robert Wood Johnson Foundation (2005), <http://www.rwjf.org/qualityequality/product.jsp?id=14591> , reviewed on Oct 20, 2008
- ^{xii} Health Affairs, Brailer (2005), <http://content.healthaffairs.org/cgi/content/full/hlthaff.w5.19/DC1> , reviewed on Oct 20, 2008
- ^{xiii} Adoption of Information Technology in Primary Care Physician Offices in Alberta and Denmark, Part 2: A Novel Comparison Methodology, Protti et al, (2007), <http://www.longwoods.com/product.php?productid=18936&cat=487> , Reviewed Oct 20, 2008
- ^{xiv} Health Affairs, Walker et al (2005), http://content.healthaffairs.org/content/vol0/issue2005/images/data/hlthaff.w5.10/DC1/Walker_Ex2.gif , Reviewed on Oct 20, 2008.
- ^{xv} Health Affairs, Walker et al (2005), http://content.healthaffairs.org/content/vol0/issue2005/images/data/hlthaff.w5.10/DC1/Walker_Ex2.gif , Reviewed on Oct 20, 2008.
- ^{xvi} A Proposal for Electronic Medical Records in US Primary Care, Bates et al (2003), <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=150354> , reviewed Oct 20, 2008
- ^{xvii} Electronic medical record systems in Israel's public hospitals, Lejbkowitz, (2004), <http://cat.inist.fr/?aModele=afficheN&cpsid=16149865> summary reviewed Oct 20, 2008.
- ^{xviii} Infoway Business Plan (2008), http://www.infoway-inforoute.ca/Admin/Upload/Dev/Document/Infoway_Business_Plan_2008-2009_Eng.pdf?ireff=19 , Reviewed Oct 20, 2008
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- ^{xx} PITO Website – <http://www.pito.bc.ca/> , Reviewed Oct 20, 2008.
- ^{xxi} SGP PITO Whitepaper (2008), <http://www.sgp.bc.ca/download.php?section=news&id=178&PHPSESSID=ab32a1cdc547d6ae5a69ecd2b4312dfe> , Reviewed Oct 20, 2008
- ^{xxii} BCMA Website, Jeremy Smith (2008), <http://www.bcmj.org/re-pito-vendors-0> , Reviewed Oct 20, 2008
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^{xxix} ElliottMeditech (2008), anecdotal discussions with Alberta vendors.

^{xxx} Adoption of Information Technology in Primary Care Physician Offices in Alberta and Denmark, Part 2: A Novel Comparison Methodology, Protti et al, (2007), <http://www.longwoods.com/product.php?productid=18936&cat=487> , Reviewed Oct 20, 2008

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^{xxxii} EMIS Website (2008), Offer to Share SNOMED CT efforts, <http://www.emis.ca/about-us/emis-news/Shareip/> , Reviewed Oct 20, 2008

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