



INFORMATION REPORT

TO: Mayor and Members Board of Health	WARD(S) AFFECTED: CITY WIDE
COMMITTEE DATE: November 28, 2011	
SUBJECT/REPORT NO: Health Information Technology Project Report BOH11039 (City Wide)	
SUBMITTED BY: Elizabeth Richardson, MD, MHSc, FRCPC Medical Officer of Health Public Health Services Department	PREPARED BY: Joanne Kohut (905) 546-2424 Ext. 4300 Danika Walden (905) 546-2424 Ext. 1753
SIGNATURE:	

Council Direction:

N/A

Information:

The Public Health Services Management Team will improve the management of information related to the delivery of public health programs and services by implementing the open source software suite, OSCAR (Open Source Clinical Application and Resource), in collaboration with McMaster University Department of Family Medicine.

As part of the PHS Strategic Business Plan, the Board of Health approved the creation and execution of a Public Health Information Technology (PHIT) Plan. This report provides an update on the recommendation for implementing new electronic medical record software. This project has been submitted in the 2012 capital budget.

The multi-year PHIT Project is the result of an assessment conducted in 2010 of the information technology (IT) needs of each public health program and service based on the following criteria: effectiveness, privacy and security, efficiency, volume of clients, sustainability and sensitivity of the information handled.

The PHIT project will standardize the way electronic information is collected, stored and analyzed across the department. It will leverage current technology to improve business processes, align with best practices and ensure that personal health information is stored in a secure manner in compliance with privacy and security legislation.

This project addresses key IT needs, starting with a comprehensive clinic management system and including clinic scheduling, nursing documentation and case management components.

OPTIONS CONSIDERED

Three options were considered:

1. Implement an Open Source Clinical Application and Resource (OSCAR) in collaboration with McMaster University Development Team.

OSCAR is an open source suite of software that originates with McMaster University's Department of Family Medicine. Its components include an Electronic Medical Record (EMR), case management, personal health record and other integrated applications which have been developed collaboratively by a network of health care providers and developers across Canada. McMaster is eager to expand the use of OSCAR to the public health setting and willing to work with Hamilton PHS to customize and develop features specifically for use in public health service settings.

2. Implement an Open Source Clinical Application and Resource (OSCAR) by hiring an OSCAR Service Provider (OSP).

McMaster has designated a number of third party vendors that are capable of installing, customizing, developing and supporting OSCAR.

3. Purchase proprietary software from third party vendor(s).

Multiple proprietary software applications could be purchased in order to meet the individual needs of PHS programs and services. These components may need to be separately installed, customized, and supported, and would not necessarily support the creation of a comprehensive PHS electronic health record.

Analysis of Options

On the basis of cost and benefits, collaborating with McMaster to implement OSCAR represents the lowest cost option with the greatest number of advantage (\$77,000).

These costs include: the purchase of servers and computers for the clinics, staff training and implementation support from McMaster. The summary of advantages are:

- Aligns with the corporate directive to consider non-commercial, open-source options.
- Cost-effective way to meet many PHS IT needs and contribute to a Hamilton PHS client electronic health record.
- Flexible and sustainable solution because of the large and growing OSCAR user community at the local, provincial and national level who contribute to its continuous evolution.
- Provides the opportunity to collaborate with the original developers of the software and contribute to development for widespread use of the system in other public health units.
- Allows PHS to support the system internally without getting locked in with a vendor.
- Provides the platform to access portals such as Clinical Connect, creating an opportunity for Hamilton PHS to integrate information flow among local health sector stakeholders, a first for Ontario.
- Complements our co-location with the McMaster clinic.

Greater detail of the qualitative cost – benefit analysis is provided in Appendix A.

FINANCIAL AND OPERATIONAL IMPLICATIONS

PHS's 2012 capital block funding will be used to fund this \$77,000 project. Although it is open-source software, implementation of OSCAR requires dedicated PHS staff resources, support from Corporate Information Services and implementation services from McMaster's Department of Family Medicine.

The implementation of any of the options will require re-engineering of business processes that would alter current work flows and have implications on service delivery staff.

Adopting OSCAR is an example of a collaborative win:win project that will strengthen the relationship between PHS and McMaster, as we share a new downtown location.

Appendix to Report BOH11039:

Appendix A: Qualitative Cost-Benefit Summary for Implementation of OSCAR with McMaster University

Qualitative Cost-Benefit Summary for Implementation of OSCAR with McMaster University

Qualitative Summary	Description	Stakeholder(s) Impacted
Advantages		
Reduced capital and operational costs	<ul style="list-style-type: none"> Software is open source meaning there is no charge for it or for user licenses. By partnering with the McMaster Development Team, cost is reduced for customization, training and support because third party vendor is not needed to implement or maintain the system. 	City of Hamilton
No vendor lock-in	<ul style="list-style-type: none"> Software is open source meaning it can be customized to meet needs specific to PHS. This translates to no vendor lock-in and flexibility to expand the system with new functionality in the future. There is also the flexibility to work with vendors (OSCAR Service Providers) if needed for certain stages of implementation and maintenance. 	City of Hamilton
Collaboration across Hamilton Community	<ul style="list-style-type: none"> McMaster is eager to work with City of Hamilton to enhance the utility of OSCAR for expansion into the public health sector. Hamilton PHS has the opportunity to collaborate with the original developers of OSCAR software and contribute to development for widespread use of the system in other public health units. 	PHS Department and other Health Units
Ability to expand across several programs and services, contributing to Hamilton PHS Client Electronic Health Record	<ul style="list-style-type: none"> OSCAR Suite of software contains an integrated case management component (called CAISI) as well as a personal health record or client communications component (called MyOSCAR) that could be used to meet PHS IT needs beyond clinic management. MyOSCAR also provides ability for clients to access their health records via the Web. Open source software also allows PHS to expand its capability by adding modules and new functions as PHS business processes change. 	PHS Department
Sustainability	<ul style="list-style-type: none"> Costs to sustain the system are reduced because PHS developer gains support knowledge in working with McMaster. Software is also sustainable because it continues to evolve by incorporating the thoughts, ideas and innovations of its users. 	PHS Department
Large user community	<ul style="list-style-type: none"> Hamilton has the potential to benefit from the development of other OSCAR developers across the nation. 	PHS Department
Automated import of lab data	<ul style="list-style-type: none"> OSCAR EMR has the ability to automatically receive lab results electronically. 	PHS programs and services

Potential to collaborate across healthcare sector	<ul style="list-style-type: none"> OSCAR is widely used among Hamilton physicians, clinics and hospitals. Introducing OSCAR in the public health sector contributes to establishing complete electronic health records across the Hamilton Niagara Haldimand Brant Local Health Integration Network. No charge for access to portals such as Clinical Connect, creating opportunities to share data across healthcare sectors. 	Hamilton Niagara Haldimand Brant LHIN
Cost-effective way to meet many PHS IT needs	<ul style="list-style-type: none"> Software is flexible and can be used in a variety of public health settings (case management, clinic management, scheduling, registration and nursing documentation). 	PHS Department
Compliments collocation with McMaster Clinics	<ul style="list-style-type: none"> When Hamilton PHS is sharing clinic space with McMaster, we will both be using the same system. 	City of Hamilton
Potential to expand use to Hamilton EMS	<ul style="list-style-type: none"> Hamilton EMS has showed interest in implementing OSCAR to leverage client information for use in emergency situations. 	City of Hamilton
Software is flexible	<ul style="list-style-type: none"> Open source software provides flexibility to change the system as PHS documentation and reporting requirements change. 	PHS Department
Disadvantages:		
Development of inventory management module required	<ul style="list-style-type: none"> OSCAR EMR does not include an inventory management component so it must be developed. PHS resources will be required to do this. 	P&BI and program staff
Customization required	<ul style="list-style-type: none"> Customization is required to make OSCAR EMR function specifically for public health clinics. Too much customization can lead to problems when updated versions of the software are released. PHS resources will be required to do this. 	P&BI and system users
PHS Resources required	<ul style="list-style-type: none"> PHS staff resources will be required: Application Analyst, Project Management, Business Analyst, Clinic coordinator, Other users of the system 	PHS Department
Maintain current level of service by Application Analysts	<ul style="list-style-type: none"> 1.0 FTE Application Analyst will be dedicated to working with McMaster developers to gain knowledge of the system, for development of an inventory management module and to provide on-going support. This translates to continuation of the current level of service for program requests by 1.0 Application Analyst. 	PHS Programs and Services
Increased Project Timeline	<ul style="list-style-type: none"> Contractual negotiations with McMaster may increase timeline. 	PHS Department & McMaster Family Health Team