AUSTRALIAN COMMISSION
ON SAFETY AND QUALITY IN HEALTH CARE

# Seventh clinical safety review of the My Health Record system

## Review 7.1: Assessing the impact and safety of the use of the My Health Record system in emergency departments

October 2016

# Contents

# Background

The Australian Commission on Safety and Quality in Health Care (the Commission) has undertaken a clinical safety program for the My Health Record system since the system's implementation in 2012. In July 2015, the Australian Government Department of Health appointed the Commission to conduct the seventh clinical safety review of the system, with the oversight of the Commission's Clinical Safety Oversight Committee (CSOC).

The aim of the Commission's clinical safety reviews is to proactively identify potential clinical safety risks to, and arising from, the My Health Record system and to recommend suggested mitigation strategies. This will improve the overall safety and quality of the system over time.

Copies of the Commission's completed clinical safety reviews and the System Operator status reports against review recommendations to date are available on the Commission website.

The seventh clinical safety review of the My Health Record system was conducted by the Commission in 2016. Review 7, comprises three distinct review reports:

- Review 7.1: assessing the impact and safety of the use of the My Health Record system in emergency departments (the hospital emergency department review)
- Review 7.2: assessing the presentation to healthcare providers of the My Health Record system 'medications views' (the medications view review)
- Review 7.3: assessing downtime management best practices for clinical safety in health IT systems (the downtime management review).

This report presents the findings of clinical safety review 7.1. This review component comprised workflow process workshops and structured interviews with clinical staff in emergency departments (EDs), to assess any clinical safety risks associated with the use of the My Health Record system in the ED setting. The review is intended to inform current and future use of the My Health Record system in the ED setting.

# Review objectives and scope

Emergency departments have been identified as an important user of the national My Health Record system.[1] In 2014–15, there were almost 7.4 million presentations to public hospital EDs, with 2.2 million patients admitted to hospital from EDs.[2]The My Health Record system can potentially support healthcare providers in the ED setting by providing efficient access to a summary of a patient's clinical history. It can then contribute to improved care delivery and increased quality and safety of health care provided to the patient. However, there is a growing body of international evidence to suggest that the use of digital health systems can also potentially lead to clinical safety errors. This includes human and IT system errors.[3,4]

The review scope considered any relevant event or circumstance that could result in unintended or unnecessary clinical harm to a patient as a result of use of the My Health Record system as part of a hospital's ED workflow.

Clinician uses of My Health Record ED considered in scope for this review were:

- on a patient's arrival to ED, access to a Shared Health Summary (SHS) in a patient's My Health Record
- in ED triage, access to the SHS to assist the initial patient assessment, where appropriate
- for ED investigation, access to the SHS to view information such as medications prescribed, vaccination status and test results
- access to the SHS by the ED in-coming patient team to assist clinical handover for patient admission
- at discharge, upload of ED-generated Discharge Summaries.

# Methodology

Data from the My Health Record System Operator identified hospitals that were viewing and contributing to the My Health Record system. The Commission invited these hospitals to participate in the review through workshops or group interviews:

- Toowoomba Base Hospital, Toowoomba, Queensland
- Princess Alexandra Hospital, Brisbane, Queensland
- Royal Hobart Hospital, Hobart, Tasmania
- The Children's Hospital Westmead, Sydney, New South Wales.

The structured workshops and group interviews were led by Enzyme International, and were supported by Dr Stephen Priestley (an ED physician and member of the Commission's Clinical Safety Oversight Committee) and Commission officers.

In the workshops and group interviews, common clinical safety and risk themes were identified by participants using an 'affinity diagram' method to analyse and prioritise ED clinical safety factors. The analysis used a 'forced-paired relative importance' comparison, and assigned priority scores to each factor. A rank–order hierarchy of ED clinical safety factors was calculated for each workshop and group interview, and then consolidated for a view across all participants. The consolidated view is presented in this report.

Approximately 30 ED clinical and management staff participated in the workshops and group interviews. Participants included a range of public hospital ED health practitioners, including ED directors, nursing staff, consultants, registrars, residents and primary care liaison clinicians.

No direct observations of patient care were undertaken as part of the review. The review was undertaken consistent with the *Privacy Act 1988* (Cwlth) and the *My Health Records Act 2012* (Cwlth). Only de-identified data or information was used in the review.

# Findings

The findings and recommendations presented in this section are a collation of the qualitative and quantitative data captured during the ED clinical safety workshops and group interviews.

The clinical areas, identified as touch points for the system's use in the ED setting, reflect the patient's care pathway through the ED from first communication with the ED at admission, to discharge or transfer. These touch points also reflect a patient-centred approach to the reported use of the system in the ED setting, which supports high-quality care for patients.

There are a total of nine findings and 14 recommendations for this review component. Each finding has a risk rating and a related recommendation. The risk rating guide used for this review is in Appendix A.

No findings were assessed as critical or high risk. One finding was assessed as moderate, and four were rated as minor. The remainder were classified as a minimum risk to the My Health Record system.

The findings can be broadly categorised into two main themes:

- Even in hospitals that were identified as actively accessing the My Health Record system, the vast majority of ED clinicians had little exposure to it.
- Although hospitals are required, under the legislation governing the system, to have existing policies for access and use of the My Health Record system, these policies do not appear to have helped promote overall awareness of system functions and its potential uses to ED clinicians.

These broad themes correspond to two higher-order recommendations from the review, which are that:

- My Health Record views and upload capacity be tightly integrated into hospital clinical information systems, including electronic medical records
- hospitals and networks refine and promote existing protocols for using the My Health Record system, as part of routine patient care.

The nine findings and 14 specific recommendations are summarised below. The key clinical safety and workflow impacts are listed in the order prioritised by ED participants at selected hospitals. For example, Finding 1 was identified by ED participants as the most important overall issue for their ED settings. Some recommendations apply to more than one finding.

## Finding 1: Limited system penetration and, consequently, decreased healthcare provider confidence in the record's accuracy and timeliness

*Risk rating: Minor*

Participants acknowledged the low penetration of the My Health Record system to date, and noted that system records empty of appropriate clinical information decreases confidence in the system as an efficient and effective ED tool. Concerns were expressed about the need for high-quality system data, and greater clarity about its source.

The low number of patients with clinical information in the system strengthened these concerns.

Participants reported being able to access the system, but could not find the clinical information that they anticipated. Healthcare providers stated that the information needs to be as up to date as possible, including private hospital information, which is time consuming to access for patients moving from the private hospital to the public hospital sector.

It was noted that there are times when the information in the system, even if limited, 'is better than none', as what may occur when a patient presents to the ED unconscious or unaccompanied, and the paramedics have no patient history.

The Commission acknowledges that some of the participant's comments indicate that users remain uncertain about the role of the My Health Record system within the overall clinical information available in the ED setting. This is evidenced by a number of findings in this report, which all indicate a need for more targeted training and guidance for healthcare providers so they can understand the context and inherent limitations within which the system operates.

*Recommendation 1: The System Operator works to increase consumer uptake and eligible healthcare provider input to the My Health Record system.*

*Recommendation 2: The System Operator continues to support public and private hospital sectors to send structured (coded) clinical document architecture information.*

*Recommendation 3: The Commission undertakes a follow-up review when there is greater experience in the use of the My Health Record system in the hospital workflow.*

## Finding 2: A tightly integrated presentation of My Health Record information together with available clinical information from the local system(s) (the 'one-stop shop')

*Risk rating: Minor*

Participants highlighted the need for the My Health Record system to be easy to use within the hospital clinical information system. Healthcare providers wanted to ensure that moving between local system information and My Health Record information was as seamless as possible.

Participants stated that, currently, the necessary information is 'hard to find' or requires 'complex navigation' through system information, and this can have a negative effect on the ED workflow.

Continued engagement with ED staff was identified as a high priority to ensure useability and usefulness of the system in, and as a part of, hospitals' clinical information systems.

*Recommendation 4: The System Operator, and public and private hospital sectors work closely with vendors and healthcare providers to define how best to present the My Health Record system within hospital clinical information systems, to provide an optimised viewing and information-sharing experience.*

## Finding 3: Concern about poor or constrained access to the My Health Record system

*Risk rating: Minor*

Concerns about system downtimes, access difficulties and, at times, gaining physical access to IT screens contributed to this finding. It should be noted that, in some circumstances, the My Health Record system may be functioning, but local issues may be causing downtime (as encountered during one site visit, which was because of an expired National Authentication Service for Health Public Key Infrastructure Certificate for Healthcare Provider Organisations). Participants do not readily differentiate between systems, and feel frustrated at the perceived unavailability of all sources of clinical information.

The Commission is aware that the System Operator has undertaken a review of the error messages that are displayed to users of the system in high frequency, some of which relate to connectivity issues. As a result 38 high frequency error messages have been revised to be more meaningful and comprehensible and were introduced to the system in March 2016 as part of Release 7.

More detail about recommendations concerning the management of system downtimes is available in review component 7.3.

*Recommendation 5: The System Operator continues to address error messaging for My Health Record system downtime (as recommended in the sixth clinical safety review).*

*Recommendation 6: Jurisdictions continue to work on increasing availability and access to clinical information systems within the ED setting.*

## Finding 4: Poorly curated system records decrease healthcare provider time with patients

*Risk rating: Minor*

Participants noted that the volume of data held by the system would grow significantly over time. The need for strong clinical governance at the local and national level to ensure appropriate management and maintenance of system data for clinical accuracy and relevance was highlighted as being important.

Participants also noted the importance of coded, searchable data in this context. Participants considered medications, allergy information, electrocardiograms, latest discharge summaries and advanced care directives to be the system data sets that are the most significant.

*Recommendation 7: The System Operator continues to work with contributors to the My Health Record system to increase the provision of structured (coded) content that will improve the quality, presentation and utility of the data held within the system.*

*Recommendation 8: The Commission, jurisdictions and the System Operator continue to collaborate on guidance for the optimal presentation of clinically relevant information within electronic health records.*

## Finding 5: Record blocking by patients leads to missing information

*Risk rating: Moderate*

Participants were concerned that the system does not enable the attending clinician to know if a record contains blocked clinical information, and if this blocked information is relevant in an emergency. Participants reported reduced confidence in the record because blocked information may present a clinical risk for their patient. The Commission recognises that there has been considerable debate about this specific aspect of the system, and notes that the current position (supported by legislation) of empowering consumers to control access is unlikely to change. Moreover, it is also acknowledged that patients are currently able to verbally withhold relevant information when presenting at a healthcare setting and, in effect, the ability to block access via the My Health Record system is not conceptually different.

There was also little understanding of the 'emergency access function within the My Health Record system. This function allows clinical users to override any existing controls and access all active clinical documents (including those that are blocked) in an emergency setting where there is a serious threat to the patient's life. It is recommended that training on use of the My Health Record system in the acute sector particularly focus on this aspect of the system, so that healthcare providers know they have this option, should they believe there is a serious threat to the patient's life.

*Recommendation 9: Raise awareness among healthcare providers of the emergency access functionality and the potential scenarios in which use of this functionality is appropriate.*

## Finding 6: Limited healthcare provider understanding of the My Health Record system and protocols

*Risk rating: Minimum*

The Commission's review team noted that most staff interviewed in the ED setting had limited understanding about how the My Health Record system may be used and updated from the hospital setting. The healthcare providers interviewed were uncertain as to who was responsible for updating information sent to the system, should a change occur locally, and the overall clinical governance process of the system.

The legislation governing the My Health Record system requires organisations that participate in the system have a policy on My Health Record system access, and include details of training to be provided to staff.

*Recommendation 10: Advise healthcare providers that they should use the My Health Record system as another source of clinical information, and not as the primary record of an individual.*

*Recommendation 11: The System Operator develops and conducts, in consultation with hospital clinicians, targeted education materials about the My Health Record system, and how the system may be accessed, used, updated and managed in a hospital.*

*Recommendation 12: The System Operator continues to support participating organisations to develop, implement and maintain organisational policies that outline clinical protocols and governance arrangements for incorporating, maintaining, using, updating and managing the My Health Record system in a hospital.*

## Finding 7: Professional practice concern about the safe use of the system

*Risk rating: Minimum*

Participants were uncertain about the medico-legal consequences associated with the use of the system for clinical decision making. Participants raised questions about what the consequences might be if information in a record was used or not used.

Guidance on appropriate professional practice and obligations for using the My Health Record system should be addressed within organisational My Health Record policies referred to in Finding 6.

*Recommendation 13: The System Operator continues to support jurisdictions, medical indemnity insurers and peak bodies to develop, promote and provide guidance to healthcare providers about the appropriate use of the My Health Record system.*

*Recommendations made for Finding 6 are also applicable to this finding.*

## Finding 8: Clinical concern about the misuse of the system by patients and insurers

*Risk rating: Minimum*

This finding relates to concerns about deliberate misuse of the system.

Participants raised clinical concerns about certain patients blocking information to gain access to treatment. (e.g. blocking the record of prescribed and supplied narcotic

medications or corrective surgeries). Concerns were also raised about health insurers requesting patient release of the record, which could affect insurance cover and claims.

The Commission notes that there are strict legislative protections governing the use of My Health Record system information. Moreover, available guidance for healthcare providers on the use of the My Health Record system indicates that it is one other source of clinical information and should not be relied on as the full and complete record of a patient's clinical history (see, for example, the AMA's guide[5]).

*Recommendation 14: The System Operator's training materials for healthcare providers outline the permitted uses of My Health Record system information, penalties for inappropriate use and reiterate the need to use usual clinical judgement when attending to a patient.*

## Finding 9: Lack of recent test results, leading to repeat tests

*Risk rating: Minor*

The timeliness of clinical information (including test information) in the system was regarded as an important factor for ED clinicians because it can have important clinical consequences. Access to timely information was seen have significant benefits, including the prevention of avoidable repeat tests, such as CT scans for children that may expose the child to radiation doses that could be avoided, and repeating critical tests that may delay treatment.

The availability of recent and curated system test results supports healthcare providers and clinical care for patients by connecting this information by means of the system for ED use.

ED clinicians see quick access to recent clinical information, such as test results, as a real potential benefit of the system. Therefore, the Commission encourages the System Operator to continue the various initiatives that are under way to promote greater provider uptake and input into the system. This will, in turn, increase the perceived value of the system for healthcare providers in a time-poor, complex environment.

*Recommendations made in Finding 1 are applicable to this finding.*

# Conclusion

After significant investment during recent years, jurisdictions have made significant progress in building the technical capability to upload and view information held in the My Health Record system in ED settings. ED clinicians that were interviewed held the common view that the system has the potential to provide significant clinical benefit and improved decision-making ability in a complex operating environment.

The review, however, did identify:

- a lack of available training and guidance on system capabilities
- uncertainty over available safeguards to mitigate the risks identified by ED clinicians.

These issues, coupled with frustration with the lack of available clinical content within records at present, negatively affect ED clinicians' perceptions of the utility of the system. In a high-pressure environment such an ED, actual use of the My Health Record is system low. Low system use also means that the Commission is not able to make definitive judgements on any new clinical safety risks or benefits arising from the system in the ED setting at present.

Many of these concerns are not readily addressed. Rather, they rely on the anticipated increase in consumer registration and clinical content occurring over time. Therefore, the Commission recommends that the system's use within the ED setting be reviewed within two years, when more Australians have a My Health Record and use of the system becomes more common.

It is recommended that the System Operator continues to assist connecting healthcare organisations in supporting healthcare providers such as ED clinicians. This would promote the benefits of contributing information and using available information, and clearly address the common concerns that healthcare providers have about the My Health Record system.

# Appendix A Clinical safety review risk rating matrix

Review findings have been assigned one of five risk ratings – critical, major, moderate, minor and minimum, consistent with the review's clinical safety risk rating matrix (Table A1).

These categories have been confirmed by the Commission's Clinical Safety Oversight Committee and the My Health Record System Operator during the review process.

### Table A1 Clinical safety review risk rating matrix

| Risk rating | Reputation and public confidence of My Health Record / quality of service | Clinical safety harm | Control |
|---|---|---|---|
| **Critical** | Profound influence on the My Health Record system's reputation, resulting in a profound loss of public and healthcare provider participation<br>Profound sustained degradation of service value and quality | A clinical incident resulting in patient death | Basic, supervisory and/or monitoring controls are inadequate and require urgent management attention<br>A critical patient safety incident has occurred |
| **Major** | Significant influence on the My Health Record system's reputation, resulting in significant loss of public and healthcare provider participation<br>Decline in service value and quality is recognised by a majority of patients or health service providers | A clinical incident resulting in major permanent loss of function | Basic, supervisory and/or monitoring controls are inadequate and require prompt management attention<br>A major clinical safety incident has occurred |
| **Moderate** | Loss of reputation affecting participation in the My Health Record system<br>Decline in service value and quality is recognised by a moderate number of patients and health service providers | A clinical incident resulting in permanent reduction in function | Basic, supervisory and/or monitoring controls are partly inadequate and require management attention<br>High potential for a clinical safety incident |
| **Minor** | Mild damage to reputation of the My Health Record system<br>Decline in service value and quality is recognised by the System Operator and My Health Record partners | A clinical incident resulting in increased level of care/intervention | Basic, supervisory and/or monitoring controls are operating as intended, recommendation for improvement to strengthen control |
| **Minimum** | Minimal impact on the My Health Record system's reputation<br>Minimal effect on service value and quality | A clinical incident resulting in no injury | Basic, supervisory and/or monitoring controls are operating effectively, a process improvement opportunity exists |

# References


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5. Australian Medical Association. AMA guide to medical practitioners on the use of the Personally Controlled Electronic Health Record system. Canberra: AMA, 2012.