Limited Adverse Occurrence Screening program (LAOS)
Annual Report 2009–10
Acknowledgements

A special acknowledgement is extended to all rural and regional general practitioners and staff in small rural hospitals for their ongoing support and contribution to the LAOS program. The Department of Health also acknowledges the contribution made by staff of rural divisions of general practice, General Practice Victoria (GPV), the patients who have experienced adverse outcomes, and their carers.

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Foreword

This is the fourth annual report of the LAOS program, which is funded by the Department of Health. I have been involved with the program since its inception and continue to benefit from it. I have been a reviewing GP, a treating GP and a review panel chair, and I am still learning from the program, as, I hope, do all other participants.

As I look through the files, participate in discussions at meetings, or read the recommendations we produce, I often think, ‘That could have been me!’ I am impressed by the no-blame attitude of the program, when I listen to my peers in meetings readily admitting to being the treating doctor, the reviewing doctor, or one who has been in a similar situation to the case under discussion.

LAOS is a valuable and effective peer review system, and I hope that everyone concerned will read and note the contents of this annual report, and feel energised to become more involved in the process.

Reference panel meetings are a positive experience, and none of us should ever be threatened by them – they are a learning experience from which we can all benefit. In our practice, we keep a file of the recommendations produced, and we refer back to them when we encounter a similar problem that someone else has had. This often leads us to refer to a guideline we did not know existed.

The program is superbly supported by the staff involved, and we owe them a vote of thanks. Without their continued efforts the program would fail, as we busy GPs do not have time to keep it running without some prompting. How often have the files for review been left in the in-tray for too long?

We also owe a vote of thanks to the hospitals concerned: they identify most of the files that we review, and then respond to our recommendations and feedback by reviewing their guidelines, introducing new ones, or discussing them with visiting medical staff. They have even been known to chase up our response if it is too long coming.

Hopefully in the future we will be able to obtain more feedback on the cases we discuss after patients are discharged from hospital or referred on to tertiary centres. It is often frustrating to read a case history, and agree that the transfer to another acute facility was appropriate, but to have no feedback on what happened next. Let us try and spread the wings of the program.

In the years I have been involved with the program I have never felt threatened by it, and will continue to be interested and involved, even though I am approaching ‘retirement’ age.

Tony Wright,
MB, BS, FACRRM.
Reference Panel Chair
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Summary

The Limited Adverse Occurrence Screening (LAOS) program is funded by the Department of Health and supports a learning environment in Victoria’s small rural hospitals.

By examining adverse events and the settings in which they occur, the patient’s clinical outcome is used to implement system changes designed to reduce or remove the chance of a similar event in the future.

This report presents an analysis of 1,049 records received from 71 small rural hospitals; 538 completed reviews found 82 adverse events and 102 educational opportunities, and 31 recommendations were issued in 2009–10.

This year, as in other years, the selection criterion that selects the most records is transfer to another health service. There are many problems with patient transfer that are examined in this report.

Analysis of the recommendations has revealed some common themes which are discussed in this report.

A patient safety checklist has been compiled from this analysis and is included.

A presentation about LAOS titled ‘A clinical risk management program for small rural hospitals’ was made at Victoria’s fourth biennial Rural Health Conference, Ballarat 19–23 April 2010.

An article called ‘A case from the LAOS reference panel’ about warfarin management was published in 2009 in Risk watch vol. 7 no. 3, after the recognition of five such cases in six months.
LAOS patient safety checklist

A patient safety checklist compiled from recommendations issued by the LAOS reference panels.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Resource / improvement measure</th>
<th>Yes</th>
<th>WIP</th>
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<tbody>
<tr>
<td>Capacity of hospital</td>
<td>Guidelines for which patients can be safely treated&lt;br&gt;Guidelines for when patients should be transferred</td>
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<tr>
<td>Protocol for transfer of a patient to a larger hospital</td>
<td>Details of regional, metropolitan public and private hospitals&lt;br&gt;Guidelines for which patients go where&lt;br&gt;Department of Veterans’ Affairs patient protocol: <a href="http://www.dva.gov.au/service_providers/doctors/lmo/notes/Pages/13.aspx">http://www.dva.gov.au/service_providers/doctors/lmo/notes/Pages/13.aspx</a>&lt;br&gt;Local guidelines of the transfer process including how to escalate the transfer</td>
<td></td>
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<tr>
<td>Contact details for support</td>
<td>Phone numbers of ambulance, regional and metropolitan hospitals, visiting specialists and locally available specialists</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documentation within patient record</td>
<td>Entries should be clear, signed and name clearly written&lt;br&gt;Notes should be adequate for handover&lt;br&gt;Medication charts should be current&lt;br&gt;Management plan should be present&lt;br&gt;<a href="http://www.health.vic.gov.au/qualitycouncil/activities/handover.htm">http://www.health.vic.gov.au/qualitycouncil/activities/handover.htm</a></td>
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<tr>
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<td>There is a protocol for escalating clinical matters</td>
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<tr>
<td>Management of test results</td>
<td>Guidelines for notification of test results to the VMO and sign-off when they have been sighted.&lt;br&gt;Protocol with local radiology regarding phone notification of results prior to return of patient&lt;br&gt;Protocol with pathology for phone notification of abnormal or urgent results</td>
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<td>Reporting deaths to the coroner</td>
<td>Clear guidelines as to what constitutes a reportable death&lt;br&gt;Education about changes to the Coroner’s Act 2008</td>
<td></td>
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<tr>
<td>Code for resuscitation</td>
<td>Protocol that is practiced for resuscitation of patients.&lt;br&gt;Clear documentation of which patients are not for resuscitation</td>
<td></td>
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<tr>
<td>Advance care plans/ Not for resuscitation</td>
<td>Appropriate forms available&lt;br&gt;All documentation is completed, signed and clearly highlighted in the patient’s history</td>
<td></td>
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<tr>
<td>Mandatory reporting</td>
<td>New mandatory reporting requirements circulated.&lt;br&gt;NOTE: Findings made during the LAOS review process are a quality assurance activity and are exempt from mandatory reporting requirements</td>
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Introduction

Through its Clinical Governance Policy Framework, the Victorian Department of Health (the department) seeks to improve the quality and safety of hospital inpatient care by identifying circumstances that put patients at risk of harm, and to prevent or control those risks. As part of this goal, the department funds the LAOS program for small rural hospitals to independently review adverse events and put in place measures to stop them from happening again.

Smaller hospitals with only one or two medical staff have difficulty conducting medical record reviews as it is hard to independently review one’s own patient records or those of a close colleague.

LAOS assists by retrospectively examining selected patient records to identify the underlying causes of adverse events and develop guidelines to prevent them from recurring. Some adverse events are not recognised as such at the time; it is only on looking back over a patient’s progress that an event may be identified. LAOS is able to analyse these lower-level issues that together produce the majority of adverse events and develop recommendations for system improvement.

One reason medical staff enjoy working in small rural hospitals is that they never know what will come through the door. However, some conditions or traumas may occur in a hospital only occasionally. The statewide analysis of recommendations identifies problems that an individual service may not recognise, but on a statewide basis contribute to a number of adverse events. The first step to remedying a problem is knowing that it exists.

LAOS was rolled out in 2001 and statewide analysis has been undertaken since the establishment of the LAOS website of recommendations in June 2005 and the appointment of the first statewide coordinator in 2006.

This report examines the statewide analysis of recommendations issued during 2009–10.
Comments from reviewing GPs:

'I continue to enjoy reviewing files through the LAOS program. It gives isolated hospitals and GPs the chance to learn from an educational and feedback process. From a personal perspective, it allows me to reflect on my own practice, but also evidence-based practice and best clinical practice as determined by my peers and specialist colleagues (while confidentiality is strictly maintained).’

‘LAOS is an integral part of self-audit and is critical to delivering cohesive, comprehensive primary care. It’s instrumental in illuminating knowledge gaps while underscoring the reality of rural medical practices. I found the program an indispensable fountain of knowledge.’

Comments from treating GPs:

‘In this case the readmission was not avoidable but it is good and relevant to reflect on the case to see if things could have been done differently.’

‘This has helped me to think more carefully about the initial assessment of patients, particularly when atypical, and it will prompt me in future to think more broadly about possible diagnoses.’

Comment from a hospital:

'We find the program very useful. I use the criteria for completing clinical audits for all patients and occasionally one will jump out at me as a clinical issue. These are then closely audited and taken to our clinical risk management committee for discussion and recommendations. We have changed our guidelines around cardiac patients being more closely monitored in our Urgent Care Department rather than admitting them to the ward and then having to inappropriately transfer out within a short period. I am certainly a big advocate for the (LAOS) program.’
LAOS 2009–10: numbers

71 small rural hospitals send records for LAOS GP peer review. Another four hospitals receive recommendations but do not send records for external review.

A total of 1,049 records were received from the 71 hospitals, an increase of 133 records over the previous year. The increase was expected due to the widening of two selection criteria – from ‘unexpected death’ to ‘death’ and ‘unexpected transfer’ to ‘transfer’. The trial using the word ‘unexpected’ commenced on 1 July 2007 and ended 30 June 2009.

Figure 1: Number of records received from 2005–06 to 2009–10
Table 1: Number of records positive for each of the selection criteria

<table>
<thead>
<tr>
<th>Selection criteria</th>
<th>Number of records</th>
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<tbody>
<tr>
<td>Transfer to another health service</td>
<td>462</td>
</tr>
<tr>
<td>Unplanned readmission within 28 days of discharge</td>
<td>343</td>
</tr>
<tr>
<td>Patient death</td>
<td>177</td>
</tr>
<tr>
<td>Patient’s length of stay greater than 35 days</td>
<td>50</td>
</tr>
<tr>
<td>Any record which has been recommended by a doctor or other health professional for review</td>
<td>11</td>
</tr>
<tr>
<td>Unplanned return to theatre within seven days</td>
<td>3</td>
</tr>
<tr>
<td>Unknown</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL number of records received in 2009–10</strong></td>
<td><strong>1049</strong></td>
</tr>
</tbody>
</table>

During 2009–10, reviews were completed on 538 records. Of these 538 records, 354 records (66 per cent) contained no adverse event or educational opportunity.

An adverse event was found in 82 records (15 per cent) and an educational opportunity found in 102 records (19 per cent) as illustrated in table 3.

An adverse event is an unintended injury or harm that:

- results in temporary or permanent disability, hospitalisation, including increased length of stay or financial loss to the patient
- was caused by health care management (either at an individual or systems level) rather than the underlying disease process.
A total of 31 recommendations were finalised, distributed and posted on the LAOS website of recommendations during 2009–10.

Recommendations are analysed by theme to consider what factors have contributed to the adverse event or learning opportunity: medical management, communication, task factors and organisational or environment. This is represented in table 4. Themes of recommendations are examined by sub-theme in table 5.

Figure 2: Percentage of adverse events and educational opportunities in records reviewed 2009–10

Figure 3: Number of recommendations made for each theme
Figure 4: Analysis of recommendations by theme and sub-theme

Comments from peer-reviewing GPs:

‘An important part of reviewing one’s own practice is looking at other people’s clinical scenarios.’

‘Hopefully my experiences and literature review will help the decision-making process for other GPs in such difficult situations.’
Inter-hospital patient transfer

Patient transfer is a difficult issue. Patients from rural communities want to stay in their community for treatment but the local hospital, while it is adaptive to local needs and provides a valuable service, cannot always provide the specialised medical care that is needed.

Rural visiting medical officers (VMOs) recognise when the capacity of the hospital has been exceeded and will transfer a patient to ensure the best possible care is received. A statewide analysis of recommendations developed between June 2005 – June 2010 has recognised that there are ongoing problems associated with patient transfer.

At times there are a number of issues associated with transferring patients, from the inability to transfer a patient to an acute care bed in a larger center for specialised medical care in a timely manner, to problems in communication relating to transfer and services required by a patient.

There may also be delays whilst the most appropriate bed is sourced in regional and metropolitan hospitals.

Transfer-related problems can also occur when patients who have been treated in a regional or metropolitan hospital are transferred to smaller hospitals for rehabilitation and ongoing management. More information may need to be circulated regarding limited facilities at small rural hospitals:

An elderly patient was transferred to a rural hospital from a larger hospital for rehabilitation after a severe cardiovascular accident (stroke) which had caused right hemiplegia (paralysed on one side), dysphagia (difficulty swallowing) and dysphasia (difficulty speaking). The small rural hospital had no speech therapist; as the patient needed this specialty the patient was transferred to the rehabilitation unit at the regional hospital.

- It is recommended that small rural hospitals in partnership with the admitting GPs develop fail-safe systems for patient transfers in both directions between their hospital and the regional hospital.
Transfer problems may also involve allied health services. The following case involves a patient who was referred to radiology at a larger hospital, where a serious condition requiring immediate surgery was found, but the patient was returned to the smaller hospital without any prior consultation with the VMO:

A patient in their sixties was admitted with severe pain. A CT scan of the renal tract was organised at a major hospital which showed a leaking abdominal aortic aneurism (leak in a major artery) into the retro-peritoneum (abdomen). Following this diagnosis, no urgent report was sent to the VMO and the patient was sent back to the small rural hospital despite having been diagnosed with an immediately life-threatening condition. The report was received by the VMO after the patient had returned back to the small rural hospital, necessitating the VMO to arrange an urgent transfer back to the major hospital. The ambulance controller organised for an air ambulance as this was a medical emergency.

The poor communication between radiology and the visiting medical officer resulted in the patient having four-hours travel in various ambulances, a delay of life-saving surgery and the hospital having to pay for the extra ambulance trips.

- Test results should be notified promptly, preferably before the patient is returned to the small rural hospital.
- Each hospital should liaise with their allied health service providers to facilitate efficient reporting of results.

Addressing the problems

The ongoing problem of patient transfer is being addressed in several ways. At a local level, rural GPs’ knowledge about how to expedite transfers is pooled at LAOS reference panel discussions; this local knowledge is then disseminated across the division with the recommendations. At a regional level, the Barwon-South Western Region has a large patient-transfer project underway. At the statewide level, LAOS recommendations relating to transfer have been summarised and a report has been presented to the department’s Clinical Risk Management Sentinel Events Review subcommittee. Summaries of LAOS recommendations have also been used to inform the GPV representative on the Adult Retrieval Victoria Advisory Reference Committee and the Victorian Quality Council (VQC) Patient Transfer working group. The checklist in this annual report contains items to assist small rural hospitals expedite transfer issues.

Barwon-South Western Region Patient Transfer Project

There is established evidence that patient care is often compromised by ineffective patient transfers and patient handover between clinical teams. This problem is compounded when there is a lack of understanding regarding the capacity of the receiving organisation to meet the patient’s needs. The transfer project was commenced as a result of the LAOS program highlighting the need to improve the outcome of patient transfers within the Barwon-South Western Region.

An online survey upon commencement of the transfer project in March 2010 suggested 85 per cent of managers had received a patient transfer in the past 12 months that lacked information, while 90 per cent of managers (and 77 per cent of clinical staff) believed there was a need to improve patient transfer information between health care facilities.
The project uses a standardised ‘transfer envelope’ for all interorganisation patient transfers. This includes transfers from: acute to subacute; acute to lesser acuity facilities; residential aged care to acute transfers; and acute to residential aged care transfers. It addresses all non-time-critical transfers involving health care facilities (public, not-for-profit and private) in the Barwon-South Western region. It is restricted to these recognised participant health care organisations and, as such, does not address transfers from institutional care to the home environment.

The Barwon-South Western region includes nine shires: Queenscliff, Geelong City, Surf Coast, Colac-Otway, Corangamite, Warrnambool City, Moyne, Southern Grampians and Glenelg. This area extends from the South Australian boarder to the tip of Queenscliff (see map 1). The overall goal of the project is to ensure patients are transferred between organisations in a safe and timely way; that is, patients are transferred with an appropriate clinical handover into an environment capable of undertaking their care with all the relevant resources necessary. A transfer policy was also developed and sent out to all participating health care facilities.

Map 1. Map of Barwon-South Western region

The transfer envelope includes prompts for clinical staff to include crucial patient information. It is a very easy and practical tool to use and helps the user include patient information such as summary letters, a variety of care plans and risk assessments, allied health documentation, medication management and communication between the transferring health care facilities, next-of-kin and the usual treating GP.

In order to ensure staff who are planning a transfer understand the capacity of the receiving organisation, a transfer website has been developed for use in conjunction with the transfer envelopes. For each health care facility the transfer website displays: contact details, the services that are provided and any transfer or other requirements.
The transfer project is due for completion in early November 2010 and at the time of reporting 33 health care facilities have committed to implementing and using the transfer envelopes and website. This includes 19 public and 14 private hospitals and residential aged care facilities around the Barwon-South Western region. Early evidence from data collection suggests that when a transfer envelope is used during the transfer process between two health care facilities, it is 95 per cent more likely to have adequate patient information than a transfer that does not use an envelope. A final regional transfer envelope audit is currently underway and a final online project survey will provide data to support evidence of safer, more consistent transfer of crucial information regarding the continuing patient care between clinical teams.

**The Victorian Quality Council Patient Transfer working group**

The Victorian Quality Council (VQC) was established in 2001 as an expert strategic advisory group to lead the safety and quality agenda for Victorian health care services. The VQC formed the Patient Transfer Working Group to conduct project activities in response to quality and safety issues identified by health services, including LAOS. The group comprises of three VQC members and relevant stakeholder groups including representatives from General Practice Victoria, Ambulance Victoria, private transport services, and rural health services. The project activity has involved developing a form to improve and standardise information flow for interhospital forward and back transfers of non-time-critical patients. This work has also involved developing guiding principles of transfer. The form is currently being piloted.

**Adult Retrieval Victoria Advisory Reference Committee**

Adult Retrieval Victoria (ARV) provides retrieval and critical care outreach for all Victorians. ARV is accessed through a central phone number and is coordinated by specialist clinicians. The service is managed by Metropolitan Ambulance Service. General Practice Victoria provides a representative to the Advisory Reference Committee that supports ARV’s work in implementing their three-year service improvement plan. The LAOS program has provided input to this committee in relation to rural general practice and small rural hospital experience of time-critical transfer.
Shared care

Rural patients are provided with specialist services at some small rural hospitals. Specialists, such as surgeons, visit for the day to treat their patients, then hand over the patient to the local GP or VMO to manage their care for the rest of their inpatient stay.

These patients are treated in small rural hospitals that participate in the LAOS program and the patient is subsequently cared for by a local GP or VMO. The records for these patients are also accepted for LAOS GP peer review.

This shared care with a specialist reflects a broader area: after-hours and on-call care may be provided by a roster of VMOs. The doctor who admits a patient and requests a test may not be the same doctor rostered on when the result is returned. Hospitals must ensure that there is handover between medical staff so that all are aware of the tests that have been ordered. What tests are awaiting results and which results have been received but not yet acted upon.

A pregnant woman was admitted with haematuria (blood in urine) and a presumed urinary tract infection. An ultrasound was requested; the results showed a hydronephrosis (dilation of kidney) with dilated ureter. However, this result was sent at a later time to the referring doctor, who was not available when the patient was discharged by a different VMO over the weekend. The patient was readmitted again that night and a past history of ureteric surgery at five years emerged during this admission. She was then transferred to a tertiary hospital.

Recommendations relating to shared care include:

- There should be clear handover between all involved in a patient’s care.
- If a test is ordered by a specialist who is not available for follow up, there needs to be a follow up process to ensure that the treating doctor is sent a copy of the test results.
- The patient record should contain a management plan with handover notes including details of:
  - what tests have been ordered
  - what results have been received, sighted and acted upon
  - possible complications of the procedure
  - contact details for the visiting specialist.

Comments from hospitals:

‘(This hospital) has reviewed and implemented changes in regards to medical record content. Clinical handover is currently under review.’

‘(This hospital is undertaking) development of clinical handover policy and review of medical record content.’

Comment from a treating GP

Even LAOS doesn’t always find the correct treating GP:

‘Often the GP named on the admission sticker is not the one who mainly looked after the patient. Perhaps the program should be more direct at communicating with both GPs.’
Medication management

Medication management has resulted in at least four adverse events. One area highlighted for improvement was with allied health:

A patient aged in their nineties was admitted with chronic obstructive pulmonary disease (COPD); treated with oxygen and lasix and discharged, but represented with angina and exacerbation of the COPD ten days later. The patient was taking a beta blocker; a calcium channel blocker; ACE inhibitor; and other medications.

The GP peer-reviewer noted: Although elderly, simple medication changes may have prevented another episode. An inpatient review by a pharmacist may have helped the busy visiting medical officer.

The reference panel recommended that:

• GPs regularly consider the use of Residential Medication Management Reviews (RMMRs, Medicare Benefits Schedule [MBS] item 903) and domiciliary medication management reviews – also known as home-medicine review (MBS item 900) as part of routine patient care, especially in the elderly who have been treated with a range of medications for extended periods of time.
• All health facilities should analyse their protocols dealing with patient medication reviews to ensure they reflect best practice.
A patient in their seventies presented with leg pain and bruising on chest and hand after a fall. Admission forms were completed, but the patient refused to stay and was taken home by a family member. The next day the patient was admitted with leg pain; this was investigated and the patient received physiotherapy. The patient improved over seven days and was discharged home in the morning. That afternoon the patient was readmitted with decreased mobility and inability to stand. The patient was managed with physiotherapy and occupational therapy. The patient’s return was complicated by the fact that there was no discharge summary in the medical record.

Doctors are often frustrated at the lack of timely discharge summaries.

Doctors are reminded that adequate discharge summaries should be completed not only for the continuing management of their own hospital patients but also for the patients that are managed by other doctors in the town.

Timely discharge summaries
Advance care plans

Advance care plans are used when a patient wants to make their choices for future health care known. Awareness of the use of advance care plans and not-for-resuscitation forms is increasing, but there is still room for improvement:

*A patient in their eighties was admitted with a heart attack and wanted to be not-for-resuscitation. There were good notes in the patient’s history, but a not-for-resuscitation form was not used. A policy and form for respecting patient’s choices should be developed and all nursing and medical staff educated in its use so that advance care planning can be helpfully and sensitively discussed with patients and their families.*

Further information on advance care plans may be obtained from the Austin Hospital site:
http://www.respectingpatientchoices.org.au/

A published resource for communicating end-of-life issues is:

Comments from hospitals:
‘We have held discussions about how to promote advance care plans in the community.’

‘Medical staff have commented that there is no Medicare number for the provision of this service.’

‘(This hospital) has embraced the adoption of the advance care plan system and we believe we do it well.’

‘We have developed a record log to evaluate the percentage of patients admitted with completed advance care plans.’
Hospital-employed medical officers

Due to the chronic shortage of rural GPs, some small rural hospitals are unable to obtain the services of a local GP to act as a VMO. To provide medical services these hospitals now employ medical officers who work under the supervision of specialists. These small rural hospitals have been actively involved in LAOS and have no other way of obtaining an independent record review, so their medical records are still accepted for LAOS GP review.

Many of the hospital-employed medical officers are international medical graduates (IMG) who find the reviewers’ comments provide valuable feedback; for some it is their main educational activity.

A division held a general practice information session for IMGs which included information about the LAOS program.

A popular initiative undertaken by divisions of general practice is the inclusion of a case study and recommendation in divisional newsletters distributed to all local GPs. This gives other GPs an insight into the life of a VMO, the support offered by the educational aspects of the program and a share of the learning.

**Comment from a GP reviewer:**

*I find the reviewing process is very much a two-way street. I learn a great deal and if I am reviewing the management of a patient by a specialist overseeing a HMO (hospital-employed medical officer), then there is a good chance that I will encounter more enhanced medical knowledge and skills and I might learn something new.*
Reports made to the Sentinel Events Review subcommittee

A summary of reports made to the Sentinel Events Review subcommittee of the Clinical Risk Management Reference Group is presented. The reports are based on common themes emerging from the pooled reference panel recommendations. Reference panels are where peer reviewing GPs discuss records that have been found to contain an adverse event or educational opportunity and develop recommendations for system improvement.

Management of warfarin

Five cases relating to the management of warfarin in the previous six months had been discussed at reference panels across Victoria. One case study revealed:

A patient aged in their seventies with deep vein thrombosis required anticoagulation – which was given with only a two-day admission. The patient was either sensitive to warfarin or there was a dosage problem in the discharge plan as the INR (international normalised ratio, a test to monitor warfarin) rose to 4.8. There was minor bleeding with no drop in haemoglobin. The INR climbed further, to 5.2 twelve days later and vitamin K was required to reduce the bleeding risk.

The number of adverse events that relate to the use of warfarin appears to be increasing in the LAOS program, which suggests that there is either widespread difficulty in its management, or increasing recognition of adverse events in thrombolysed patients.

• It is recommended that health services in collaboration with their VMOs review or develop procedures and protocols for managing warfarin and INR test reports – including patients undergoing anaesthesia. Specialists in regional hospitals may also be a useful resource so that patients who are transferred between regional and smaller rural hospitals are managed under similar protocols. Some IMGs may require additional support while they gain experience in the Australian management of anti-thrombolytic agents.

• Guidelines and resources are also available from:
  the Merck manuals: http://www.merck.com/mmpe/index.html

General Practice Divisions with a pharmacist on staff have run warfarin education workshops which have been well-attended. Other divisions have promoted discussions between VMOs and their regional hospital pharmacy department.

Management of intravenous fluids

In 2009, adverse events in five patient records resulted in recommendations regarding the management of intravenous fluids. No recommendations were made regarding this issue prior to 2009.

A patient in their nineties was admitted with dehydration and possible septic shock. They also had a biliary obstruction (blockage of the bile duct), cholangitis (inflammation or infection of the bile duct), acute renal impairment, ischaemic heart disease (restriction of blood flow to the heart) and dementia. The patient was rehydrated with three litres of fluid initially and a total of six litres over 24 hours which lead to congestive cardiac failure (heart unable to pump properly). A pathology result also showed an abnormally low sodium level, but this test was not repeated.
Small rural hospitals need to work with their VMOs to review or develop guidelines for the overall management of intravenous fluids which are applicable to each hospital’s available services. These guidelines should include:

- which intravenous fluids are available and at what concentrations with guidelines for the use of each available fluid
- the availability of pathology services affecting the monitoring and timing of renal function, electrolyte, acid-base and any other relevant biochemistry levels, with protocols for out-of-hours testing (including whether point-of-care tests are available) and for the prompt notification and investigation of abnormal results
- monitoring of fluid balance, especially in the elderly and those with compromised renal function
- protocols for handover of patients undergoing intravenous fluid treatment
- clear criteria for when a patient should be transferred and a protocol for the management of transfer, including the role of Adult Retrieval Victoria
- noting of any advance care plans and whether the use of intravenous fluids is permitted in these plans.

Some resources that may be of assistance:


### Resuscitation and reporting deaths to the coroner

*An inpatient aged in their sixties was found with no pulse and not breathing, but no attempt was made at resuscitation. The patient had a past history of chronic obstructive airways disease, alcohol abuse, ischaemic heart disease, peripheral vascular disease, asthma and heavy cigarette intake. The patient did not have a good prognosis, but there was no directive regarding not-for-resuscitation. The death was reported to the coroner and due process was followed. The hospital conducted an internal review of the case as well as sending the record for an independent LAOS review.*

- When the cause of death is uncertain, the case should be referred to the coroner. It is common practice to have discussions with the coroner to obtain advice.

Hospitals should also be aware of the changes to the Coroner’s Act 2008 that was enacted on 1 November 2009.


- To enable an efficient, coordinated response when a patient is found with no pulse and not breathing, small rural hospitals should have guidelines on the initiation of a rapid response system (usually code blue) and the commencement of resuscitation prior to the arrival of a medical officer. Staff should be aware of and receive regular training in all relevant procedures. The guidelines should also include education about advance care plans, including not-for-resuscitation directives.
Timing of LAOS recommendations and quality meetings

The issuing of LAOS recommendations depends on many factors:

- the number of records received (an average of 44 records per division per quarter in 2010)
- the time taken for the reviewing and treating GP comments, waiting for 10 or more records with adverse events to hold a reference panel meeting
- writing up, checking and distribution of the recommendation.

Hospital quality meetings are held on a regular basis, so a quality meeting may be held before local LAOS recommendations are received. As hospitals find discussion of LAOS recommendations a valuable component of their quality meetings, all recommendations made by all reference panels are available to all hospitals via a password-protected central website.

Apart from having recommendations available for every quality meeting, hospitals have searched for recommendations on particular themes or topics to use as a basis for reviews of policies and procedures. If a hospital's policy or procedure requires modification, all relevant staff should be educated about any changes made in response to the recommendation.
Appendix 1: Manuals and information sheets

LAOS manuals and information sheets are now available for all participants in the LAOS program.

LAOS manuals are available for:

- directors of medical services, chief executive officers, directors of nursing, quality managers
- health information managers
- reviewing GPs
- LAOS coordinators.

LAOS information sheets are available for:

- patients treated in small rural hospitals, informing them that their record may be looked at by a doctor other than their own
- VMOs and treating GPs
- hospital photocopying staff.

For copies of any of the above, please contact your division’s LAOS coordinator.
Appendix 2: Lead divisions of general practice

GPs and small rural hospitals are assigned to a local division of general practice. There are six lead divisions of general practice involved in LAOS.

**General Practice Alliance South Gippsland**
www.gpasouthgippsland.com.au

is the lead division also representing East Gippsland Division of General Practice and occasionally GPs from the Eastern Ranges Division of General Practice and Dandenong Casey General Practice Association Inc., who practice as VMOs in Gippsland’s small rural hospitals.

**Goulburn Valley Division of General Practice**
www.gvgp.com.au

is the lead division also representing Central Highlands Division of General Practice and Central Victoria General Practice Network.

**Murray Plains Division of General Practice**
www.mpdgp.com.au

is the lead division also representing part of the Mallee Division of General Practice.

**North East Victorian Division of General Practice**
www.nevicdgp.org.au

is the lead division also representing part of Albury Wodonga General Practice Network.

**Otway Division of General Practice**
www.otway.asn.au

**West Vic Division of General Practice**
www.westvicdiv.asn.au

is the lead division also representing Ballarat Division of General Practice.

**State wide coordination is managed by GPV**
www.gpv.org.au

Further information relating to clinical risk management and the LAOS program may be found at:
Appendix 3: LAOS screening criteria

- patient death
- unplanned return to theatre within seven days
- unplanned readmission within 28 days
- transfer to another health service
- patient’s length of stay greater than 35 days
- any record recommended by a doctor or other health professional for review

Definitions

patient death
the discharge summary states that the patient has died

unplanned return to theatre within seven days
if it was necessary for a further operation due to complications related to a previous operation or procedure in the operating room

unplanned readmission within 28 days
all readmissions within 28 days are counted unless clearly proposed as part of the documentation of the previous admission. With this criterion the reviewer is looking to see whether an adverse event occurred in the first admission resulting in readmission to hospital. When health information managers are completing the analysis form for this criterion, the code of the treating general practitioner during the first admission should be recorded. The admission and discharge dates recorded on the analysis form will also be those of the first admission

transfer to another health service
when the discharge summary states that the patient was transferred to another acute care facility for more specialized treatment

patient's length of stay greater than 35 days
if, from the time of admission to the time of discharge, the patient’s stay was greater than 35 days. This conforms to the current acute or nursing home type (NH1T) classifications

any record recommended by a doctor or other health professional for review
A general practitioner or other health professional may request that a patient’s medical record be submitted for peer review. Please note on the analysis form why the health professional requests a review of the record. Apart from cases that are flagged under other criteria, some health services have sent a sample of their obstetric cases to the program as part of a regular quality review. There are GPs and obstetricians across the state who are available for review of these cases. Records from both the mother and baby (if born) should be sent.
Appendix 4: Journey of a record

Funded by the Department of Health, the LAOS journey starts when a patient is discharged from a small rural hospital. When discharge-coding the patient’s record, the health information manager checks to see if it meets any of the six LAOS selection criteria.

Records that meet one or more of the six LAOS selection criteria are photocopied – the original patient record never leaves the hospital. Copied records are sent to the general practice division’s LAOS coordinator who forwards them for review by peer-reviewing GPs working in a different rural geographic area.

The use of peer-reviewing GPs from other geographic areas helps to maintain the independence of the review. As the majority of records have no adverse event, the peer-reviewing GP is the only person other than the treating GP to examine the patient’s record.

If a peer reviewer finds an adverse event or raises any questions about the patient management the LAOS coordinator returns the record to the treating GP or VMO for comment.

Once the treating VMO has commented on the review, the record, its review and treating GP comments are examined by the chair of the LAOS reference panel (an experienced peer-reviewing GP) to see if the record requires further discussion. If all questions have been satisfactorily answered and there are no more lessons that can be learned, the copied record is shredded and the hospital notified.

If the chair feels the record requires more discussion, it is presented at a reference panel meeting. The reference panel meeting consists of at least four peer-reviewing GPs (including the chair) who discuss the de-identified case summary, peer reviewer’s findings and the treating GPs comments. No person or hospital is identified in this discussion.

After discussion, if the peer-reviewing GPs feel that there are lessons to be learned, a recommendation for system improvement is made in line with current best practice. Each recommendation contains a de-identified case summary, the reviewer’s findings, the VMO’s comments, the themes of the reference panel discussion and the final recommendations issued by the reference panel. The evidence for the recommendations is also attached. No person or hospital is identified in the recommendations.

De-identified recommendations are sent to all participating hospitals and VMOs in the general practice division and posted on the LAOS website of recommendations.

The LAOS record review is designed to complement on-the-spot investigation of incidents and the inhouse nursing evaluation of patient records. All are necessary, complementary and investigate different aspects of a patient’s care. The investigation of an incident or a nursing review may also raise additional questions about protocols or procedures within the hospital. This may be a trigger for requesting an independent LAOS review under selection criteria six, any record recommended by a GP or other staff for peer review.

The LAOS recommendations are discussed at each hospital’s quality forum and at GP clinics. Some solo and small GP practices have formed alliances with other practices to discuss the recommendations together, so improving their own peer support. The action taken on the recommendations is supplied to the LAOS coordinator to close the feedback loop.
Appendix 5: Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>ACRRM</td>
<td>Australian College of Rural and Remote Medicine</td>
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<tr>
<td>adverse event</td>
<td>an unintended injury or complication that results in disability, death or prolongation of hospital stay and is caused by health care management rather than the patient's disease</td>
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<tr>
<td>CEO</td>
<td>chief executive officer</td>
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<tr>
<td>clinical guidelines</td>
<td>any policy, procedure or guidelines concerning the processes involved in the clinical management of patients</td>
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<tr>
<td>clinical risk management (CRM)</td>
<td>an approach to improving quality in health care that places special emphasis on identifying circumstances that put patients at risk of harm and then acting to prevent or control these risks</td>
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<tr>
<td>Clinical Risk Management Reference Group</td>
<td>provides expert advice to the Department of Health to support the identification, management and minimization of risk in the clinical setting</td>
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<tr>
<td>continuing professional development points</td>
<td>required to maintain professional competence and registration</td>
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<tr>
<td>the department</td>
<td>Department of Health</td>
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<tr>
<td>division of general practice</td>
<td>an organisation of local general practitioners established to encourage GPs to work together with other health professionals to improve local health service delivery. Across Victoria there are six lead rural divisions of general practice involved in LAOS, representing a total of twelve rural divisions</td>
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<tr>
<td>educational opportunity</td>
<td>system or clinical issue that did not lead to an adverse event, but in other circumstances may have, thus representing an educational opportunity</td>
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<tr>
<td>GP</td>
<td>general practitioner</td>
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<tr>
<td>incident</td>
<td>an event or circumstance resulting from health care that could have, or did, lead to unintended or unnecessary harm to a person, or a complaint, loss or damage</td>
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<td>international medical graduate (IMG)</td>
<td>a doctor who has obtained their medical degree outside Australia</td>
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<tr>
<td>LAOS</td>
<td>Limited Adverse Occurrence Screening. A retrospective examination of small rural hospital patient records looking for adverse events and educational opportunities</td>
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<tr>
<td>LAOS coordinator</td>
<td>person employed by the division of general practice to administer the LAOS program</td>
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<tr>
<td>medical record</td>
<td>a record containing a patient's health information, status and treatment</td>
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<tr>
<td><strong>peer-reviewing GP or GP peer reviewer</strong></td>
<td>A rural general practitioner who reviews the selected medical record looking for any adverse event or educational opportunity in a no-blame manner.</td>
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<tr>
<td><strong>RACGP</strong></td>
<td>Royal Australian College of General Practitioners</td>
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<tr>
<td><strong>recommendation</strong></td>
<td>A recommendation issued by a LAOS reference panel for system improvement or educational activity in response to an adverse event in a patient’s medical record. Recommendations are sent to all LAOS participating hospitals and VMOs in the division.</td>
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<tr>
<td><strong>reference panel</strong></td>
<td>Meeting of peer-reviewing GPs who discuss the adverse events and educational opportunities found in reviewed patient records and issue recommendations for system improvement.</td>
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<tr>
<td><strong>selection criteria</strong></td>
<td>There are six criteria to trigger a review of a patient’s medical record.</td>
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<tr>
<td><strong>Sentinel Events Review subcommittee</strong></td>
<td>A subcommittee of the Clinical Risk Management Reference group that reviews sentinel events, root-cause analysis reports and a summary of recommendations arising within the LAOS program.</td>
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<tr>
<td><strong>Victorian Quality Council (VQC)</strong></td>
<td>A Ministerial Advisory Council that leads and influences the quality and safety agenda to achieve safer, better health care for all Victorians.</td>
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<tr>
<td><strong>visiting medical officer (VMO)</strong></td>
<td>In this document: a GP employed as a visiting medical officer in a small rural hospital.</td>
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Notes