Clinical ICT systems in the Victorian Public Health Sector

Victorian Auditor-General’s Report
Tabled 30 October 2013
The Victorian Auditor-General’s Office

- **Purpose** – assurance to Parliament on the accountability and performance of the Victorian public sector.

- **Legislation** – *Audit Act 1994* defines powers and responsibilities of the Auditor-General and the Victorian Auditor-General’s Office.

- **Mandate** – financial and performance audits of around 550 entities.
Background to the audit

- In 2003 the government committed to roll out clinical ICT systems to all major Victorian hospitals by 2007
  - Clinical ICT component has accounted for $143 million of the $323 million HealthSMART program
- Intention of the program was to:
  - improve the quality, safety and efficiency of patient care
  - deliver ICT that is well integrated and actively used in clinical practice.
- Outside the HealthSMART program, some health services have also implemented their own clinical ICT systems.
EMR system and supporting capabilities

Source: Department of Health *Defining an Electronic Health Record*, 2012
Audit objectives and scope

**Objective**
Examined the effectiveness of a selection of clinical ICT systems rolled out across the Victorian public health sector (VPHS) and assessed whether intended benefits from these investments are being realised.

**Scope**
Specifically considered whether:
- clinical ICT system roll outs have been appropriately planned and implemented
- expected outcomes and benefits have been realised
- the functionality of installed clinical ICT systems is likely to efficiently deliver interoperability across the VPHS and effectively align with national e-health initiatives.
Audit scope – *continued*

The audit examined the following agencies:

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<th>Department of Health</th>
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<td><strong>HealthSMART sites</strong></td>
<td><strong>Non-HealthSMART sites</strong></td>
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- Austin Health
- easternhealth
- Alfred Health
- Barwon Health
- The Royal Victorian Eye & Ear Hospital
- Peninsula Health
- The Royal Children’s Hospital Melbourne
- Peter Mac
Conclusion

The Department of Health (DH) failed to complete the implementation of Clinical ICT systems across 19 Victorian health services.

The system has only been rolled-out to four health services, with only two of them fully implementing it. This is due to:

• poor planning
• an inadequate understanding of system requirements and change management.

At three of the HealthSMART sites, evidence of a number of patient safety risks that have arisen due to the implementation of the clinical ICT system.
Conclusion – continued

• Although functionality is not directly equivalent, non-HealthSMART sites have implemented clinical systems at a fraction of the cost of the four HealthSMART sites:
  • HealthSMART average site installation cost = $36.3 million (including DH overheads and other consulting costs)
  • Non-HealthSMART site average installation cost = $1.8 million

• Clinical ICT systems in the Victorian public health sector do not currently enable patient data to be shared across hospitals—they operate as ‘disconnected islands’

• DH and health services are unable to report on the delivery of intended benefits or outcomes from clinical ICT systems.
Findings – Planning and implementation

• For HealthSMART, key changes in program scope and direction were not authorised by government.
  • i.e. reduction of roll out to four health services from 19

• DH did not have effective financial oversight practices to monitor total expenditure:
  • DH does not know the total cost paid to the vendor because it does not monitor spending at health services
  • DH has not been able to assess value for money of one clinical ICT system versus another.
Findings – Planning and implementation—continued

• DH did not have effective governance and contract monitoring in place to ensure vendor performance:
  • high-level intervention was needed by the former secretary
  • no penalties to contractor for continued lateness.

• DH has not effectively actioned recommendations from reviews conducted by this office in 2008 and the Ombudsman in 2011.
  • many issues with program were previously identified
  • gateway reviews conducted by DH were fragmentary.
Findings – Clinical system functionality

The HealthSMART clinical system has introduced new patient safety risks at three of the implementing hospitals. These include:

- **the 'encounter' issue**—the clinical system considers the patient as ‘discharged’ when transferred from the emergency department to a ward, or from ward to ward. This causes discontinuity of patients’ electronic medical charts and orders.
- **the complex prescription issue**—clinicians can be confused when electronically prescribing or managing patient medication.
- **printed electronic prescriptions being hand-amended**—due to difficulties faced when using the system, some clinicians knowingly print out a wrong prescription and hand amend it with the correct medication/dosage.
Findings – Clinical system functionality – continued

- Potential consequences of these issues include:
  - required medication could be missed or given twice
  - inaccurate electronic patient medical records.

- Current manual workarounds to rectify these are ‘inefficient, prone to error and are not fail-safe’.

- These risks need careful and timely attention by the relevant health services:
  - three have received management letters by the Auditor-General and we will closely monitor their rectification progress.
Findings – Clinical system functionality – continued

- At non-HealthSMART sites examined for the audit, clinical ICT systems have been incrementally developed, with strong clinician engagement.

- These systems do not include inpatient medication functionality but have other functionalities that are not included in the HealthSMART system build.
  - For example, medical officer handover notes, operation notes, outpatient letters and e-forms.
Findings – Outcomes and benefits

Some observed positive outcomes from the HealthSMART program include:

• clinicians within the same health service can simultaneously view a patient’s electronic data during a shift handover, which is a major advance over paper files

• the system has enabled HealthSMART sites to securely forward patient discharge summaries to GPs

• the Australian Medication Terminology (AMT) catalogue for procedures and medications was developed to make the HealthSMART clinical system work properly in Australia

• this work is potentially available for other Australian health services to use in their clinical system implementations.
Findings – Outcomes and benefits – *continued*

- Limited outcome and benefits realisation reviews have been undertaken by health services.
  - mainly anecdotal reviews or very narrow studies.
- DH is not monitoring achievement of desired outcomes and is yet to report on any benefits realised from the program.
  - DH identified intended benefits from the HealthSMART system in 2007, however, health services found that these were neither relevant nor measurable.
Findings – Interoperability

• In general, Victoria's health services are still highly reliant on paper records.

• Isolated islands of data continue to exist among all health services and even among sites of the same health service.

• None of the currently installed clinical ICT systems allow patients' clinical information to be efficiently shared across the Victorian public health sector.
Findings – Interoperability—continued

• This means that when patients are admitted in a Victorian public hospital, their clinical records from another public hospital are unable to be electronically accessed by attending clinicians.
  • they need to be faxed or sent by mail or courier, then re-scanned into the other clinical ICT system.

• Of the eight health services examined for the audit, only two have a capacity to interface with the new Australia-wide Personally Controlled Electronic Health Record.
### Recommendations summary

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<tr>
<th>That the Department of Health:</th>
<th>Accept</th>
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<tr>
<td>• develop a comprehensive strategic plan for the development of electronic medical record or clinical systems across the Victorian public health sector.</td>
<td>✓</td>
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<td>• conduct a review of its contract management, financial oversight and procurement practices for major ICT projects.</td>
<td>✓</td>
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<td>• establish guidelines so that approved budgets and programs are followed and that any exceptions or revisions are appropriately documented.</td>
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<td>That the Department of Health and health services</td>
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<td>• follow DTF guidance for future clinical ICT investments and require comprehensive business cases, relevant and measurable performance indicators and clearly articulated benefits and outcomes.</td>
<td>✓</td>
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### Recommendations summary—continued

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<tr>
<th>Recommendation</th>
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<td>That the Department of Health conduct a standards-based assessment of clinical system functionalities across the Victorian public health sector.</td>
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<td>That the Department of Health and relevant HealthSMART sites urgently work to appropriately and effectively resolve the 'encounter', 'complex prescriptions', pre-prepared discharge summaries and hand-amended prescription issues.</td>
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<td>That health services expedite mandatory and on-going training for clinicians in the use of clinical ICT systems.</td>
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<td>That the Department of Health:</td>
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<td>• report on the costs and benefits of the HealthSMART clinical system program.</td>
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<td>• seek a Gateway program review of the HealthSMART clinical system rollout.</td>
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<td>• identify options for health services to share relevant patient information.</td>
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