



THE UNIVERSITY OF
NEW SOUTH WALES



CENTRE FOR CLINICAL GOVERNANCE RESEARCH

EVALUATION OF THE INCIDENT INFORMATION MANAGEMENT SYSTEM IN NEW SOUTH WALES: STUDY NUMBER 8



REVIEW OF THE DISSEMINATION OF
LESSONS LEARNED

The Centre for Clinical Governance Research in Health undertakes strategic research, evaluations and research-based projects of national and international standing with a core interest to investigate health sector issues of policy, culture, systems, governance and leadership.

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1 ABBREVIATIONS AND DEFINITIONS

1.1 Abbreviations

AHS	Area Health Service
CCGR	Centre for Clinical Governance Research at University of NSW
CEC	Clinical Excellence Commission
CGU	Clinical Governance Unit
IIMS	Incident Information Management System
NSW Health	NSW Department of Health
PSCQP	Patient Safety and Clinical Quality Program
PHO	Public Health Organisation
PSI	Patient Safety International
QSB	Quality and Safety Branch, NSW Health
RCA	Root Cause Analysis
RIB	Reportable Incident Brief
ROI	Return on Investment
SAC	Severity Assessment Code
SIP	Safety Improvement Program
SIM	Strategic Information Management Branch, NSW Health

1.2 Definitions

Clinical Practice Improvement	A combination of tools, techniques, skills and attributes designed to enhance care inputs, structures, cultures, processes, outputs or outcomes.
Culture	The configuration of attitudes, values, beliefs, meanings, behaviours and practices which together can be seen to be definitive of 'what people are' or 'where people come from'. Culture can be seen as a 'state' or something people possess, while it appears more fruitful to regard it as performance and also a process.
Ethnography	A research technique used for describing what human beings do in selected settings, usually comprising 'participant observation', field notes, narrative accounts, interviews, and other qualitative research methods.
Evaluation	The systematic examination of a policy, program or project aimed at assessing its merit, value, worth, relevance or contribution.
Formative Evaluation	Evaluation conducted during a course of a policy's, program's or project's life.
Innovation	The rate, propensity, capacity and effectiveness in adopting new ideas, practices or behaviours.
Leximancer	A software package which identifies the key ideas, concepts and themes in text-based documents, allowing researchers to examine the concepts, and the relationships between them, in detail.
Organisational Culture	The collective set of relationships in organisations that differentiate one group from another in terms of dress, attitudes, values, behaviours, beliefs, language and shared meaning.
Summative Evaluation	Evaluation conducted at the end of a policy's, program's or project's life.
Triangulation	A multi-method research or evaluation design which adduces converging or diverging evidence drawn from pluralist sources to illuminate an object of inquiry.

2 EXECUTIVE SUMMARY

This report outlines the results of study 8 in the evaluation of NSW Health's Incident Information Management System (IIMS). This study explores the way in which lessons learned through IIMS are disseminated at various levels of the health system. It found an active process of engagement with IIMS data, as a learning tool, at each of these levels. While this engagement is currently patchy, indicators are that the combined efforts of the CEC, NSW Health and Clinical Governance Units can result in an increasing level of use of IIMS as a source of individual and organisational development. Further efforts are needed to optimise the benefits of IIMS and translate effort into improved patient safety.

3 INTRODUCTION

3.1 Overview

The NSW Department of Health (NSW Health) commissioned the Centre for Clinical Governance Research (CCGR) at University of New South Wales to conduct a formal evaluation of its Incident Information Management System (IIMS) as part of a contract to identify and evaluate a Knowledge Management program for Quality and Safety Branch. NSW Health needed the evaluation to assess the success of the implementation and effects of the program against the project objectives and key expected benefits.

The objective of IIMS at the time the evaluation was commissioned was to provide an electronic system that:

- Recorded all healthcare incidents
- Assisted managers through a workflow module to manage the incidents that occurred in their area
- Recorded the results of reviews or investigations of incidents
- Provided reports on all incidents that had been recorded in the system.

The evaluation aims to utilise the multi-method, triangulated approach employed in the *Evaluation of the Safety Improvement Program*, conducted by CCGR for the Clinical Excellence Commission (CEC) and NSW Health in 2004-2005. The IIMS evaluation was agreed to be a synthesis of 10 inter-related studies (Table 1). This evaluation was conducted by A/Professor Jeffrey Braithwaite, Ms Jo Travaglia, Conjoint A/Professor Mary T. Westbrook, Dr Christine Jorm, Dr Cynthia Hunter, Ms Katherine Carroll, A/Professor Rick Iedema and Ms Mahalakshmi Ekambareshwar.

Table 1: Evaluation studies

STUDY	TITLE	COMMENTS, ACTIONS AND TIMEFRAMES	LED BY/TEAM
Study #1	Literature review	<ul style="list-style-type: none"> ▪ National and international peer reviewed and professional journals ▪ Databases ▪ Websites ▪ Relevant industry and research bodies 	Christine Jorm, Jeffrey Braithwaite, Jo Travaglia
Study #2	Review of the education and training program	<ul style="list-style-type: none"> ▪ Prospective analysis of face to face and online training ▪ Retrospective analysis of IIMS' pilot training program evaluation forms 	Mahalakshmi Ekambareshwar, Jo Travaglia, Jeffrey Braithwaite, Mary Westbrook
Study #3	Review of the project implementation process for IIMS	<ul style="list-style-type: none"> ▪ Interviews with key stakeholders ▪ Review of project implementation plan ▪ Questionnaire 	Jeffrey Braithwaite, Jo Travaglia

Study #4	Analysis of the success of the "reach" of IIMS within the health system	<ul style="list-style-type: none"> ▪ Questionnaire ▪ Interviews ▪ Focus groups ▪ Walk around survey 	Mary Westbrook, Jo Travaglia, Cynthia Hunter, Katherine Carroll, Jeffrey Braithwaite
Study #5	Assessment of the satisfaction of IIMS users with the system	<ul style="list-style-type: none"> ▪ Questionnaire ▪ Comparison with international and industry programs 	Mary Westbrook, Jo, Travaglia, Jeffrey Braithwaite
Study #6	Map of the facility processes involved in implementing IIMS and handling incidents	<ul style="list-style-type: none"> ▪ Interviews with key stakeholders ▪ Focus group of key stakeholders 	Jo Travaglia, Jeffrey Braithwaite, Mary Westbrook
Study #7	Examination of incident reports and management responses	<ul style="list-style-type: none"> ▪ Comparison of IIMS with other reporting mechanisms pre- and post- IIMS ▪ Comparison with international approaches 	Jo Travaglia, Jeffrey Braithwaite, Mary Westbrook
Study #8	Review of the dissemination of lessons learned	<ul style="list-style-type: none"> ▪ Questionnaire ▪ Interviews with key stakeholders 	Jo Travaglia, Jeffrey Braithwaite, Mary Westbrook
Study #9	Assessment of the value and use of the IIMS system to the CEC	<ul style="list-style-type: none"> ▪ Interviews with CEC staff 	Jeffrey Braithwaite, Jo Travaglia
Study #10	Examination of the reporting processes, including change in management of RIBS post IIMS	<ul style="list-style-type: none"> ▪ NSW Health data ▪ Interviews with Quality and Safety Branch staff 	Jo Travaglia, Jeffrey Braithwaite

Having presented the results of study 7, the *Examination of incident reports and management responses*, we turn to the results of study 8, *Review of dissemination of lessons learned*. This report documents the outcomes of this study. This component of the evaluation was conducted by Ms Jo Travaglia and A/Professor Jeffrey Braithwaite.

3.2 About this report

The next section, section 4, *Methods*, documents the way we went about conducting the interviews and utilising questionnaire data in order to review the dissemination of lessons learned from IIMS. Section 5 presents our findings, and section 6 discusses the findings in relation to the key research questions. The conclusion, section 7, briefly outlines the implications of these findings for the evaluation of IIMS as a whole.

4 METHODS

In this study we examined the way in which lessons learned through IIMS are disseminated at different levels in the health system, including NSW Health, AHSs and facilities. We reviewed the use of reports, websites, alerts and feed back mechanisms.

For this study we conducted in-depth interviews with 15 IIMS and Patient Safety managers from AHS, seven NSW Health Quality and Safety Branch (QSB) staff, and eight senior staff members from the Clinical Excellence Commission. We also utilised questionnaire data from study 5, the survey of 2185 staff across the health system.

5 FINDINGS

Responsibility for IIMS is distributed across the NSW health system. Part of that responsibility is the requirement that individuals and services engage in an active process of learning from incidents reported.¹ At a micro, local level, participation in a root cause analysis process can result in significant learning for both the team and the clinicians involved in the incident.² At a macro, policy level, NSW Health has published the first and second Patient Safety and Clinical Quality Program reports on incident management. These were the first major public documents to be released on this issue in NSW.^{3 4} The potential for individual and organisational learning are considerable, and are now beginning to be realised.

Thus an encouraging start has been made. Study 5 shows that some 43.7% of health system respondents report that IIMS improves patient safety, and there were positive attitudes expressed to the item 'IIMS is operating wherever it is needed'. Only 17% of respondents disagreed, while the rest were neutral.

5.1 NSW Health

One of NSW Health's primary responsibilities in relation to IIMS is to "disseminate lessons learned from incident management".¹ It is also responsible for the annual publication of the Patient Safety and Clinical Quality Program report.

At a Departmental level the Quality and Safety Branch (QSB) provides monthly reports on Reportable Incident Briefs (RIBS) to the Reportable Incident Review Committee. Staff of the Branch monitor RIB reports daily, identifying areas of concern or follow-up. QSB has been working on various strategies for capturing the lessons learned from incident reporting since the inception of the Safety Improvement Program (SIP) in 2002. In recent years, a key element in this project has been an internet based Safety Broadcast System, which includes an email function. The aim of this system is to ensure a quick response (in cases of Alerts, within 24 hours) and timely feedback to health services staff across the State on key issues of safety and quality.

The system includes: Safety Alerts on issues of high significance; Safety Information on risk management strategies; and the Safety Newsletter, which has recently been superseded by the safety broadcasting system and the QSB website. Safety Alerts indicate clearly the accountability associated with the issue being presented. Safety Information can be drawn from a number of sources, and may include for example, de-identified information from Reportable Incident Briefs (RIBS), information from manufacturers and the Therapeutic Goods Administration, as well as Coroner's and Health Care Complaints Commission reports.

Special reports based on IIMS data, and in particular on issues identified from SAC 3 and 4s, are also to be developed. These will provide a unique opportunity to harness information from near misses, which are often under-analysed by health services due to time pressures. QSB is also working with AHSs to assist them to take on their own clinical practice improvement projects, in particular in relation to issues which are raised through root cause analyses (RCAs).

Other NSW Health QSB related initiatives include the: Knowledge Management strategy; Lessons Learned strategy; Patient Safety and Clinical Quality reports; Lessons Learned website (which is scheduled for completion in September 2006); 2005 Awards and 229 full text Clinical Practice Improvement (CPI) project entries available via the QSB website; development of the concept for the Knowledge Gateway; establishment of a Knowledge Management reference group; co-hosting of the 2006 two day NSW Health Expo and Annual awards; and funding of CIAP quality and safety journals that include articles on lessons learned. The QSB website has been reviewed and provides access to tools, Bulletin Boards, and overseas patient success stories.

The major difficulty QSB faces in the harnessing of lessons learned is one of resources. In particular the Branch suffers from a lack of staff able to undertake the analysis of the data, and then to translate those findings into information and educational materials in a timely manner.

5.2 Clinical Excellence Commission

The Clinical Excellence Commission (CEC) has the specific responsibility for “providing advice and regular reports to the Minister for Health on issues and trends and providing information on lessons learned from the incident management process”.¹ CEC currently provides reports or is in the process of providing reports on trends in IIMS data to the Minister, its own Board, Committees and Council, to NSW Health via the Reportable Incident Review Committee (RIRC) and to AHSs through Directors of Clinical Governance.

CEC is also responsible for “identifying education needs emerging from incident management”.¹ It is currently analysing IIMS data for both internal purposes, to determine the types of educational and clinical practice improvement it might arrange, and for external purposes. The latter are being looked at in conjunction with AHSs and specific interest groups. A number of programs, such as a review of paediatric guidelines and a more recent project on communication issues in handover, are being developed or piloted. A major clinical leadership development program is being planned. CEC is also analysing data drawn from over 200 RCAs. The aim of this project is to examine the causal factors of adverse events, and to learn from them.

The CEC website has developed over the last year, and currently includes information on the CEC, its major projects and campaigns. It also includes some more general publications on patient safety.

5.3 Area Health Services

Each Area Health Service has its own approach to learning from incidents. IIMS Managers are typically involved in either directly managing the extraction of IIMS data, or supervising data analysts who do so. Once the data are extracted, they are utilised in a number of ways. AHSs currently produce trend reports for their Quality and Risk Management Committees. Most, but not all, AHSs benchmark incident rates within their AHS.

From that point on, however, the approaches to analysing and learning from the data vary. Some IIMS and Patient Safety Managers (PSM) are actively involved in presenting the data to facilities and services during staff meetings or Grand Rounds. Others take a hands-off approach, preferring instead to support managers at cluster, facility and ward level to take on this role with their staff. Most AHSs publish some trends and “learnings” from IIMS in their AHS Newsletters or intranets, although most were resistant to the idea of publishing incident data publicly. The amount of detail in these types of reports varies, but typically the case presented is a RIB which has been de-identified.

Most AHSs are working towards linking IIMS data and the implementation of education and development programs, amongst other quality improvement strategies. One of AHSs’ major concerns is finding the resource capabilities to educate clinicians in the use of IIMS as a learning tool, and to encourage and support managers in the same process. Currently only a few AHSs are conducting systematic analyses of the recommendations and outcomes of RCAs. This is touted to improve when the next version of IIMS, which has more fields for RCAs, is implemented.

5.4 Facilities, wards, units and departments

Much of the direct learning from incident monitoring occurs at a facility, ward, unit or department level. This may be because the impetus has been “pushed down”, and responsibility for safety needs to be delegated. Variations in practices at this level are considerable. At AHS level there is a commonality of reporting which occurs to Area wide committees and structures. At a facility or ward, unit and department level, much of the learning taking place is dependent on the enthusiasm and commitment of middle-level managers and staff involved. One consideration is whether there is an active, blame-free culture and a commitment to ongoing quality improvement. A total of 57% of managers and only 26.5% of non managers agreed or strongly agreed to the study 5 questionnaire item ‘We have a non-punitive culture of reporting in my workplace.’

In terms of progress toward best practice, some wards, units and departments are actively searching through IIMS data and monitoring areas of re-occurrence both with individuals and with types of incidents. Once a pattern has been identified, the managers and staff on these wards, units or departments can tackle the issues as a quality improvement strategy. The causes are identified; a strategy is chosen and implemented; and the results monitored, although usually only in the short term.

More typically, facilities, services or wards are extracting data from IIMS and presenting the results at monthly staff meetings. Action may or may not be taken depending on the type of incident or the trend. One of the struggles of managers interested in improvement has been learning how to extract IIMS data in ways which allow it to be used effectively as an educational tool. Some IIMS and Patient Safety Managers are working actively to support this process.

Some of managers also noted that they were using IIMS data as a part of performance discussions. It was noted that it was important to remove any feelings of blame, but rather to explore with the individual involved the causes and potential remediation of any recurring patterns of incidents.

6 DISCUSSION

One of the key aims of the IIMS project is to “support a NSW health system culture of continuous improvement and improving quality of care outcomes by leveraging lessons learned by incident management across the organisation”.⁵ IIMS is effective when it is utilised not just as a monitoring or management tool, but as a learning tool. Central to this process is the harnessing and utilisation of the lessons learned both from the incidents reported in IIMS, and from the process of reporting those incidents.^{6 7} It is clear that at different levels of the health service diverse attempts are being made to use IIMS data to improve the quality and safety of services. While these attempts vary greatly across AHS, facilities and managers, there is a significant ground swell of support for, and commitment to, the use of IIMS data in this way. However, commitment is sporadic and progress slow, and a great deal of work remains to be done.

While in theory the process of learning from IIMS data appears fairly straightforward, what remains unclear is how double loop learning⁸ will occur – that is, how will the lessons from the learning about the incidents be taken on board, harnessed and used actively to promote and achieve greater levels of patient safety? In particular how will knowledge at the AHS level or from local settings be formally or informally disseminated upwards to the CEC and QSB? Another key unanswered question is how AHSs, facilities or local units which put in place strategies to address the findings from an RCA or compelling IIMS-generated data then learn from this and disseminate the outcomes of those strategies to others in the health system.

7 CONCLUSION

IIMS has vast potential as a source of learning for AHSs, facilities, wards and individuals. The process of harnessing the lessons learned is underway, but considerable further progress needs to be made. CEC and QSB are engaged in a process of learning from IIMS and disseminating that learning to both clinicians and the community. Clinical Governance Units are also active in identifying, facilitating and supporting learning opportunities across their AHSs. More improvements to this process can be expected to occur as managers at all levels become more comfortable with extracting and analysing data, and presenting it to their staff. Ultimately, changed practices, safer cultures, and improved adverse event rates will be required, and ongoing measurement of these institutionalised.

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