Delivering Health*SMART* - Victoria's whole-of-health ICT strategy

1 EXECUTIVE SUMMARY

1.1 Introduction

1.1.1 Background

In 2003 the Department of Human Services (DHS) established the Office of Health Information Systems (OHIS) to deliver the Health*SMART* program. The program was approved by the Victorian Government to implement Victoria's *Whole-of-health Information and Communication Technology Strategic Plan 2003-2007*.

Health*SMART* is currently a six-year, $323 million technology program operating across the Victorian Public Health System (VPHS) and due for completion in June 2009. The program is large and complex, involving health services, rural information and communication technology (ICT) alliances and community-based health providers across the state. It is the most far-reaching ICT change program ever undertaken by the VPHS.

The Health*SMART* program was funded by re-allocation of previously approved DHS funds ($112.0 million), new funds ($138.5 million), and agency contributions (equivalent to $72.9 million).

DHS manages expenditure of the existing and new funds, and recently allocated a further $34.8 million from its own resources to the program to meet additional costs related to longer implementation schedules and decreased agency funding.

The program aims to replace obsolete and unsupported applications in health care agencies with capable, industry-standard products. It plans to introduce new systems able to support the transformation of healthcare. At the same time, agency ICT infrastructure will be refreshed and developed.

1.1.2 Scope of the Health*SMART* program

Health*SMART* aims to improve patient care, reduce the administrative burden on health care professionals and ease the costs associated with updating technical infrastructure within the VPHS by adopting a more standardised approach to information systems.

Through the Health*SMART* program and the strategic use of ICT DHS aims to:

- improve health care services and outcomes for the public
- make the provision of health care more efficient

- manage available resources better
- attract, retain and support a highly skilled health workforce.

There are five major initiatives associated with the Health*SMART* program. While each focuses on different functional areas, the interdependencies between these initiatives are critical to achieving the required outcomes.

The scope of these initiatives includes:

- resource management systems across health services, rural ICT alliances and major health centres
- patient management systems across health services, rural ICT alliances, community health, ambulance and dental services
- clinical systems, supporting access to clinical services and their results (providing the structure and initial content of an electronic health record), as well as electronic medication ordering, across all health services and regional hospitals
- an appropriate governance and program management structure to facilitate the implementation of this strategy
- a shared services facility to support the Health*SMART* applications installed across the VPHS.

1.2 Findings from this audit

1.2.1 Achievement against the approved plan

Original milestones were too ambitious

Our review of the program shows that the original milestones for the program have proven to be too ambitious, requiring OHIS to periodically revise them as the program proceeds.

Our analysis also indicates that the program will not be finalised by its planned completion date of June 2009, although DHS has not yet advised the government of the need to revise the expected completion date.

Implementation of clinical systems is most at risk

The ICT implementation most at risk is Clinical Systems, the application with highest potential benefit. It is also not clear how many agencies are within the scope of the Health*SMART* clinical systems roll-out, requiring DHS to:

- clarify the total number of agencies implementing the clinical systems project, and
- devise a realistic schedule, with adequate contingency, to successfully implement the program.

Failure to implement clinical systems is a serious issue for DHS and the health sector in terms of delivering the expected outputs and benefits of the Health*SMART* program.

Half the budget spent for a quarter of the planned installations

DHS had spent $184 million of the approved HealthSMART project budget by December 2007. This is about 57 per cent of the original $323 million allocation.

There has been significant planning, preparation and procurement activity and effort undertaken by OHIS. This effort has consumed $91.3 million or about 50 per cent of the $179 million budget allocated to implementation of the Health*SMART* applications.

At present, 24 per cent of the planned application installations are complete, with the shared services environment and supporting ICT technical infrastructure fully operational.

Implementation delays have led to underspend against forecasts

Due to delays in the implementation of most of the planned Health*SMART* installations, DHS has continually underspent its

forecast annual budgets for the program.

This situation has caused unspent funds to be carried forward to subsequent years.

At the current rate of implementation, DHS will not be able to use all its allocated capital by the current planned program completion date of June 2009.

No reliable method to estimate agency implementation costs

We found that OHIS does not have a reliable basis for estimating agency expenses nor does it monitor agency expenses for the Health*SMART* program. Therefore, there is doubt about the reliability of its cost to completion forecasts and reporting on sector-wide actual expenditure.

Furthermore, although it is unlikely that any final accounting of the program will be able to capture its full cost, it is clear that the additional contribution by DHS to the program is at least 14 per cent over budget.

Recommendations

DHS should:

- identify the agencies that are expected to implement clinical systems and devise a realistic schedule, with adequate contingency, to successfully implement the program.
- work with agencies to define a standard method to record agency costs related to the Health*SMART* program.
- monitor, in collaboration with health agencies, agency costs for the Health*SMART* program and report them to the Board of Health Information Systems.
- seek authorisation for the various changes it has made to system implementation and budget targets within the Health*SMART* program through the defined central agency amendment processes.

RESPONSE provided by Secretary, Department of Human Services

*Whilst the department acknowledges that the Health*SMART *program is behind its initial schedule, the program has nevertheless been tightly managed with any changes to timeline approved by the peak governing body (Board of Health Information Systems) in a very transparent and accountable manner.*

DHS also believes that funding for the project has been tightly managed and expects to keep within the operating cost budget estimate provided within the original budget case and the project funds provided by government. DHS has allocated some additional ICT funds available within the DHS base budget and varied the relative contributions between DHS and health service contributions but this is in the context of a complex set of funding and productivity arrangements between DHS and health services that varied after the original business case.

*The department considers that the Health*SMART *program has delivered significant benefit. The landscape of health ICT has changed significantly and positively as agencies have moved to industry standard products delivered through an enhanced service delivery model. This change would not have occurred without the centralised facilitation and coordination that Health*SMART *has provided.*

Specific comments on section 1.2.1 of the Executive Summary

Product selection and configuration has occurred for all HealthSMART applications; the underpinning infrastructure has been purchased and installed to support these.

*Seventeen sites have been implemented, with some sites using multiple Health*SMART *products; 10 sites are undertaking implementation activity and 21 sites are planning implementation activity.*

*The decision to implement any Health*SMART *application within a participating agency is made by health service*

*boards based on individual business cases. The remaining set of decisions on Health*SMART *applications by health service boards is nearing finalisation.*

Government through ERC and OCIO reporting have been regularly updated on the status of implementations and any implications for program targets.

DHS agrees with audit recommendations that implementation schedules should be finalised as soon as possible and appropriate approvals for any necessary revisions to time or budget should be sought at that time.

1.2.2 Realisation of benefits from the program

Strategy is based on a coherent vision

The Health*SMART* strategy is based on a coherent vision which reflects global and national trends to increase ICT-enabled health service delivery. The strategy was designed to address immediate issues of obsolescence and to provide a basis for cost effective service delivery and improved patient outcomes.

The strategic plan was developed following stakeholder consultation to ensure that appropriate priorities were identified across the sector. A steering committee, composed of senior DHS and health agency representatives, oversaw its development.

Lack of detailed business case has been a key planning flaw

The lack of a whole-of-program business case has been a key flaw in the planning for the program. DHS had an inadequate baseline analysis or process to demonstrate that the program would be viable, and would provide value for money, with benefits from the program exceeding costs.

Due to this deficiency, a number of implementation issues that could have been forecast or analysed in a business case have now manifested themselves during the life of the program. A better business case may have avoided:

- implementation delays caused by procurement issues
- issues arising from unforeseen technical complexity and
- funding approval delays by health agency boards.

Furthermore, due to the absence of a state-wide clinical systems business case, health agencies and the state are now having difficulty committing to additional ICT investment, such as enabling works, which are prerequisite to the effective implementation of clinical systems.

Some benefits have been realised

Health agencies have been able to realise benefits from the implementation of the Financial Management Information Systems (FMIS), Human Resource Management Systems (HRMS) and Patient and Client Management Systems (PCMS) applications. Some obsolete systems have been replaced and others are being replaced. Many agencies have taken up the opportunity to improve the way they do business.

The FMIS portfolio has substantially delivered its planned outputs, with 8 of the 11 participating health agencies successfully implementing the FMIS product. The remaining 3 agencies are expected to finalise implementation by the end of April 2008. However, there are considerable delays in obtaining benefits from the implementation of clinical systems. The delay in implementing clinical systems is more than a project management and scheduling issue. Opportunities to realise benefits and reduce costs have also been delayed.

Budget revision means greater subsidy by DHS

DHS did not have a reliable basis for estimating ‘whole of life’ costs arising from the program, or for defining agency contributions.

It also did not seek to identify whether agencies were able to meet their anticipated contributions.

This means that DHS was in a position neither to accurately estimate the total cost of ownership of Health*SMART* systems and infrastructure, nor to estimate what level of contribution should, or could, be made by health agencies.

Revisions to the program budget were made in June 2006, resulting in DHS contributing an additional $35 million. This DHS cost escalation was made in recognition of the inability of agencies to meet the original DHS expectations of co-contributions.

No source of sustainable ICT investment for health agencies

The ability to plan and accommodate Health*SMART* costs is dependent on the viability of individual health agencies. While some agencies have sufficient reserves to pay for their share of implementation expenses and ongoing costs, others have struggled.

Adequate funding of ICT infrastructure within health agencies is an ongoing challenge within the sector, as ICT competes for funds with general medical equipment, which is given priority due to its clinical 'patient facing' usage.

If the past patterns of ICT underinvestment continue, some agencies will not be able to keep their infrastructure up to date and are at risk of not fully benefiting from the investments made through the Health*SMART* program.

Delays mean greater subsidy of shared services

Delays in implementation of applications will mean that the Health*SMART* shared services arrangement will have to be subsidised by an extra $61 million until enough agencies have implemented Health*SMART* applications.

This could divert significant funds from DHS service delivery budgets and lead to underutilisation of a strategic whole-of-sector ICT asset.

Recommendations

- DTF and DHS should work with the VPHS implementing agencies to develop an evidence-based business case, in line with current better practice guidance, to better assure the effective delivery of the incomplete components of the HealthSMART program.
- DHS should adopt a whole-of-life asset management approach to ICT investment in the VPHS, so that agencies are able both to address obsolescence and to develop as appropriate their ICT capabilities and infrastructure with more certainty than the current funding models allow.

RESPONSE provided by Secretary, Department of Human Services

*DHS acknowledges audit comment that Health*SMART *was a coherent vision and benefits have been realised from implementations to date.*

A business case for the project was developed and approved by government. Audit believes that a more detailed business case may have avoided some issues encountered. The department considers that this conclusion is a matter of opinion and that a different business case is unlikely to have prevented the issues raised.

Health Services are almost exclusively funded by DHS. The break up of DHS and health services contributions within the existing health budget has been refined over the life of the project.

*The Health*SMART *business case included a forecast of future operating costs for the shared service. DHS believes that operating costs will be managed within this original estimate.*

DHS agrees with audit recommendations that business cases should be in line with current best practice and that a

*whole of life approach to ICT investment should be adopted. DHS also believes that current best practice cannot be applied retrospectively to the original Health*SMART *submission.*

RESPONSE provided by Secretary, Department of Treasury and Finance

*DTF understands that DHS is closely working with VPHS agencies to facilitate the implementation of incomplete components of the Health*SMART *program. DTF will assist DHS, as required, in the successful completion of the program.*

1.2.3 Program monitoring and review

Adequate governance structures established

In November 2003 the Board of Health Information Systems (BHIS) was formed to oversee the development and implementation of the *Whole-of-health Information and Communication Technology Strategic Plan 2003-2007* and to provide high-level direction for the Health*SMART* program.

BHIS is comprised of senior representatives from DHS, DTF, primary and community health agencies, metropolitan health services, and rural and regional health ICT alliances. The Board has no executive powers, being in effect an advisory body within the broader governance environment of DHS.

The Secretary of DHS is the chair of BHIS and actively participates in decision-making concerning the Health*SMART* program, and reports to the Minister for Health.

DHS has placed significant emphasis on the governance and management arrangements for Health*SMART*. The governance structure and the presence of senior departmental and agency representatives has also enabled frank and open discussions on risks and deliverables.

Sound program/project management processes in place

Overall program management is sound and the Program Management Office (PMO) has adequate controls in place to coordinate their complex program.

The program has sound risk management processes. There is transparent reporting, monitoring and accountability for key risks and issues, ensuring that key risks are openly discussed and addressed.

The procurement selection and evaluation processes were adequate and while the successful tenderers did not comply completely with all user requirements, OHIS used effective processes to ensure that gaps in vendor functionality were addressed to meet user requirements.

However, OHIS has faced a number of program challenges such as:

- continuing to have difficulties attracting skilled and experienced ICT personnel and continuing to rely on contract staff and secondments from health agencies to fill key positions
- ensuring that all vendors perform and meet their contractual requirements. DHS has taken a proactive approach to managing its vendors and has deferred payments or required vendors to replace non performing managers.

Lack of required Gateway reviews and internal audit scrutiny

Although the endorsement of the Health*SMART* funding submission was conditional on the program undergoing a series of Gateway reviews at key decision points, only one of the five reviews required in the funding approval has been conducted to date.

Further, there has not been any internal audit activity conducted or planned for the program by DHS.

Oversight of the program could be strengthened if regular independent assurance on the progress of the program was conducted.

Lack of benefit management studies

Although portfolio charters broadly describe the benefits to be obtained from a system implementation, no benefits 'baselining' had been done for the FMIS/HRMS or PCMS applications. Further we were not able to find any evidence of benefits planning or reviews at the agency level for these applications.

OHIS has developed a whole-of-program benefits management plan, however some of the KPIs in that plan are more akin to measures of activity and output rather than measures of benefit outcomes.

Recommendations

- DTF and DHS should ensure that the Health*SMART* program and its component portfolio projects are subject to timely Gateway reviews, consistent with current policy on high expenditure/high risk projects and programs.
- DHS should ensure regular internal audits of aspects of the Health*SMART* program, given the high levels of risk and expenditure involved.
- DHS, in collaboration with implementing agencies, should review the benefits received from the implementation of the Health*SMART* program. This review should focus on whether:
- the applications and ICT infrastructure are operating as planned
- benefits are being realised
- ICT systems and infrastructure are providing the expected functionality, without any negative impacts.

RESPONSE provided by Secretary, Department of Human Services

DHS believes that the Board of Health Information Systems, consisting of senior health service, DHS and central agency staff, is appropriate to govern the program.

DHS supports audit recommendations to further strengthen governance and benefits realisation.

RESPONSE provided by Secretary, Department of Treasury and Finance

DTF notes this recommendation.

Project assurance mechanisms, such as the Gateway Review Process, help provide strategic assessment of progress at key project phases, aiding in the successful completion of high risk projects and programs.

The current status of the HealthSMART program would dictate whether the conduct of Gateway program reviews could contribute to a successful completion of the program or derive lessons learned for future undertakings. DTF will liaise with DHS to assess the opportunities for future reviews of this program.

Quicklinks

Contents (pdf of report)

Foreword

1. Executive summary
2. About the Health*SMART* strategy
3. Achievement against the approved program plan
4. Realisation of benefits from the Health*SMART* program

5. Monitoring and review of the program

Full Report (480kb)