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SAFETY, RESPECT  
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FOR ALL

LA SÉCURITÉ,  
LA DIGNITÉ  
ET LE RESPECT  
POUR TOUS

## Health Information Management Module

Annual Review

Internal Audit Branch

378-1-233

Approved by Audit Committee

September 25<sup>th</sup>, 2007

Canada

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# Executive Summary

## Background

This project review has been performed by the Centre for Public Management in conjunction with Internal Audit of Correctional Service Canada (CSC) to respond to Treasury Board Secretariat (TBS) requirements under the Enhanced Management Framework<sup>1</sup>. This review covers project management processes in place since the inception of the Health Information Management Module (HIMM)<sup>2</sup> project, with the objective of identifying lessons learned so far and opportunities for improvement which can be implemented while the project is underway to improve its chances of success.

Presently, the health information management activities within CSC are done manually. The objective of the HIMM project is to implement a commercial off-the-shelf (COTS) solution to effectively manage and share information, facilitating the management of care and the allocation of resources for Health Services. The HIMM project is scheduled to be implemented in 58 sites within CSC by 2010 and TBS has allocated \$18 million to CSC for the project.

## Conclusions

Overall, we found that sufficient project management mechanisms are in place for the HIMM project, given the limited scope over the past two years and setting aside weaknesses as a result of sharing the Project Management Office (PMO) with the Offender Management System Renewal (OMSR) project. As the project moves into the procurement and implementation phase, an increased focus on project management will be required. A number of initiatives to strengthen project management are already underway.

## Project Strengths

We observed a number of strengths in place in the areas of project planning, governance and management framework.

- The project has a comprehensive project charter, which is being kept up to date over the life of the project.
- A project plan is in place, as are mechanisms to manage risks and issues.
- The Director General of Health Services, the client for the project, is kept apprised of progress, and there are regular status reports provided to the Director General, IMS.
- As the project moves into the procurement and implementation phase, a project control officer position is being staffed, and a project plan is being developed to identify and allocate resources for the various elements of the HIMM project.

## Opportunities for Improvement

As noted previously, we noted some opportunities to strengthen the project management processes as the project moves into the procurement and implementation phase.

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<sup>1</sup> The Enhanced Management Framework is designed to ensure that government information technology projects fully meet the needs of the business functions they are intended to support, deliver all expected benefits and are completed on time and on budget.

<sup>2</sup> HIMM is a module that will be incorporated into the Offender Management System.

- The business case should be updated to reflect a cost/benefit analysis, and kept up to date over the life of the project.
- A dedicated project steering committee, meeting regularly and co-chaired by a senior executive within Health Services Sector<sup>3</sup> and the Director General, Information Management Services, should be implemented to ensure that the project obtains the governance and support it will require. As the risk management approach is strengthened, it should be integrated with this committee.
- In addition, our interviews indicated that the communication and accountability between the project team members and the business could be strengthened.
- The most significant opportunity for improvement is in the area of User Change Management. Health Services has always been a paper based system, and the end users have had limited access to computers. The project plan includes training trainers (commonly called a “Train the Trainer” approach), but specifically excludes the training of end-users. Given the importance of training in the ultimate acceptance and use of the system by the end-users, their training should be included in the project plan.

These items are covered in more detail in the body of this report.

Senior management has reviewed, and agrees with, the findings contained in the report. The Management Action Plan which addresses the recommendation is included in Appendix B.

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<sup>3</sup> Effective September 2007, a new governing structure for Health Services was implemented including the position of Assistant Commissioner, Health Services.

## 1.0 Background

The increased demand on CSC health services due to the aging offender population, high turnover rates and the general poor health of offenders (including a high rate of infectious disease) has resulted in a monumental increase in the amount and type of health related information which must be collected. The automation of offender health information has been recognized as a high priority business need. This system will be supportive of the CSC Health Services business processes by providing a means to efficiently track, monitor, and share health care information on offenders from admission through release back to the community, in an effective, accurate and timely fashion. The module is expected to accommodate all CSC health care providers across 58 sites and will have the capacity to share information with the Offender Management System (OMS) on an as-needed basis.

The Health Information Management Module (HIMM) for CSC would include a basic or core patient medical file (as an information database) to effectively manage and share pertinent medical information between institutions and regions. Over time, as costs permit, additional modules will be added which would enhance the functionality of the information management system.

Presently, the health information management activities within CSC are done manually. The objective of the HIMM project is to implement a commercial off-the-shelf (COTS) solution to effectively manage and share information, facilitating the management of care and the allocation of resources for Health Services.

The HIMM Project formally began in 2005 with the initiation of the Project Definition Phase, which included gathering user requirements and producing a Request for Information (RFI) to identify the COTS available on the market. The project experienced a delay primarily due to the dependency on the selection of the new computing platform (NCP) for CSC. This delay resulted in a project slowdown in the summer of 2006, however the project is currently being ramped up with plans for the Project Procurement and Implementation Phase. This phase includes the procurement of the COTS solution and subsequent implementation by 2010. On June 23<sup>rd</sup> 2005, the TB decision identified the Preliminary Project Approval (PPA)<sup>4</sup> for the HIMM project as:

- HIMM system computing platform at an indicative total cost estimate of \$15,992,626; and
- \$2,273,000 for project definition

This review covers the work completed since the inception of the HIMM project and it is being undertaken as required under the Enhanced Management Framework (EMF), with a focus on project management effectiveness. The Centre for Public Management Inc. was contracted by Internal Audit, CSC, to work with Internal Audit staff to complete this review.

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<sup>4</sup> Preliminary Project Approval (PPA) is Treasury Board's authority to initiate a project in terms of its intended operational requirement, including approval of the objectives of the project definition phase and any associated expenditures. Sponsoring departments submit for PPA when the project's complete scope has been examined and costed, normally to the indicative level, and when the cost of the project definition phase has been estimated to the substantive level.

## 2.0 Objective of the Review

The review was carried out with the following objective:

*To assess the project management processes that are being used to implement the HIMM system and provide recommendations to be incorporated for the remainder of the project to assist in its successful completion.*

## 3.0 Scope and Approach of the Review

This review covers the project management mechanisms and processes from inception of the project in April 2005 to March 31, 2007. Where applicable we have noted improvements which have been implemented subsequent to March 31<sup>st</sup>, 2007.

As part of the review, we examined key aspects of the management of large IT projects, including:

- Project planning;
- Project governance; and
- Project management capacity

The review began in April 2007, and we carried out our examination from April to June 2007. This work involved:

- Interviews,
- Documentation review,
- Reviewing project management practices against those of recognized organizations such as the Project Management Institute's Project Management Body of Knowledge (PMBOK) and the IT Governance Institute's Control Objectives for Information and related Technology (COBIT); and,
- Detailed examination of selected project management processes.

As part of the review we performed 9 interviews of HIMM project members and key stakeholders (See Appendix A for a list of interviewees). The team also examined supporting documentation to determine whether specific processes or controls were in place.

## 4.0 Observations

### 4.1 Project Planning

In the context of project planning, the team reviewed the business case and the project charter. A business case is a structured proposal which identifies the costs, benefits risks and approach for an improvement initiative. The project charter is a contract between the project and the client, and is used as a method of communication to project stakeholders. Both of these documents are normally prepared at the outset of the project, with the business case prepared in order to secure project approval and the project charter prepared to map out the project activities.

#### 4.1.1 Business Case

Under project planning, we expected to find that the HIMM project team had developed a business case that was comprehensive and complete, and which identified and justified the HIMM project and indicated how it related to CSC and government-wide priorities. At a minimum a business case should identify:

- the opportunities for improvement;
- the benefits of such an undertaking;
- the technical solution at a high-level;
- indicators against which to measure any improvement in program performance;
- costs (up-front, direct ongoing, indirect and potential user/client costs); and
- the risks and steps to be taken to manage those risks.

The team found that the HIMM business case (in the form of a presentation deck dated January 30, 2003) covered the opportunities for improvement, qualitative benefits, technical solution (e.g. COTS solution) and costs. It did not provide quantified savings, performance measures or the project risks. The risks that were presented related to those faced if the project did not go ahead.

#### 4.1.2 Project Charter

We found that the HIMM project team has a project charter which defines the scope of the project. It also sets out the overall project management framework and standards to be used. The project charter also clearly defines who the internal and external stakeholders are, describes roles and responsibilities for the members of the project team and establishes the overall project governance structure. Furthermore, we found that the project charter has set out the timeframes, deliverables and financial commitments for the project.

##### ***Project Planning: Strengths***

- The project charter is a comprehensive document, and according to its update history has been maintained throughout the life of the project, with the most recent update in April 2007.

##### ***Project Planning: Opportunities for Improvement***

- The business case, although covering the many of the basic requirements, is presented as a PowerPoint presentation. By its nature, a presentation deck is not designed to convey details, but higher level concepts. We would normally expect a business case to contain the cost, benefits at a detailed level. In addition, the project risks and mitigation strategies should be covered. While these are covered in the project charter, Preliminary Project Approval (PPA) and Effective Project Approval (EPA), the business case is normally prepared first, and should contain this information. The HIMM business case should be updated to reflect the missing components and then kept up to date over the life of the project.

## 4.2 Project Governance

We expected to find that a steering committee had been established and was operating and, in particular, that individuals at the appropriate levels had been identified and were participating on

the committee. We found that, similar to the governance structure for the OMSR project, the steering committee for this project is the Information Management and Technology Committee (IMTC). The committee is made up of permanent and rotating members and chaired by the Assistant Commissioner, Corporate Services (CIO)<sup>5</sup>. Meeting on a quarterly basis, the IMTC mandate is to serve as a key focal point for information management/information technology/technology issues of concern to CSC. As such, the HIMM project was just one aspect of this committee's mandate. The next level of governance is the weekly manager's meeting, which is an operational meeting chaired by the Director General of Information Management Services. We noted that there were regular informal communications between the DG IMS, CIO and DG of Health Services.

Over the life of the project, there have been five project managers in the IMIT division. This resulted in a lack of consistent project management methods and styles. However, the project leader position has recently been staffed on a permanent basis.

***Project Governance: Strengths***

- The DG of Health Services, as the client of the project, is kept apprised of the status of the project and the issues which it faces
- HIMM project team normally meets on a weekly basis
- A status report is being provided to DG, IMS every two weeks

***Project Governance: Opportunities for Improvement***

- In a project of this size, best practices suggest a project steering committee that focuses solely on the project, and meets at least on a monthly basis. This committee should be co-chaired by a key stakeholder, such as a senior executive within the Health Services Sector<sup>6</sup>.
- The current efforts to implement stable project management for this project should be continued, and include a succession plan to minimize the impact of turnover

## **4.3 Project Management Framework**

The objective was to assess the soundness of project management processes in place and their contribution to the project's success by ensuring that an effective management control framework existed. The project management processes that we examined as part of this review included the following areas: project planning, tracking and control; risk and issue management; internal and external training and communication; project management capacity; and, project management office.

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<sup>5</sup> Prior to July 2007, the IMIT division fell under the responsibility of the ACCS. It is now the responsibility of the Senior Deputy Commissioner.

<sup>6</sup> Effective September 2007, a new governance structure for Health Services was implemented, including the position of Assistant Commissioner, Health Services.

#### 4.3.1 Project Planning, tracking and control

The project has maintained a detailed plan. With the procurement and implementation phase of the project, the project is being planned in conjunction with the OMSR continued implementation. This joint plan facilitates the sharing of human resources across the projects in order to provide the necessary expertise in a timely fashion. In addition, a project control officer position is being planned for the HIMM project.

The financial information provided by the Comptroller's branch indicates that the costs to date for the HIMM project are \$1.67M as noted in Table 1 below:

Table 1  
HIMM costs to March 31st, 2007

2004-2005	2005-2006	2006-2007	Total
\$243 061	\$680 997	\$745 313	\$1 669 371

The audit team noted that the expenditures increased from 2005-2006 to 2006-2007, even though the project experienced a slow down in the summer of 2006 related to the dependency on the selection of the new computing platform (NCP) for CSC. Further enquiries revealed that final costs were lower than originally forecasted for 2006-2007, as most resources were reassigned within OMS, IMS or Health Services once the delay became evident.

##### ***Project Planning, tracking and control: Strengths***

- A project plan was in place at the outset of the project and used to track progress
- A planning approach is being used to allocate human resources between the OMSR and HIMM projects
- A project control officer position is being planned for the project

#### 4.3.2 Risk and Issue Management

Risks were identified in the project charter, PPA and EPA. In addition, a risk register was maintained over the period under review, although use of the register varied with the five project managers. The current team leader plans to bolster the risk register on a going forward basis.

Some of the key risks identified in the project charter, including training, conversion and change management, have not yet been resolved. However, there is still time to resolve these issues as the project progresses.

##### ***Risk and Issue Management: Strengths***

- A risk/issue log has been used and it was maintained throughout to track the risks and issues that were discussed
- The risks and issues were brought up in weekly and biweekly meetings and addressed as needed

##### ***Risk and Issue Management: Opportunities for Improvement***

- During the first two years of the project, a risk register was maintained. On a going forward basis, a bolstered approach, including a Risk Identification Committee is being implemented. We note the similarity of this process to the process that was put in place for OMSR. In the case of the OMSR, the process

was not maintained due to its overlap with other management processes. This is a comprehensive approach, however even if a separate risk committee is not used, any risk approach should be integrated with the project steering committee to ensure that risks are escalated to the appropriate level and dealt with on a timely basis.

### **4.3.3 Internal and External Training and Communication**

Historically, Health Services activities have been documented using a paper based system, and the end users have had limited access to computers. The implementation of the HIMM will create a change in the way Health Care staff do their day to day work. This is why training becomes such an important part the HIMM project's success.

The most significant project risks identified in the HIMM project documentation are related to change management. The scope of the project includes training trainers (commonly called a "Train the Trainer" approach), but specifically excludes the training of end-users. This approach was used for the OMSR project with success; however there are a number of key differences between OMSR and HIMM which indicate a different approach is warranted, including:

- The OMSR users were familiar with computers, having used the legacy OMSR system, while the HIMM users are moving from pen and paper.
- There was an OMSR representative in each institution to provide support and training. This structure does not exist with HIMM.

Although there is a large dependency on end-user training for the success of the project, there are no plans on how this will be achieved. End user training does appear on the project plan, but there is no accountability within the plan on how it will be coordinated and delivered.

The train the trainer approach is not the issue with HIMM, since it is an effective training methodology. Our point is that the ultimate trainers and training schedule should be under the control and direction of the HIMM project.

Another issue that was raised in our interviews was access by the project team to the business. Under the current governance structure, access by the project team (including the business representatives on the project team) to members of Health Services is handled via the Director General of IMS, who coordinates with the Director General of Health Services. Normally, when business representatives are placed on a project team, they maintain their accountability to the business. This ensures that their network remains intact and the interests of the business are incorporated in the solution. In this case, the business members report to IMS, and the governance structure does not encourage them to utilize or maintain their network. This, coupled with the lack of a project steering committee, increases the risk of a disconnect between the business and the project.

#### ***Internal and External Training and Communication: Opportunities for Improvement***

- Due to the significance of the change that will be faced by system users, end user training should be included in the project plan
- A mechanism should be put in place to provide business representatives on the team with accountability to Health Services. This could be achieved through an improved communication structure between the business representatives and

Health Services, for example by implementing the regional and national HIMM committees that were originally proposed in 2005.

#### **4.3.4 Project Management Capacity**

As noted previously, the HIMM project has had five project managers over its life. This lack of consistency and continuity impacted the project management capacity of the project. Currently a project leader has been appointed, and the Deputy Director General acts as the project manager. Based on our interviews the longer term plan is to appoint a full time project manager once the workload warrants it.

##### ***Project Management Capacity: Opportunities for Improvement***

- Current initiatives to improve project management capacity (the appointment of a project leader, and plans to hire a dedicated project manager) should be implemented and a succession plan be developed to ensure project management continuity, particularly as the project moves to the implementation phase.

#### **4.3.5 Project Management Office**

The HIMM project has used the OMSR project office. There were a number of recommendations made to improve the function of the PMO in the OMSR Project Closure Review. These improvements are equally applicable to HIMM and are repeated here.

##### ***Project management Office: Opportunities for Improvement***

- IMS should maintain a project management office which would act as a central resource for all IT projects. The tasks that should be performed by the PMO include:
  - Maintain the master project schedule,
  - Track issues and risks,
  - Coordinate status reporting,
  - Act as a repository for best practices and knowledge objects developed on projects,
  - Perform resource management,
  - Develop and maintain development policies and standards,
  - Perform financial tracking and monitoring in conjunction with Comptroller's Branch.
- The PMO staff should be free of IMS administration tasks, and focus solely on project work.
- A formal PMO, performing the tasks noted above, will improve resource allocation and utilization while also improving quality through the enforcement of development standards and the transfer of best practices from one project to another.

## **5.0 Conclusion and Recommendation**

Overall, we found that sufficient project management mechanisms are in place for the HIMM project, given the limited scope over the past two years and setting aside weaknesses as a result of sharing the Project Management Office (PMO) with the OMSR project. As the project

moves into the procurement and implementation phase, an increased focus on project management will be required. A number of initiatives to strengthen project management are already underway.

The Senior Deputy Commissioner, in collaboration with the Assistant Commissioner, Health Services should continue to enhance IM/IT project management practices, as they relate to the HIMM project, in particular that:

- the HIMM business case be updated to reflect the missing components and then kept up to date over the life of the project;
- a dedicated project steering committee be established, meeting regularly and co-chaired by senior executive within the Health Services Sector;
- a dedicated project manager be appointed when project activity dictates;
- the delivery of end user training be included in the project plan;
- communication and accountability between the business representatives on the project and Health Services be strengthened.

## Appendix A: List of Interviews

<b>NAME</b>	<b>TITLE</b>
Richard Harvey	Director General, IMS
Françoise Secours	Previous Team Leader, HIMM
Charles Gauthier	Team Leader, HIMM project
Sylvie Ann Lavigne	Business Representative, HIMM
Gino Lechasseur	Deputy Director General, Offender Management System Renewal
Nancy Conner	Business Team Manager, HIMM
Dr. Françoise Bouchard	Director General, Health Services
Keith McDougall	Technical Team Manager, HIMM
Ron Duross	Contractor (external consultant), Offender Management System Renewal

## Appendix B: Management Action Plan

RECOMMENDATION	MANAGEMENT ACTION PLAN
<p>The Senior Deputy Commissioner, in collaboration with the Assistant Commissioner, Health Services should continue to enhance IM/IT project management practices, as they relate to the HIMM project, in particular that:</p> <ul style="list-style-type: none"> <li>• the HIMM business case be updated to reflect the missing components and then kept up to date over the life of the project;</li> <li>• a dedicated project steering committee be established, meeting regularly and co-chaired by a senior executive within the Health Services Sector;</li> <li>• a dedicated project manager be appointed when project activity dictates;</li> <li>• the delivery of end user training be included in the project plan;</li> <li>• communication and accountability between the business representatives on the project and Health Services be strengthened.</li> </ul>	<p>A revised draft business case will be produced with the missing components in the form of an Annex to the existing business case by October 30, 2007. Review and approval of the revised business case with the Business client will be completed by November 16, 2007. It will be presented to Information Management and Technology Sub-Committee (IMTSC) as part of the HIMM project update by December 2007.</p> <p>Terms of Reference for a dedicated project steering committee were produced by September 15, 2007 for consultation with Health Services stakeholders. The Project Steering Committee will be in effect by October 15, 2007.</p> <p>A Project Manager has been hired for the duration of the project and this position reports to the Deputy Director General, OMS.</p> <p>In collaboration with Health Services, an end-user skills assessment will be developed and administered during the winter of 2007/2008. The delivery of end user training will then be added to the project plan.</p> <p>With the introduction of a revised project steering committee (refer to second bullet above), this recommendation will also be addressed.</p>