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 Health*SMART* program

page 1

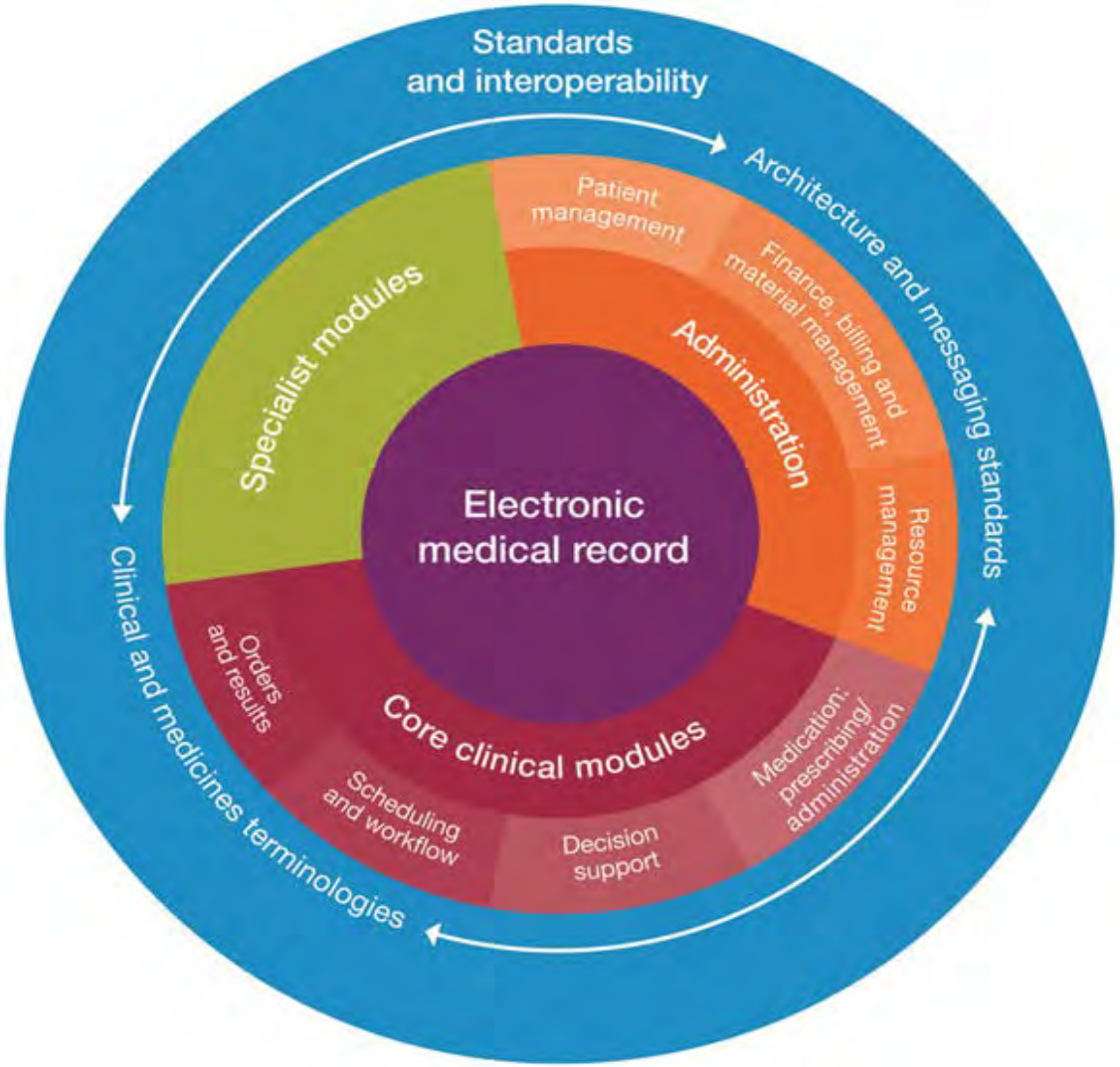
- Intention of the program was to:
  - improve the quality, safety and efficiency of patient care
  - deliver ICT that is well integrated and actively used in clinical practice.

page 1

- Outside the Health*SMART* program, some health services have also implemented their own clinical ICT systems.

page 1

EMR system and supporting capabilities



Source: Department of Health *Defining an Electronic Health Record*, 2012

Audit objectives and scope

page 9

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:

Department of Health

HealthSMART sites	Non-HealthSMART sites
Austin Health	Alfred Health
easternhealth GREAT HEALTH AND WELLBEING	Barwon Health
The Royal Victorian Eye & Ear Hospital caring in every sense	The Royal Children's Hospital Melbourne
Peninsula Health IN PARTNERSHIP, Building a Healthy Community	Peter Mac

Conclusion

pages x–xi

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 Health*SMART* sites, evidence of a number of patient safety risks that have arisen due to the implementation of the clinical ICT system.

Conclusion – *continued*

pages x–xi

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

pages 13–24

- For Health*SMART*, 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*

pages 13–24

- 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

pages 27–38

The Health*SMART* 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*

pages 27–38

- 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*

pages 27–38

- At non-Health*SMART* 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 Health*SMART* system build.
  - For example, medical officer handover notes, operation notes, outpatient letters and e-forms.

Findings – Outcomes and benefits

pages 43–46

Some observed positive outcomes from the Health*SMART* 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 Health*SMART* sites to securely forward patient discharge summaries to GPs
- the Australian Medication Terminology (AMT) catalogue for procedures and medications was developed to make the Health*SMART* 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*

pages 43–46

- 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 Health*SMART* system in 2007, however, health services found that these were neither relevant nor measurable.

Findings – Interoperability

pages 46–49

- 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*

pages 46–49

- 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

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

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

Contact details

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