

Announcing the Advanced Incident Monitoring System (AIMS)

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The latest version of AIMS is being beta tested at three sites during May 2003 with the aim of the system being available to clients by mid 2003. The new advanced version has many new features and modules, which have been developed in response to the increasingly sophisticated incident monitoring requirements.

AIMS has developed into a uniquely comprehensive and flexible risk management system which provides practical benefits across the entire spectrum of health care, whilst also meeting the most demanding requirements of highly specialised areas.

AIMS tools:

The AIMS software suite includes five main tools:

- **Data Manager** - enables the user to manage the incident data. Details of incidents can be recorded and classified in a consistent manner using the APSF's unique interactive Healthcare Incident Types (HITs). Incidents can be linked and administrative notes added if required. Data Manager can also be set up to manage incident data which has been captured using other incident reporting systems, eg complaints.
- **Analyser** – this enables the user to generate standard and user-defined reports from the incident database.
- **Administrator** – this module enables the user to set up and maintain the AIMS software organisation structure passwords, permissions and audit trails.
- **Database Administrator** – this module enables the user to download and apply updates to the AIMS software. De-identified, classified incident data can also be uploaded to a central database for aggregation through the APSF website.
- **Workflow Manager** – enables the user to inform relevant staff when incidents are reported or about incidents which meet the target criteria for classification. The user can monitor the process of managing particular incidents, including advising users when information is due or late, and can track the progress of interventions as they are implemented. A **risk register** will also be a key feature of AIMS.

Incident data sources:

AIMS accommodates a variety of sources of information:

- Incident report forms (using either paper or electronic forms)
- Coronial cases/files
- Complaints cases/files
- Medico-legal cases/files
- Medical literature and media reports
- Consumer reports
- Occupational Health and Safety (OH&S) reports.

Users can also design their own incident data capture forms. AIMS accommodates different methods of data collection, including:

- Transcribing data from paper incident report forms into AIMS
- Electronic scanning of paper incident forms
- Allowing reporters to access web-based incident report forms
- Allowing reporters to access AIMS directly (via an intranet)
- Allowing reporters to access AIMS directly using an anonymous internet form
- Enabling incident call centre staff to access AIMS directly
- Importing data captured by existing incident monitoring or other systems.

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Presidential Note



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The 1st recommendation in the report on Iatrogenic Injury by the Australian Patient Safety Foundation, originally submitted to the Commonwealth Minister for Health in August 1999 was "that uniform definitions for events relevant to iatrogenic injury be developed for the National Health Data Dictionary". One of the original Taskforces formed by the Australian Council for Safety and Quality (ACSQHC) in the year 2000, was one on "better data and information".

One of the first working parties formed by this taskforce was to establish a mechanism for reaching national and international agreement on the definitions of terms used in the literature on safety and quality in health care. I was asked to coordinate this group and a web site called "Shared Meanings" was set up under the auspices of the (ACSQHC).

After a series of meetings and a review of the literature, and after canvassing the opinions of experts both in Australia and internationally, agreement was reached on definitions for about fifty of the most important and commonly used terms in health care (eg. for "incident", "harm" and "adverse event").

These definitions were made available to the National Patient Safety Agency in the United Kingdom, and it is apparent that they are being used in some of the literature emanating from that organisation. The Institute of Medicine in the USA has a "Data Standards" group to whom I was asked to present the work of the APSF. The Joint Commission on the Accreditation of Health Care Organisations (JCAHO) in the USA also presented at this meeting and has an interest in coming up with agreed definitions for terms in safety and quality.

The general assembly of the World Health Organisation passed a patient safety resolution at its May 2002 meeting.

The WHO resolution on patient safety proposed four areas for action to pave the way for identifying common ground, sharing information and co-operating internationally to improve patient safety in all countries, rich and poor:

- Determination of global norms, standards and guidelines for the definition, measurement and reporting of adverse events and near misses in health care and the provision of support to countries in developing reporting systems, taking preventive action, and implementing measures to reduce risks.
- Promotion of framing of evidence-based policies including global standards that will improve patient care, with particular emphasis on such aspects as product safety, safe clinical practice in compliance with appropriate guidelines and safe use of medicinal products and medical devices, and creation of a culture of safety within healthcare organisations.
- Development of mechanisms, through accreditation and other means, to recognise the characteristics of healthcare providers that offer a benchmark for excellence in patient safety internationally.
- Encouragement of research into patient safety.

I have been invited to the World Health Organisation in Geneva in late May to discuss development of a common terminology and classification for things that go wrong in health care and intend to follow that up with meetings in the Scandinavian countries, France, and the UK before going on to have further discussion about standardising terminology and classification at the Institute of Medicine in Washington and at JCAHO in Chicago.

We hope that we can bring the first phase of this important project to a satisfactory conclusion by way of a joint publication in an internationally referred journal.

APSF conference notice

Please note that, regrettably, the proposed APSF Summit meeting which was scheduled for May / June 2003 has had to be postponed until further notice.

This decision has been made due to several clashes with other important Patient Safety meetings and key speaker availability issues.

The next Patient Safety Summit is now being planned for early December 2003

We will let you know of program details as soon as they are formulated and we look forward to your continued support of APSF meetings and activities.

AIMS, a new, two-tiered approach to incident management.

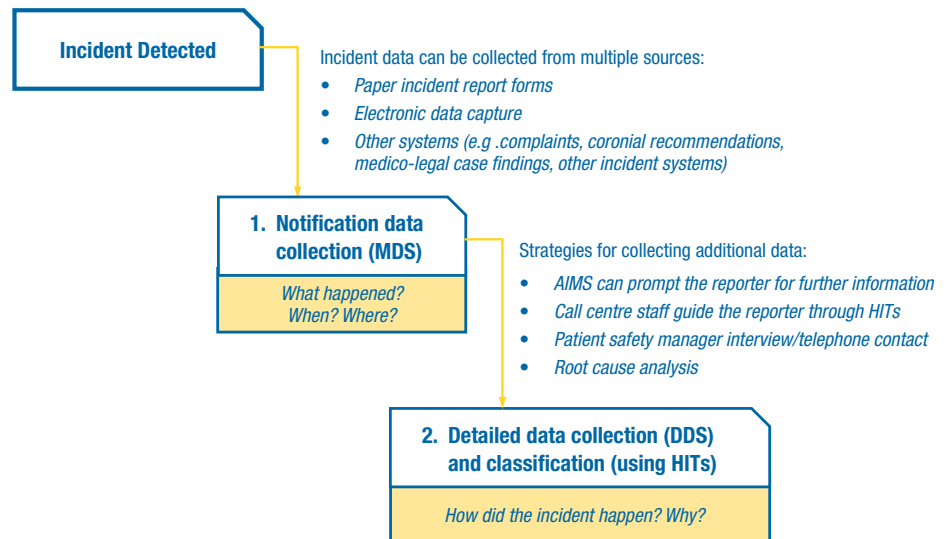
Experience shows that only selected incidents require detailed classification—for example, those that have significantly harmed patients, those which pose future major risks and those which are topical, of specific interest or particularly informative. From many common incidents there is simply too little additional information which can be learnt to justify the time and expense of classifying them all in detail. However, at times, certain types of events may be targeted for intensive data collection, for example, a timed census of pressure ulcers either locally or at a state or national level.

This evolution in conceptual thought on incident reporting has led the APSF to adopt a two-tiered approach in the Advanced Incident Monitoring System, AIMS, as illustrated in the diagram on the right:

1. Notification data collection—all incidents should be reported using at least a "minimum data set" (MDS).

The MDS includes sufficient basic information to determine **What happened?, Where? and When?** This level of data also includes incident outcome and occurrence information (risk matrix eg Dept Veteran Affairs, USA, or AS/NZS 4360). The user can specify their preferred risk matrix at installation time by database. The risk matrices information when aggregated at the APSF will be mapped to a common matrix for analysis and reporting. To make the collection of this "notification data" as simple as possible in AIMS, much of this information is captured by the use of simple and intuitive pre-defined drop down lists. These are supplemented by a free format text description of what happened.

2. Detailed data collection and classification—selected incidents require additional information, or a "detailed data set" (DDS).



The DDS information is captured and classified using AIMS Healthcare Incident Types (HITs) in order to understand everything possible about **How? and Why?** things went wrong. There are a variety of strategies which can be used to gather this additional information:

- AIMS can prompt the reporter to provide additional data
- A patient safety manager can conduct personal interviews of those involved or contact the reporter by telephone
- Incidents that had a bad outcome or were potentially catastrophic ("sentinel events") can be subject to a structured investigation by a dedicated team, such as a formal Route Cause Analysis (RCA) team.

Once DDS information has been captured, it can be recorded using the unique, in depth and user friendly AIMS Healthcare Incident Types (HITs).

HITs are designed to complement and interface with the well-tested and detailed Root Cause Analysis (RCA) process used by the Veterans Administration National Centre for Patient Safety in the USA and other similar processes (e.g. MERS developed by Columbia University).

Using AIMS data.

Once incidents have been entered into the AIMS database, the data can be analysed in numerous ways as required. **AIMS Analyser** allows designated reporters to examine incident numbers, contributing

factors, outcomes, trends, make comparisons and discern whether there are patterns that indicate recurring problems and what their particulars are. This then allows for the design of specific, informed corrective strategies.

AIMS Analyser offers the ability to produce numerous customised reports as required. Analyser reports can be done on any classified term in the AIMS database. All "Query Builder" reports can be saved and re-run at different times as required. Analyser reports can reflect more than patient and staff issues but also organisational issues such as cancellation of cases, misplacement of results, delays in diagnosis, and their outcomes and risk levels. Any identifiers can be handled confidentially with medico-legal privilege. Corrective strategies can be tracked through systematic changes in analyser report patterns and trends over time. Based on authorised permissions, comparisons can be made with respect to particular problems or contributing factors across permission linked units.

To contribute to the elimination of harm from healthcare, AIMS can quickly put important and reliable data in the hands of health care professionals in a specific or broader form, in individually required depth and in the most appropriate context as required.

Enquiries can be made to the APSF at aims@apfs.net.au

Calvary Health Care ACT CHIP Falls Minimisation project

Preventable falls in the acute hospital is one of the major safety concerns for health organisations. For the patient, there is added risk of complications, increased length of stay and loss of confidence. For the organisation, there is additional financial burden for extra nursing and clinical care, pathology, medical imaging and physiotherapy.

Calvary Health Care ACT's data from incident reporting since July 01 demonstrated a fluctuating monthly pattern, although the mean for the period July 01 to September 02 was 25.6 falls per month. Calvary's benchmarking institution identified the mean as 28.8 or 2.88 falls per 1000 Occupied Bed Days. At the time of the introduction of AIMS at Calvary in September 2001, 38 % of AIMS reports pertained to falls and the mean fall rate increased to 32.14.

Considering this, a project minimising falls was warranted. A goal was set to develop and implement an effective falls risk assessment and intervention plan to reduce the number of falls by 50% at Calvary Health Care ACT by December 2002.

Interventions

- *Application to Clinical Health Improvement Program (CHIP) for support, with nursing and clinical champions.*
- *Pilot project was initially launched on 5th Floor (Medical), and then progressed to a hospital wide project,*
- *Quantifying data from Calvary AIMS data base, including:*
 - Review of evidenced based practice
 - The Blaylock risk identification chart was modified and used as the primary identification for at risk patients.
 - A Falls Minimisation Flow Chart was developed to lead staff through the actions to be taken with at risk patients.
 - A Falls Minimisation Observation Chart was developed for use with high risk patients. This chart provides documentation of patient movements and activities including hygiene and toileting. This is supported by literature that suggests regular hygiene and toileting reduces preventable falls.

- *Purchase of preventive resources including 2 high low beds and three patient alarm systems*
- *Education of staff to raise awareness of new forms and equipment*
- *Raised awareness*
 - The dissemination of the pilot study results to all relevant areas.
 - Feedback of AIMS data to Care Continuums
- *Retrospective auditing of records to determine use of risk management charts in*
 - patients over 65 years; and
 - those patients identified at risk of falling via coding.

Results

Pilot project

- Review of AIMS data revealed that during the pilot project (February and March 02) the occurrence of falls reduced by 43% in the pilot ward, however overall the number of reported falls increased marginally across the hospital.
- One difficulty associated with implementing the pilot was staff compliance with undertaking the initial Blaylock assessment. This was addressed through education, continual advertising of the project and potential outcomes to motivate staff to maintain the program.

Whole of Hospital Project

As a consequence of the pilot several changes were made before the hospital wide project commenced:

- The Blaylock was altered to meet Calvary's requirements and is now completed at the point of entry to the hospital;
- A poster was developed for all wards on falls minimisation strategies, training of Clinical Development Nurses for education purposes.

Aggregate Results

The control chart indicates the number of falls per month (fpm) since July 2000.

The 82.5% reduction of falls is clearly visible (May to Dec 02). Mean values during the project also fell by 18.1 falls per month since July 02 when the project went hospital wide. This is well below Calvary's benchmarking hospital. The AIMS data for the month of May 02 was reviewed to determine reasons for the high data point that month. No specific reason was found to account for such a high variance to the number of fpm.

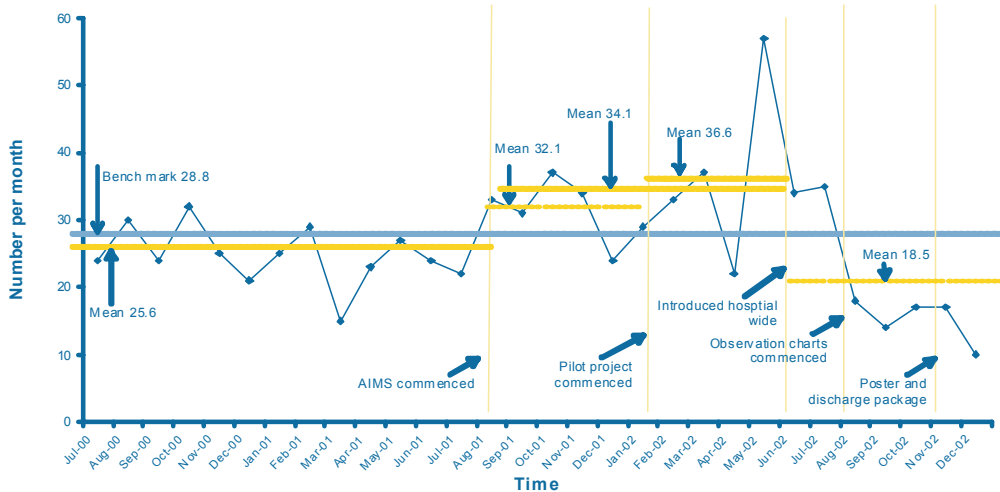
Comparative analysis of AIMS data, by month, number of falls, and level of outcome since the inception of the project in Jan 02, indicates an

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Sharing Initiatives

CALVARY FALLS JULY 2000 to DECEMBER 2002



overall reduction in the severity of Incident Outcomes Levels of all falls. No Level 8 Outcome (death or permanent disability) falls were registered during the time period under study.

One of the major achievements in this project has been to determine the costs of falls. Actual as well as potential. In determining estimated costs the parameters that were used included, time involved for all staff and departments that contributed to the project, use of medical imaging services and costs of x-rays, cost of medications, use of ambulance for transporting patients and clerical costs.

To cost every fall in isolation proved extremely difficult. Thus, the project team devised a table based on the identified areas of costing mentioned above and applied it to the Level of AIMS Outcome.

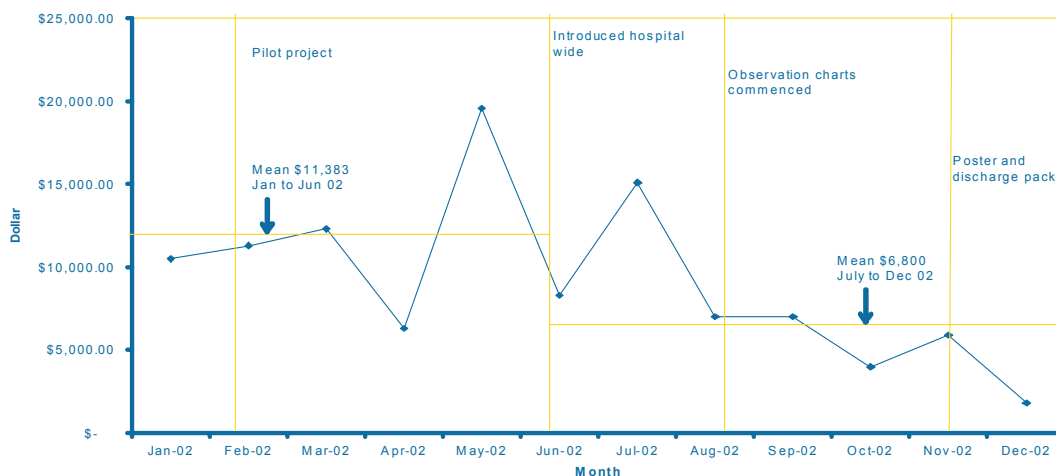
Calvary acknowledge that while the figures are arbitrary they reflect the ability to quantify direct costs. The graph below illustrates, as the number of falls decreased and the level of outcome decreased so did the costs to the organisation. However it still must be mentioned that in 2002 the cost of all 323 reported falls would have been in excess of \$109,000.

The mean dollar costs from Jan to June 02 were \$11,383.33. The mean dollar costs from hospital wide inception onwards ie July – Dec 02, were \$6,800. This gave a mean saving of \$4,583.33 per month from the commencement of the hospital wide project. Over a six months period this would amount to \$27,499.98.

Potential costs of falls is more easily determined by utilising the LCMHC risk matrix and applying it to the AIMS Level of

Outcome. Applying this formula to all falls (Jan to Dec 02) it was found that the potential costs to the hospital would have been up to \$15,050,000 at a worst case scenario. This project has highlighted the importance of undertaking interventions for safety and utilising screening tools to determine areas of need. In this case the Calvary AIMS data-base provided much of this information. This project reduced the number of falls markedly, it realised a direct saving to the hospital, was implemented utilising clinical and nursing champions and improvement frameworks within the organisation. The results of this project have been forwarded to a number of health organisations within the ACT and NSW. One NSW hospital has implemented the project in its entirety.

SAVINGS WITH FALLS MINIMISATION



Sharing Initiatives

Integrating Incident Reporting with Risk Management Systems at The Prince Charles Hospital & Health Service District

The Problem

Incident reporting has been in place across most areas of The Prince Charles Hospital Health Service District (TPCHHSD) using the AIMS for some five years. This means that we have accumulated a large number of adverse incidents and near misses coded into the database and we have had some real successes in reducing some incident types over this period. As with most facilities we have struggled with getting medical staff to report incidents, however, we continue to have a very high reporting rate from nursing, allied health and other staff. In the past TPCHHSD has treated all reported incidents in much the same way, however, this is changing as we introduce risk management systems into our processes of work.

In 2002 Queensland Health introduced a comprehensive, integrated Risk Management Policy and Framework which requires all Health Districts to develop and maintain a Risk Register and provide reports on Very High and Extreme risks. This policy and framework is based on the Australian Standard for Risk Management (AS/NZS 4360:1999) and interprets this standard for the Queensland Health context and utilises language which make the framework more accessible to health care staff.

What TPCHHSD is Doing

Like incident coding, the classification of the level of risk apparent from an incident report must be consistent in order that the follow-up for the relevant risk level is consistent. Should the reporter be the person who assesses the risk level of the incident, or should it be the incident coder, or perhaps the risk or quality manager?

If the aim of the risk identification and analysis process is to develop a culture for the management of risks at the lowest level that the risks are likely to occur, then we must encourage staff who are reporting incidents to assess the risk as they are reporting the incident.

For example, a patient has been found on the floor and it is apparent the person has fallen. In this instance the re-evaluation of the individual's fall risk must be undertaken as part of the incident action to minimise the possibility of another fall from occurring.

However, we also need to assess at a higher organisational level the number of falls that have occurred in the unit and whether there is a system issue that needs to be addressed.

In this example it is clear that all who are involved in incident reporting are using risk management techniques in the action they take as a result of a reported incident – whether they are aware of the definitions and systems described in the Australian Standard or not. The question that needs to be resolved is: At what level does the formal risk management process 'click in'?

Some have argued that we should use the Incident Outcomes Criterion as a way of determining which incidents are high risk and should then be placed on the Risk Register for further action. For example, all incidents classified as Level 7 or 8 would automatically warrant inclusion on the risk register. Unfortunately, this rather arbitrary method does not allow the inclusion of incidents on the risk register which highlighted issues of very high or extreme risk which did not (for whatever reason) lead to a poor outcome. For example, a patient may be involved in a 1,000 times error (1,000 milligrams instead and micrograms) with a medication which would have been fatal, however, an aware nurse identified the error after administration and an antidote was given. Shouldn't this be classified with the same level of risk as if the poorer outcomes had actually occurred. Lessons from the aviation, chemical and nuclear industries say yes.

TPCHHSD intends to include the risk classification table on all incident forms with the incident reporter providing the 'first cut' of the risk level. There will be a clear reporting process for the higher risk levels so that timely action occurs. The classification provided by the initial reporter will be confirmed by each of the staff who take subsequent action on the incident reported. This means that by the time the incident report reaches the incident coder it will have been reviewed at least twice by senior staff in the area concerned. The incident coder will be the final reviewer and if there are inconsistencies the Quality Manager will become involved.

The disadvantage of this 'grass roots' approach is that the training required for staff so that they are aware of the Risk Management Policy and Framework is extensive. However, isn't the value of the framework diminished if there is limited knowledge of it across clinical and other staff groups? Surely if we are encouraging a comprehensive and integrated risk management approach across our organisations then this must start with the grass roots. The better that risk is managed at this level the greater the opportunity for senior management to address the strategic risks that health care systems face which we are all aware of. The prevention of falls, pressure ulcers and medication errors to name but three.

I would be interested in anyone who has implemented risk management systems in their facilities which are integrated with their incident reporting system providing feedback (through the newsletter) about the key components of their system and how it adds value to their AIMS reporting. I am sure that this topic will be on the agenda for some time to come, I will keep you advised of any successes or pitfalls in the TPCHHSD approach in future issues.

For further information contact the author:

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Research Resources - Have You Read?

Many useful and informative national reports are available to read or download directly from the internet. Here are some selected by our Research Officer, Dr. Klee Benveniste.

GENERAL SAFETY AND QUALITY

Adams K, Corrigan JM, eds. Priority Areas for National Action: Transforming Health Care Quality. Washington: National Academies Press. 2003
Available to read at: <http://www.nap.edu/books/0309085438/html/>

British Medical Association. Patient Safety and Clinical Risk. December 2002.
Available at: <http://www.bma.org.uk/ap.nsf/Content/patientsafetyclinicalrisk?OpenDocument&Highlight=2,patient,safety>

Committee on Quality of Health Care in America. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington: National Academies Press. 2001.
Available to read at: <http://www.nap.edu/books/0309072808/html/>

Davis P, Lay-Yee R, Briant R et al. Adverse events in New Zealand Public Hospitals: Principal Findings from a National Survey. Wellington: Ministry of Health. December 2001.
Available at:
[http://www.moh.govt.nz/moh.nsf/49ba80c00757b8804c256673001d47d01d255c2525480c8a1cc256b120006cf25/\\$FILE/AdverseEvents.pdf](http://www.moh.govt.nz/moh.nsf/49ba80c00757b8804c256673001d47d01d255c2525480c8a1cc256b120006cf25/$FILE/AdverseEvents.pdf)

Department of Health, Government of Western Australia. Clinical Governance: Issues Paper. 20 September 2001.
Available at: http://www.health.wa.gov.au/safetyandquality/docs/Clinical_Governance_Issues_Paper.pdf

National Steering Committee on Patient Safety. Building a Safer System: a National Integrated Strategy for Improving Patient Safety in Canadian Health Care. Ottawa, Ontario: Royal College of Physicians and Surgeons of Canada. September 2002.
Available at: http://rcpsc.medical.org/english/publications/building_a_safer_system_e.pdf

NOSOCOMIAL INFECTION

Expert Working Group of the Australian Infection Control Association. National Surveillance of Healthcare Associated Infection in Australia. A report to the Commonwealth Department of Health and Aged Care. Draft for consultation. April 2001.
Available at: <http://www.health.gov.au/pubhlth/strateg/jetacar/pdf/scope.pdf>

MEDICATION

Audit Commission. A Spoonful of Sugar: Medicines Management in NHS Hospitals. London: Audit Commission for Local Authorities. December 2001.
Available at: <http://ww2.audit-commission.gov.uk/publications/spoonfulsugar.shtml>

VIOLENCE IN THE HEALTHCARE WORKPLACE

Mayhew C, Chappell D. Prevention of Occupational Violence in the Health Workplace. Discussion Paper No. 2. Taskforce on the Prevention and Management of Violence in the Health Workplace. School of Industrial Relations and Organisational Behaviour, and Industrial Relations Research Centre, The University of New South Wales. October 2001.
Available at: <http://www.health.nsw.gov.au/policy/cmh/publications/violence/prevention.pdf>

National Audit Office. A Safer Place to Work: Protecting NHS Hospital and Ambulance Staff from Violence and Aggression. London: The Stationery Office. 2003.
Available from: <http://www.nao.gov.uk/pn/02-03/0203527.htm>

Diary Dates for 2003



Newsletter Contributions

If you would like to contribute an article or details on events that are of interest to readers, please let us know.

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14th - 16th May 2003 Bergen Norway.

8th European Forum on Quality Improvement in Health Care

AIMS:

To provide education on how to improve health care

To exchange sound, practical ideas on improving health care

To provide a setting for deep discussion and shared learning among those charged with leading improvements in health care

To build the research base of methods to improve health care

For general conference enquiries please contact Jo Bellamy, Conference Assistant, BMJ Quality, BMA House, Tavistock Square, London, WC1H 9JR,

Tel: +44 (0) 20 7383 6409,

Fax: +44 (0) 20 7383 6869,

Email: jbellamy@bma.org.uk.

14th - 16th July, 2003 Perth Western Australia.

Inaugural Australasian Conference on Safety and Quality

"Safety and Quality in Action"

The Australasian Association for Quality in Health Care (AAQHC) has joined with the Australian Council of Safety and Quality in Health Care (ACSQHC) and the Western Australian Department of Health to host this meeting.

The aim of the Conference is to provide clear information and advice about putting Safety and Quality ideas and strategies into action.

Conference themes include: governing for safety and quality, improving consumer centredness, clinicians putting safety and quality into practice, capacity building for safety and quality, implementing safety and quality improvements.

For further information contact the conference secretariat (08) 9322 6906 or mail to: dot@congresswest.com.au

September 3-5 2003, Auckland New Zealand.

3rd Asian Pacific Forum on Quality Improvement in Health Care

see www.bmjpg.com or
email quality@bma.org.uk

APSF Customer Service Survey



Please note:

At the APSF we are surveying our customer service standards to ensure ongoing quality improvement strategies. If you have received a survey, or would like to provide us with feedback on how we are doing, please complete the form located on our website: www.apsf.net.au