



Approaches to Medication Safety in Victorian Hospitals

A qualitative study

Results arising from telephone interviews conducted on topics of medication safety with Victorian Therapeutics Advisory Group (VicTAG) affiliated health services

A project of Monash University and the Victorian Medication Safety Committee

Funded by the Victorian Quality Council



Foreword

Adverse events in hospitals are found to be a major problem in both Australia and overseas, as demonstrated by studies such as the Harvard Medical Practice Study¹, the Quality in Australian Health Care Study² and the Institute of Medicine Report³. Medication related adverse events are one of the most prominently featured types of adverse events in these studies, and many of these - the adverse events caused by medication errors - are preventable. Hospitals are affected by similar types of errors⁴, yet there is substantial variability between hospitals in how medication error is prevented.

Variability in health care practice poses a significant obstacle to system-wide improvements in medication safety. Inter-hospital variability increases complexity, therefore leading to possible increase in risk of error, makes comparisons between institutions difficult, impedes the sharing of solutions and contributes to duplication of effort.

Various efforts have been directed at understanding and reducing adverse drug events and improving medication safety in Victorian hospitals over recent years. In May 2002, the Beyond Blame⁴ seminar recognised that efforts to reduce errors associated with medication use in Victorian hospitals are not integrated or coordinated, and that a uniform statewide approach to adverse drug event minimisation is warranted. The Second National Report on Patient Safety: Improving Medication Safety² provided a comprehensive examination into the problems with medication used and issues of medication safety in Australia, giving further evidence to support the need for improvement in medication safety initiatives.

The purpose of this qualitative study was to gather qualitative baseline information on medication safety management practices in Victorian health services. The study was undertaken via a survey of Directors of Pharmacy to determine the current procedures in Victorian hospitals, such as existing systems for the documentation of medication errors and near-misses, the medication safety problems encountered and the strategies that have been implemented to overcome them.

The Project

This project was designed to capture baseline information from Victorian hospitals using telephone interviews. The purpose of the project was to collate qualitative information regarding the medication safety management structure, data collected, mechanisms of data collection and important medication safety issues from Victorian hospitals.

The project's objectives were to:

- ascertain the systems in place for the documentation of medication errors and near-misses in Victorian hospitals; and
- identify the common medication safety problems encountered in Victorian hospitals and the strategies that have been implemented to overcome them.

Methodology

The project was conducted in the form of 30 minute telephone interviews. All thirty-two Victorian Therapeutics Advisory Group (VicTAG) affiliated health services were invited to participate. Directors of Pharmacy or another person familiar with medication safety procedures in the hospital were targeted as interviewees. Twenty-six of the thirty-two VicTAG affiliated health services consented to participate (metropolitan – 15 : rural – 11).

Of the 26 interviews conducted, Directors of Pharmacy participated in 22 interviews. There were also three instances where more than one participant from the same health service were interviewed, using a conference call method. The backgrounds of interviewees are listed in Table 1.

Table 1: Breakdown of interviewee backgrounds

Background	Number of participants
Director of Pharmacy	22
Clinical Risk Manager	2
Quality Use of Medicines Pharmacist	1
Medication Safety Pharmacist	1
Dispensary Manager	1
Pharmacy Coordinator	1
Clinical Services and Quality Manager	1
Quality Manager	1
Total	30*

* 30 participants were interviewed in the study during 26 interviews. There were 2 participants in two interviews and 3 participants in one interview.

A telephone interview tool was designed to be the first of a series of questionnaires to capture information related to medication safety in Victorian hospitals. The telephone interview format was chosen over written surveys because it allowed personal contact to be established which may be useful in subsequent questionnaires. Face-to-face interviews were also considered but this was rejected due to the widespread locations of the health services being interviewed.

The telephone interviews were conducted as a joint project between Monash University, the Victorian Medication Safety Committee and the Victorian Quality Council. The Victorian Quality Council provided financial support for the project.

This project was approved by the Standing Committee on Ethics involving Research in Humans, Monash University.

The interview process and topics are described in Appendix A.

Summary of Results

Medication error reporting systems

The type of formal report form for medication errors and near-misses used by the hospitals differed, with some health services using more than one type of form on which to record medication errors.

- Hospital-developed incident report forms are most often used, but there are 5 hospitals where more than one type of incident report forms are used. One hospital indicated that to report a medication error, 3 separate forms must be completed.
- Currently there is only one health service where the entire incident reporting system is completely computerised. The remaining hospitals all have some kind of paper-based form that has to be completed when a medication error occurs.
- Seven respondents (26.9%) have found the hospital incident reporting system which is used to document medication errors within their hospital to be deficient in some respect. This ranges from the tedious paperwork associated with reporting a medication error, to the inability of the incident reporting system to extract relevant information or integrate with existing systems.

Anonymity of reporting

- Four hospitals (15.4%) have opted to make their report forms anonymous for reporters.
- Some hospitals cited as reasons for instituting anonymous reporting the likelihood it would remove a barrier to reporting and increase the number of reports.
- Other hospitals preferred the traditional named reports as it allows follow-up of the incident if necessary.

Documentation of near-misses

- The majority of participants responded that near-misses are supposed to be recorded. Prescribing, dispensing and administration near-misses are supposed to be recorded in 96.2%, 61.5% and 84.6%, respectively, of the hospitals interviewed. Some hospital incident reporting systems are designed to capture near-misses as well as medication errors, but interview responses indicate that near-misses are not often reported via this system.
- The majority of participants responded that near-misses are supposed to be documented, but it is believed that many are not reported.
- Very few reports of near-misses are received by the hospital or the pharmacy compared with actual medication errors.
- Nine respondents indicated that there is potential for near-misses to be recorded better in their hospitals.

Documentation of prescribing near-misses

- Twenty-five of the 26 (96.2%) participating hospitals responded that prescribing near-misses are supposed to be recorded.
- Respondents indicated that prescribing near-misses are supposed to be recorded, using pharmacist interventions and/or the hospital incident reporting system.
- Hospital incident reporting systems have been described as poor in capturing near-misses.
- Both prescribing errors and near-misses are detected primarily by pharmacist interventions.

Documentation of pharmacist interventions

- Pharmacists detect errors and near-misses (mainly associated with prescribing) when they undertake clinical pharmacist activities such as medication history review, patient medication counselling and therapeutic drug monitoring.
- It was found that 25 of the 26 participating hospitals (96.2%) document pharmacist interventions. Pharmacist intervention data are sometimes collected for purposes other than improving medication safety, such as statistics and workload purposes and to justify pharmacist “worth”.
- Pharmacist interventions are collected in the majority of hospitals, generating a large amount of potentially very useful data.
- Pharmacist intervention data are readily available but unfortunately are largely unused for the purposes of improving medication safety.

Analysis of pharmacist interventions

- In total, only four hospitals interviewed (16.0%) have pharmacist intervention data analysed in the same way as medication errors that are reported via the hospital incident reporting process. In 2 of these hospitals, the pharmacist intervention database is interfaced with the hospital incident reporting system and the other 2 hospitals have their pharmacist interventions entered into the hospital incident reporting system. In 14 of the 25 (56.0%) hospitals, the pharmacist intervention data is analysed and reviewed internally by a pharmacist. These results are then abbreviated and only presented in summary at hospital committees involved in medication safety.
- Interview responses suggest there is potential to better use pharmacist interventions to improve medication safety within Victorian hospitals.
- There are indications that trending of pharmacist intervention data is difficult due to the volume of data collected and the collection processes which is sometimes primarily paper based.
- Hospital committees involved in medication safety usually receive abbreviated, summarised versions of pharmacist interventions, and in some of these cases this is only done on an infrequent basis.

- Much information arising from pharmacist interventions is lost to the hospital because it is either not known to the hospital at all, or the information is diluted as it moves through the hospital reporting hierarchy (see Figure 1).

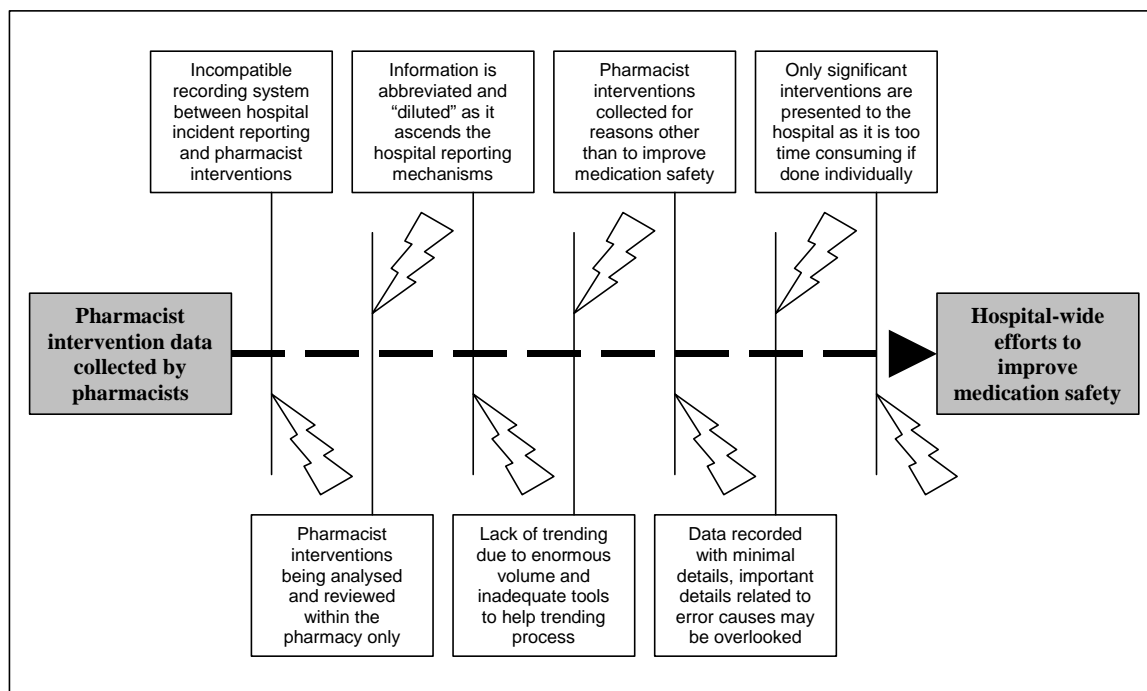


Figure 1: Barriers to the use of pharmacist intervention data for safety improvement

Documentation of administration near-misses

- Twenty-two (84.2%) hospitals indicated that administration near-misses are supposed to be recorded.
- The respondents who indicated that there is a potential for near-misses to be recorded better in their hospitals mostly referred to administration near-misses.
- Administration near-misses are supposed to be recorded but in reality these are rarely documented.

Significant medication safety issues

- One-hundred significant issues of medication safety were identified during the interviews, some of which were recurrent. Similar issues were grouped, resulting in 17 groups of significant medication safety issues.
- Similar medication safety issues are experienced by hospitals interviewed, and this finding may be extrapolated to all Victorian hospitals.
- Strategies used to manage these medication safety issues were different depending on the nature of the problem and the resources available to the hospital.
- Some of these medication safety issues were identified using information obtained from other hospitals.
- Both the potassium and the drug storage and security issue were frequently identified by hospitals interviewed as significant areas of medication safety.
- The majority of hospitals which identified these as problems have stated that these issues were recognised through national and state directives publicised.

Education of health professionals in aspects of medication safety

Respondents indicated that education directed at key health professionals was useful and successful.

Education is one of the most commonly identified strategies to improve both specific drug or drug group related medication safety issues and process-related medication safety issues.

Many educational programs designed were aimed at doctors and nurses at the junior level.

Some respondents believed that education programs need to be delivered across the system with standard information given.

Conclusion

This study assisted the identification and collection of qualitative information on the following medication safety related areas:

- similarities and differences in the medication safety management structure, such as methods of documentation of medication errors and near-misses among hospitals;
- the role of clinical pharmacist intervention data in medication safety, including whether clinical pharmacist interventions are recorded and how they are used (if at all);
- significant medication safety problems that are similar across hospitals as well as the common, most useful methods for identifying them; and
- strategies implemented in hospitals to manage medication safety problems, the strategy's successes, and the viability of the strategy's cross-adoption in other Victorian hospitals.

The full report will be forwarded to the recently established Department of Human Services' Victorian Medicines Advisory Committee (VMAC) for consideration and action.

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Appendix A

Telephone interview structure

The structure of the telephone interview was divided into four general sections:

Section 1: Medication errors

Focus: Processes that are meant to occur when a medication error reaches a patient.

Topics:

- Medication error report documentation
- The medication error reporting process: individuals and committees to whom medication error report documentation are disseminated
- Individuals and committees responsible for various stages of the medication error reporting process: who or which committee in the hospital:
 - examines the medication error reports
 - initiates or undertakes root cause analysis of medication errors
 - suggests or plans for system changes to reduce the likelihood of the same type of error occurring in the future
 - implements system changes to reduce the likelihood of the same type of error occurring in the future
 - assesses or evaluates the system changes implemented
 - collates statistics on medication errors
- Whether the medication error recording process that is meant to occur differs among prescribing, dispensing and administration errors

Care was taken during the interview to specify to participants that for the purpose of the interview a “medication error” was defined as an error that “actually reached the patient”. Questions were designed to seek information about the processes that are meant to occur rather than what actually occurs.

Section 2: Near-misses

Focus: Documentation of near-misses

Topics:

- Whether prescribing near-misses are supposed to be recorded
- Whether dispensing near-misses are supposed to be recorded
- Whether administration near-misses are supposed to be recorded

Care was taken during the interview to specify to participants that for the purpose of the interview a near-miss” was defined as an error that was “detected before it reached the patient. Questions were designed to seek information about the processes that are meant to occur rather than what actually occurs

Section 3: Clinical pharmacist interventions

Focus: Documentation of pharmacist interventions

Topics:

- Whether pharmacist interventions are meant to be documented
- Whether pharmacist interventions are reviewed and analysed the same way as for medication errors that actually reached the patient

Section 4: Significant areas of medication safety

Focus: Significant medication safety issues at each participating health service.

Participants were asked to identify three issues that they considered most significant. Each issue was then discussed individually to ascertain how it was identified as a problem at the hospital, whether system changes were attempted or implemented to improve the problems, and also any outcomes if available.

References

¹Brennan TA, Leape LL, Laird NM, et al. Incidence of adverse events and negligence in hospitalised patients. Results of the Harvard Medical Practice Study I. JAMA. 1995; 274:29-34.

²Roughead L, Semple S. Second National Report on Patient Safety: Improving Medication Safety. Australian Council for Safety and Quality in Health Care, 2002.

³Kohn LT, Corrigan JM, Donaldson MS. To Err is Human: Building a Safer Health System. Washington D. C. National Academy Press, 1999.

⁴O'Callaghan C, Thomson B, Brown R, et al. Beyond Blame: Exploring practical approaches to the control of adverse drug event. Victorian Drug Usage Advisory Committee, 2002.