

Risk management in emergency department

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Risk Management includes risk identification, assessment, prevention, control and event handling when they occur. With the change of social culture and public expectation, the need for more emphasis on risk management in clinical practice has become increasingly obvious. It is especially applicable to the practice of Emergency Medicine, which by its nature has intrinsic weaknesses vulnerable to mistakes and dissatisfaction. The newer trend recognises that the patient is the only one who is at real risk. In order to protect the patient and to lower litigation rate, the function of modern risk management is to ensure that every patient is handled in a correct, humane manner and to everybody's satisfaction.

There are a few important concepts in modern risk management and risk classification. Many different methods are available for identifying high-risk areas in relation to the practice of Emergency Medicine. Strategies in preventing or minimising unsatisfactory outcomes vary, but are essentially linked to the commitment for the provision of quality care and clinical audit. Non-clinical events and medical insurance also have their share in risk management. In essence, careful planning, adequate preparation and continuous monitoring are required to ensure that potential problems can be dealt with quickly and effectively should they occur. (*Hong Kong j.emerg.med.* 2000;7:96-103)

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Introduction

The term risk management includes both risk prevention and the handling of risk events when they occur. Identifying, assessing, analysing, controlling, minimising and preventing risk are important. They are especially applicable to the practice of Emergency Medicine, which by its nature has intrinsic weaknesses vulnerable to mistakes and dissatisfaction. Emergency departments operate 24 hours a day, seven days a week providing unrestricted access to patients with all types of injuries and illnesses at different degrees of severity. Patient attendance may be fluctuating, unpredictable and at times overwhelming. Patient conditions are usually acute and unexpected. Patients and accompanying persons are anxious and impatient. There is little patient rapport as this may

be their first contact with the department. Critical decisions have to be made within the short patient stay in the department. This is especially taxing to the inexperienced staff. In some departments, rapid turnover of junior staff and inadequate senior supervision may further aggravate this risky situation.

The trend^{1,2}

Traditionally, the ultimate goal of risk management was to protect the assets (reputation, finance, building, equipment, staff morale, etc.) of the institution from liability to a third party, particularly patients and occasionally staff. The aim of risk management was believed to protect health care providers from the wrath of the patients they served. The function of risk identification was to identify those situations that placed the providers in a risky position. The threshold for action was low. Action was usually reactive and triggered by such things as incident reports, poor outcomes, or patient complaints. This low impetus was probably due to the fact that a medium-size emergency

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department would only face one to two lawsuits a year.

However, significant social changes have taken place in the last decade, necessitating a change in the attitude of health care providers towards risk management. The most important is the increased affluence and level of education of the society, with rising expectation of human rights and quality care - and 'zero defect'. The public is less tolerant of poor outcomes and more ready for litigation. The belief in the 70s that 'doctors are invulnerable' had been completely shattered in the 80s. There has also been change in attitude within the medico-legal arena, legal aid has become more readily available and the legal interpretation of negligence has been broadened. Courts have been more generous in awarding compensation for actual or perceived losses. There has been a movement away from "absolute harm" to the concept of "percentage chance" of an improved outcome or survival when compensation is considered. The burden of compensation sometimes is shifted from one entity (e.g. the institution) to another (e.g. the emergency physician) whenever combined verdicts are reached. Furthermore the "right to care" and the "right of the consumer" have been gaining popularity and respect, with widespread promotion by the Hospital Authority in Hong Kong in the 90s. On the contrary, the "duties of patients" have not been emphasised proportionately. Last but not least, the influence and attitude of the mass media in the handling of medical incidents. There is a new trend of presenting news information as some form of 'entertainment', in order to promote popularity and readership and this has created a deteriorating public image on health care providers. Bad outcomes are nearly always regarded as the result of 'negligence'. Due to all these changes, the attitude of risk management has changed from one that was reactive to one that is proactive. The newer trend recognises that it is only the patient who is at real risk - the person who can truly be harmed by inadequate care. In order to protect the patient and to lower litigation rate, the function of modern risk management is to ensure that every patient is handled in a correct and humane manner to everybody's satisfaction. By improving the quality of care, harm to patients or staff will be reduced or even eliminated.

Concepts¹

Before risk management plans and strategies are embarked on, several concepts must be internalised. Firstly, it has been observed that "good things happen only when they are planned; bad things can happen all by themselves". Secondly, 85% of the problems leading to complaints are system-based, and not based on the incompetent or ill-intentioned action of workers. These systemic features may operate at different levels - the task, the team, the work environment and the organisation. It has been argued that attention should be paid to the psychological and human factors in the nature, mechanisms and causes of error in the context of working environment and organisation.³ The third point concerns the "concept of zero defect", the watchword in manufacturing industries, i.e. we must move to the point where unhappiness on the part of the patient with regard to our service should be considered unacceptable.

Risk classification and identification

There are various approaches in risk assessment to identify the potential hazards, evaluating the likelihood of occurrence and determining the potential impact. (Table 1)

Table 1. Risk classification and identification.

1. Reason's model of organisational accident
<ul style="list-style-type: none"> • active failure • latent failure
2. Trailing
<ul style="list-style-type: none"> • patient's trail • personnel's trail
3. Potential problems
<ul style="list-style-type: none"> • high risk patients • high risk staff • high risk procedures • high risk situations or issues in Emergency Department <ul style="list-style-type: none"> - change of shift - unscheduled return - transfers to or from other hospitals - against medical advice - disappeared cases - in-hospital emergency - trainee - telephone advice - names and gum labels of patients - reports of investigation

Reason's model of organisational accident⁴

This model examines the chain of events leading to an adverse outcome, starting with the actions of those involved and then going up the hierarchy of the system. The rationale behind is related to the concept of active and latent failures.⁵ In nearly all adverse outcomes, human decisions and actions result from active failure and/or latent failure.

Active failures are unsafe acts or omissions committed by those frontline workers whose actions can have immediate adverse consequences. They include action slip or failure (e.g. picking up the wrong syringe, wrong label), cognitive failure (e.g. memory lapses, ignorance or misinterpreting a situation), violations (deviations from safe operating practices, procedures or protocols) and breakdown in communication and teamwork. There are sometimes some defences to guard against this type of failure. Examples are the alarm or alerting device of the equipment used.

Latent failures are based on fallible decisions made at management levels. These failures provide the conditions in which unsafe acts occur. Some of the most commonly quoted examples are heavy workload (such as unlimited patient load from lack of incentive in educating the proper use of scarce emergency service), inadequate knowledge or experience and inadequate supervision. Others include stressful environment, rapid change within an organisation, incompatible goals (such as conflict between financial and clinical needs), inadequate systems of communication, inadequate maintenance of equipment and building and overemphasis of patients' rights without appropriate highlight on patient's obligations.

Based on these concepts, a model of accident or adverse outcome is put forward.⁴ (Figure 1) Thus the assessment of potential risk factors should follow and involve each level of this hierarchy. A suggested framework includes institutional context, organisational and management factors, work environment, team factors, individual (staff) factors, task factors, and patient characteristics. Further exploration and specification can be performed at each level when risk factors are identified.

Trailing

One effective way of identification of potential risk

in the field is to follow the patient's trail: entrance, signage, registration, triage, waiting hall, clinical encounter, investigation, treatment, disposal and documentation. Another way is to follow the trail of the healthcare personnel in a similar manner.

Potential problem assessment

Some patients are regarded as high-risk. It has been shown that patients who complain most are those who have been waiting for too long or who have received no information from the doctor. Review of claims by Karcz A.⁶ showed that the following eight diagnostic categories - chest pain, abdominal pain, wounds, fractures, central nervous system bleeding, epiglottitis, aortic aneurysm, and paediatric fever or meningitis altogether accounted for 66.44% of total dollar spent for a total of 262 claims. Another review⁷ showed that failure to diagnose or treat myocardial infarction, failure to diagnose fractures, meningitis or ectopic pregnancy together accounted for 58.9% of total dollars paid. Other examples of high-risk patients include patients at the extremes of age, with psychiatric problems, under the influence of alcohol or drugs, referred from another doctor, or with language barrier. Wounds are also commonly involved in compensation, for retained foreign bodies or missed tendon or nerve injuries.

Risk may also originate from the staff. High-risk staff are those who exhibit some trouble-making behaviour, (Table 2) who lack team spirit and who are reluctant to receive continuing medical education. Trainees and short stay staff should be continuously monitored and actively supervised while in the department.

Table 2. Trouble-making behaviour.

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- Keep patients waiting
 - Assume they are drunk until proven otherwise
 - Never call the family or friends
 - Don't write it down
 - Don't read the nurse's notes
 - Don't ask the patient what they want
 - Don't listen to the mother of sick children
 - Don't instruct the families
 - Don't check the vision on simple eye problems
 - Never look under the eyelids
 - Give anaesthetic eye drops to take home
 - Use steroids without follow-up
 - Don't re-examine
 - Don't chart specific motor findings
 - I am absolutely right
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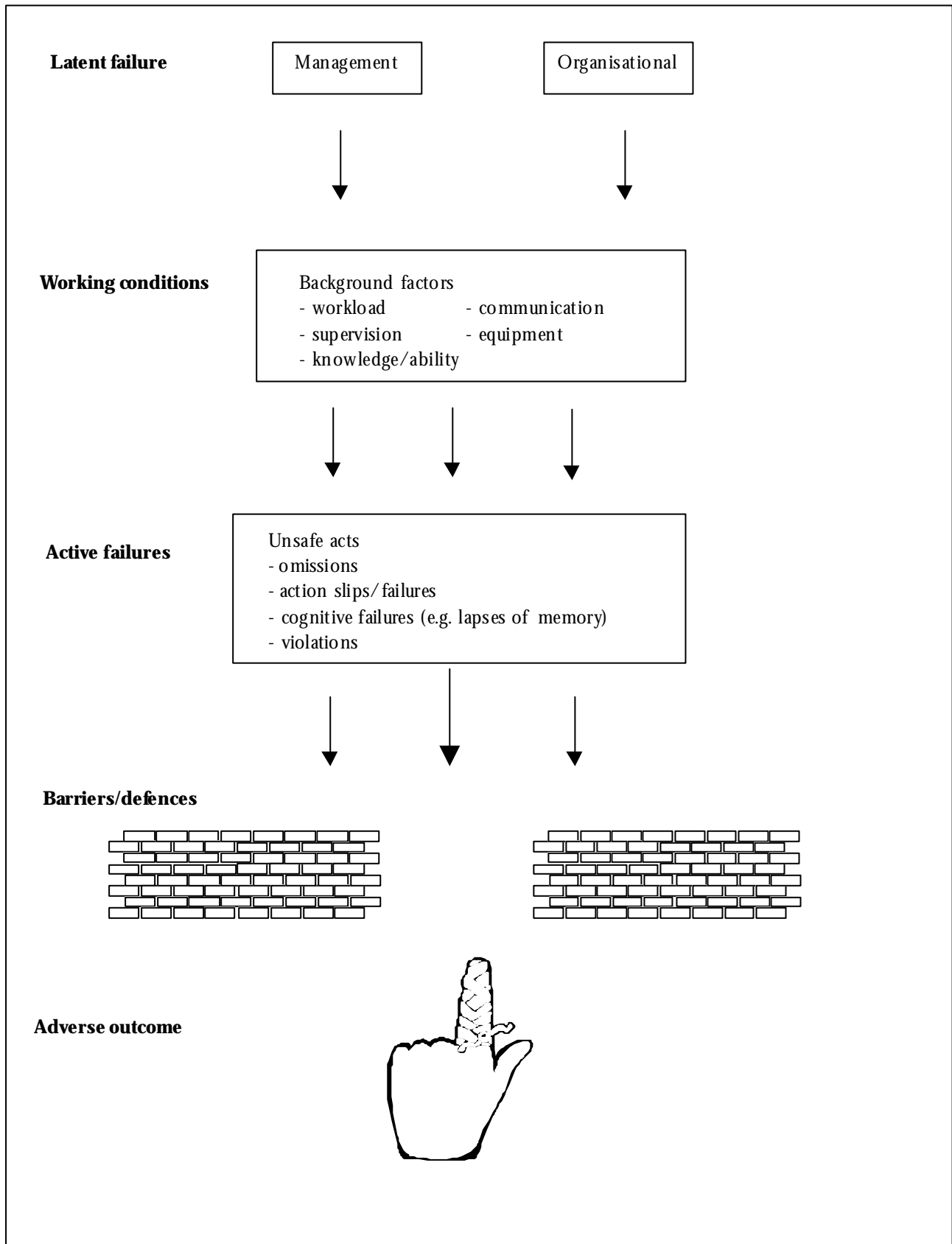


Figure 1. Model of adverse outcome.

Most procedures carry with them some intrinsic risk. These include interventions such as conscious sedation and patient restraint. Medication administration and dispensing are prone to human errors.

Some situations or issues in the Emergency Department may be risky.^{1,2} There is a long list of such high-risk issues in emergency practice. Change of shift is an extremely dangerous time for both healthcare providers and patients. Healthcare providers often condemn patients' unscheduled return visits, although the patients may actually be in a potentially serious situation. It has been found that at least 75% of the unscheduled return are due to poor instruction, a deterioration or persistence of the disease, or wrong initial diagnosis. These patients should be treated as new patients, and admission or in-hospital observation should be seriously considered. In fact, one should be thankful to the patients for giving them a second chance for rectification.

Transferrals of patients to or from other hospitals are risky acts. Patients' conditions may deteriorate during transport, which is a 'vacuum' in the safety net of hospital care. The unwary may be caught unprepared in the sub-optimal environment of the transport vehicle. In addition, both patients and healthcare providers may be misled by the provisional diagnosis into a false sense of security. The actual underlying problems may be quite different. These patients should be treated as if they have never been assessed.

Acting or discharge against medical advice is a matter of a patient's freedom of choice against the healthcare provider's duty to provide best care. There are risks between false imprisonment and abandonment. The mental state of the patient and fitness for consent, the treatment plan of the doctor and the alternatives that were suggested, the main points of discussion and the reasons for refusal should all be clearly documented. The patient's family or guardian should be involved in the discussion as far as possible. Finally, the attitude of the doctor is very important. The discussion should be held in an open-minded, polite manner so as to maintain the self-esteem of the patient.

Patient disappearance (either before or after being seen) usually indicates system problem resulting in long waiting time. Study has shown that patients become impatient after waiting for 30 minutes. Past experience suggested that the number of litigation increased almost exponentially after a patient had been waiting for more than two hours.

Sometimes a doctor in the emergency department may be asked to give a helping hand to some problems arising within the hospital but outside the territory of the emergency department. However, when the emergency physician is called out of the department, he or she can no longer provide immediate care to those who may come through the door.

One should note that doctor-patient relationship could be established through the telephone. If the patient has any problem, he should be advised in a polite and clear manner that he should either go to his doctor or come to the emergency department for assessment.

It goes without saying that whenever some investigation or treatment is to be carried out, the identity of the patient as well as the labelling of the specimens should be carefully checked. The risk is particularly high with patients of "unknown" identities, or having more than one patient simultaneously or consecutively.

Concerning reports of laboratory or radiological investigation, there should be an effective system for proper review and interpretation after discharge. Appropriate actions must follow e.g. reassessing patient or redirecting reports to other appropriate caring facilities.

Strategies

*The organisation-work environment-team-task-patient framework approach*⁸

Charles Vincent has modified this approach from Reason's model of organisational accidents. Potential risk factors resulting in adverse outcome are analysed systematically along each level of this

hierarchy. Concerted actions or quality assurance programs are carried out accordingly. One advantage of this approach is that interventions are carried out on multiple levels simultaneously. This may have synergistic effects on the final impact of these quality and safety measures.

Clinical measures (Table 3)

Lack of effective communications between staff and patients is a major source of problem. Some communication courses will be very helpful in this aspect. Examples are the "Patient-Centred Communication Skills Workshop" and the "Advanced Patient Centred Communication Skills Workshop" organised by the Hospital Authority of Hong Kong. There is a saying that it is the wise physician who makes friends with the patient and the family.

Interdisciplinary, intra-departmental and interdepartmental communications amongst staff are equally important. Formal communications can take the format of a meeting, while informal discussion can take place easily in person, by phone, or electronic mail nowadays. End-of-shift reports and reports of concern may encourage communications between supervisors and frontline workers and may help to highlight areas of potential risks. However, it has to be emphasised that any conversation among staff should not be held where a patient or accompanying person may overhear them. As it is not always possible to avoid being overheard, casual remarks, especially about other healthcare parties, should be avoided, as these comments will easily be misinterpreted by patients or family members.

It cannot be overly emphasised that documentation should be adequate, accurate and legitimate. Thus patient records should be audited regularly for content, documentation as well as design of the form itself. Regular or random chart reviews are fundamental components of clinical audit.

Continuous monitoring and review should also be implemented in other aspects of clinical practice. Unannounced visits or observers may be used to assess the usual performance of healthcare personnel. Protocols, policies & procedures should be regularly reviewed and updated. However,

whenever new ones are put forward, one should keep a record of the old one, as some years later there may be litigation concerning the old protocol. Post-admission progress has a potential for staff education as well as improvement of future management of similar cases in the emergency department. Facilities and equipment should be regularly checked. The method of usage of some instruments (e.g. those fascinating devices for airway management) should be refreshed every now and then to ensure that everybody involved knows how to operate them. Missed X-ray findings or electrocardiographic findings should be reviewed (anonymously) in meetings e.g. morbidity and mortality meeting. Preventable trauma deaths should be reviewed in trauma meeting. Patient complaints and adverse incidents should be reported as soon as possible. Complaints stem from frustration with unmet expectation and frustration generates anger that leads to lawsuits. Diplomatic and careful handling will pay great dividends. The introduction of peer review or independent second

Table 3. Clinical measures in risk management

1. Communication skills	<ul style="list-style-type: none"> • between staff and patients • amongst staff • reports
2. Documentation	
3. Audit	<ul style="list-style-type: none"> • patient record • personnel • performance • protocols, policies and procedures • post-admission progress • facilities and equipment • ancillary follow-up • incident reports • peer review
4. Process enhancement	<ul style="list-style-type: none"> • guidelines • checklists • computer aid • learning from others' past experience
5. Standard assurance and improvement	<ul style="list-style-type: none"> • recruitment of competent staff • continuing education and training • observation ward • follow up clinic • evidence-based medicine

opinions may help to define the present standard of care and to identify areas for improvement.

Some process enhancement measures may help to reduce adverse outcome or assure quality patient management. Guidelines and scoring systems for high risk and low risk cases may facilitate proper management and disposition e.g. risk categorisation of upper and lower gastrointestinal bleeding,⁹ guidelines on management of status epilepticus. Checklists may provide a framework to maintain a minimum standard and to avert omissions, e.g. in cases of emergency delivery in the emergency department. Application of computer software to provide cues and tools may facilitate patient management.¹⁰ Learning from others' past experience is very important. Some clinical pearls in Table 4 are good examples.

Other aspects of standard assurance and improvement may include recruitment of competent staff, continuing education and training, utilisation of observation ward and follow-up clinic, and practising evidence-based medicine. Specific requirements such as ACLS and ATLS certification may be necessary to ensure acceptable performance and staff competency. Continuing medical education should be encouraged. However, the exact mode of training or courses to be taken should be individualised. Disciplinary action may need to be considered if any member resists further education or training despite his incompetence. The more

liberal utilisation of observation beds may decrease both inappropriate discharge and admission. It will enhance safety in the practice of emergency medicine. Scheduled follow up visits may help detect complications early or avert them altogether. Feedback from patients will contribute to future improvement in clinical practice. The delivery of high quality medical care requires a blend of appropriate training, adequate experience, empathetic interpersonal skills, respect for patient preferences and an evidence-based approach firmly grounded in methodologically sound scientific studies.¹¹

Human resources management

Commitment at the management level will make implementation of quality improvement programs much easier. Senior staff should be responsible for leading the projects to ensure effective implementation. The concepts of risk management should be introduced to all staff. The motivation and commitment of the whole team should be solicited. With constraints in resources, priorities should be given to high risk or high volume areas, in consultation with frontline staff. Finally, information sharing will help in motivating staff, identifying problems and monitoring progress.

Financial commitment and medical insurance⁷

Financial commitment and investment in risk management are important. Insurance may protect

Table 4. Clinical pearls.

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- Befriend, through a show of respect, your nursing staff.
 - Never give an opinion before looking at the patient.
 - Never completely trust a young child, a geriatric patient, an alcoholic, or a drug abuser.
 - All diabetics over 40 with chest or abdominal pain/complaints should have an ECG.
 - Listen closely to the suggestions of patients and their families.
 - Learn how to tell a patient you don't know what is wrong.
 - Never say: "There is nothing wrong with you".
 - Anxiety and hysteria are diagnoses of exclusion.
 - Beware of the patient you do not like or do not relate to, e.g. drunk, aggressive, etc.
 - If the patient can't walk, he can't go home.
 - If you don't know what to do - do nothing. Consult your senior.
 - Abnormal vital signs must be repeated and explained.
 - Always assume that females of childbearing age might be pregnant, and act accordingly.
 - Hypotension or orthostatic changes in young female: assume ectopic until proven otherwise.
 - A printed form never saves anyone.
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hospital assets, but not its reputation. Concerning medical insurance coverage, one may not be aware of the details of the actual protection scheme. The type of insurance should be verified. The two main types are the occurrence type and the (modified) claims-made type. The viability of the insurer should be investigated if possible for the occurrence type; while the run-off period for the claims-made type should also be clarified. One should also check on the corporate liability status, and any condition in which the hospital or institute will bear no responsibility and the loss that is to be borne by the physician himself. Finally, if the physician is not the holder of the policy, he must get proof of insurance and proof of his actual coverage limits, not shared by other parties.

Non-clinical risks

Non-clinical risks should not be left out. A specific example was the Y2K problem. Some general problems are building, fixture and furniture safety and maintenance; supporting service and equipment maintenance; hospital security; fire prevention and escape; Occupational Health and Safety (e.g. universal precaution, hepatitis B vaccination).

Conclusions

The most important concern is risk to the life and well being of the patient. Risk management should really mean controlling the variables with regard to medical practice so as to maximise the patient's chance of a satisfactory outcome. As accidents occur as a result of some active and/or latent failures, analysing and managing risk using the hierarchical framework is a useful approach.

Though one may be able to formulate a very comprehensive risk management plan, one of the

principal "weapons" for any physician in this aspect is good attitude. Practising good medicine in a friendly and concerned fashion is believed to be an effective means of minimising complaints and litigation.

In essence, careful planning, adequate preparation and continuous monitoring are required to ensure that potential problems can be dealt with quickly and effectively should they occur.

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