# POSITION PAPER ON MEDICAL ERRORS

Medical errors or mistakes are inappropriate diagnosis, interventions, investigations or management that results in an adverse or unwanted outcome for the patient. Negligence would be an adverse outcome that resulted from the practice of the doctor which does not measure up the standards of the general body of doctors. To prove negligence, it must be shown that there was harm to the patient caused by an inappropriate intervention or management that would not normally be done by the doctor's peers.

All doctors make mistakes, some of which have serious consequences. Our natural inclination is to try to conceal them and **forget** about them. McIntyre and Popper (1983), however, recommend that we should make a determined effort to recognize and learn from them as they are convinced that knowledge grows more by the recognition of errors than by the accumulation of facts. Consequently, they consider that learning from our mistakes should take precedence over the acquisition of new information.

**Frequency of medical mistakes**

It is impossible to estimate the frequency of medical mistakes, but there can be no doubt that mistakes are much more common than most of us realize. The protection societies have information on the annual rate of claims and complaints, but this represents only a fraction of the total number of accidents.

The only published information currently available comes from the USA. A study conducted in California in 1974 (Smith, 1986) concluded that 3 million hospital admissions led to 140,000 injuries, giving an incidence of 4.7%. A more recent review (Harvard Medical Practice Study, 1990) conducted in New York State concluded that 2.7 million hospital admissions led to 98,600 adverse events, giving an incidence of 3.7%. With 5 million hospital admissions year in England alone, this might mean almost 200,000 medical accidents in English hospitals.

We now have some British data from London based on retrospective record review. In their study of over 1000 records in two acute hospitals, Vincent et al fond that almost 11% of patients experienced an adverse event, over half of which were deemed preventable judged by ordinary standards of care. More worrying, at least a third of these events led to disability or death. This was a pilot study but there is no reason to believe that the results are unrepresentative. The extrapolation of these data in the Malaysian context led to some sensational headlines in the consumer press.

There are no firm statistics on the matter in Malaysia. From our knowledge of complaints that are brought to the attention of the MMA, there are about 20-30 allegations of negligence per year. We must remember that there are millions of

patient-doctor encounters per year in the private and government sector per year. There are about 120 medicolegal matters involving the Ministry of Health over a 8 year period. There are no public statistics on matters that are referred to the medial defence organisations.Looking at the figures and putting things in perspective, it would be wrong to say that serious medical errors occur often in Malaysia

There have been no studies specifically on medical errors. However there are two ongoing audits which provide some data. The Confidential Enquiries into Maternal Deaths has been ongoing since 1991. It covers all maternal deaths that occur during pregnancy, childbirth and the puerperium in the government and private sector. The deaths are investigated in an anonymous, non-punitive way. It is noted that in about 40-50% of deaths there was an element of remediable factors i.e. the patient could have been managed in a better, more appropriate fashion. It does not mean that the death could have been averted as there are many other factors involved. The Perioperative Mortality Audit covers operative deaths in government hospitals and similar findings are noted. These findings have been used in ongoing education of doctors. All private hospitals will be required to form mortality assessment committees under the Private Hospitals and Healthcare Facilities Act 1998.

The MMA would support a scientifically designed study on medical errors. To reflect accurate figures, such a study should ensure anonymity and be non-punitive.

**Mistakes do not necessarily indicate negligence**

Most medical accidents are due, in some degree, to error, even if it is only a failure of anticipation, But most errors do not involve actual negligence (Vincent, 1989). The most conscientious doctor may make a mistake through ignorance or inexperience. In the study from California, quoted above, only one in six of the injuries were classified as being due to negligence; in the study from New York State, less than a quarter were due to negligence.

**Mistakes in diagnosis**

Doctors make mistakes in diagnosis, treatment and prognosis. The most important mistakes are those in which the diagnosis of a serious disease was missed or in which the wrong treatment was applied. If the disease is acute, the mistake may be rapidly fatal. Fortunately, this is not often the case. More often, the doctor has an opportunity to revise his diagnosis and apply the correct treatment in time to avoid permanent damage.

Diagnosis may be delayed because the significance of the signs and symptoms is not appreciated when the patient is first seen. When this happens in a patient with cancer the possibility of cure may be lost. Sometimes a diagnosis is delayed because, although the essential information is available, a key report remains unread or unappreciated. This applies particularly to radiologists' reports and those on cervical smears.

**Mistakes in management**

The wrong treatment may be given through ignorance or carelessness. Some mistakes simply reflect the ignorance of the day. Fifty years ago it was widely accepted that premature infants should be treated with high concentrations of oxygen. Now it is recognized that such treatment contributes to retinopathy. The history of medicine is littered with discarded treatments.

In the past, patients have been entered for research projects without their consent. Most came to no harm, but a few were injured as a result. Since this misconduct was exposed and ethical committees were established in all medical institutions, this practice has become much rarer. It would, however, be unduly optimistic to say that it has been completely abolished.

Prognosis is a very difficult art, and every doctor makes mistakes in it, particularly at an early stage in his/her career.

**Reasons for mistakes**

The commonest reasons for medical mistakes are ignorance, errors of judgment and carelessness. Ignorance is, to some extent, inevitable. Even the most erudite and experienced doctors have large gaps in their medical knowledge. Knowledge is advancing so rapidly that no doctor can know everything, even in h is own specialty.

Many mistakes are due to inexperience. The doctor may have up-to-date book knowledge but may never have seen some of the diseases that he is called upon to treat or may be forced to undertake a risky procedure without supervision. Or he may be a well-informed specialist in one branch of medicine, but with little experience of a disease in another specialty, which affects his patient. Some doctors are adventurers and are happy to attempt techniques in which they are inexperienced, without adequate supervision.

Errors and judgment are also inevitable. Medical diagnosis and treatment is not an exact science. There are always a number of imponderables in every situation. Every patient acts and reacts differently. Experience helps, but even the most experienced doctor is liable to misjudge a situation.

Occasional carelessness is universal, since doctors are human. Carelessness, in the broadest sense, is probably an important factor in medical mistakes. There is a good deal of truth in the saying "More mistakes are made through not caring than through not knowing". There is a tendency in all of us to put personal comfort before patient care (Lancet, 1979). Family or business matters at times, distract all doctors. Some are constitutionally more considerate and careful and obsessional than others. Doctors should be aware of the risks involved in giving casual medical advice to a friend.

No consideration of reasons for medical mistakes would be complete without mention of organizational and environmental factors. An important measure that the MMA has taken is to fight for improved working conditions of doctors especially in the government sector. The tired, overworked doctor is more prone to mistakes. To be fair to the government sector, there have been at the forefront of quality improvement activities to reduce medical errors.

These are undoubtedly important. Doctors make more mistakes when they are tired and rushed, because there is a tendency to cut corners. But we must resist the temptation to put all the blame for our mistakes on 'the system'.

**Avoidance of mistakes**

Every doctor should make it a matter of honour to keep abreast of the advances in medical knowledge in his specialty, and also the major advances in other specialties. Ideally, he should not undertake any work for which he is not equipped or in which he has not an experienced colleague to consult. This is, of course, counsel of perfection, because occasionally a doctor may find himself out of his depth through unforeseen circumstances. He has no one to turn to and has to do the best he can.

Doctors can avoid mistakes and learn to correct their individual bias by consultation with colleagues. Ward rounds with other colleagues as well as with our junior staff, help to pool our ideas about the diagnosis and treatment of the more complex problems we encounter. Another educational practice is attendance on the ward round of other consultants.

**Learning from mistakes**

If McIntyre and Popper (1983) are right, and knowledge grows supremely from the recognition of errors, how can we do this in practice? Obviously, we need to keep good records, and do out best to follow up our problem patients. Without accurate records, it is impossible to know how often we are mistaken in our original diagnosis.

The MMA views medical mistakes seriously. It acknowledges medical mistakes are made. It stresses the importance of continuing medical education of its members in order to reduce mistakes due to ignorance or inexperience. It supports the accreditation of hospitals in order to ensure quality assurance procedures are in place. It supports transparency in acknowledging mistakes by subscribing to the belief that quality assurance indicators of hospitals should be in the realm of public knowledge.

What can patients do to reduce the likelihood of medical errors? Patients should be fully informed of the nature of their illness and options of treatment. Patients should also have realistic expectations after seeing a doctor. They should not expect a full recovery in all cases. It is the duty of doctors to inform them of this. Patients should also ensure that they see appropriately trained doctors for their particular illnesses. It is best that they consult their family doctors for accurate information.

Should a patient suspect that there had been medical negligence, what is the next course of action? It is best that they see the doctor for a detailed explanation and clarification. Many doctors would be quite willing to see them. Many would be quite happy with the explanation and the matter would stop there. The patient can also request for a medical report and use this to seek a second opinion from other practitioner. They may also complain to the hospital concerned, the MMA or MMC. Some may then seek legal opinion.

**Local Experience**

The following data is extracted from the Confidential Enquiries into Maternal Deaths. The term substandard care was used in the Confidential Enquiry reports before 1994. Substandard care was defined as meaning that the care the patient received or was made available to her fell below the standard that should have been offered to her in the year that the death occurred. However, this term was changed in 1994 and the new terms are continued in this report. All the factors were further classified as antepartum, intrapartum and postpartum. The place of occurrence i.e. whether they occurred in the community health facility, district hospital, general hospital or private health facility has also been studied. The following terms have been used and are defined as follows:

**Remediable clinical factors:**

These are specific interventions or alternative approaches to management appropriate in the year of occurrence that would have been likely to prevent the death of the mother.

These remediable clinical factors were analysed under the following groupings:

- Inappropriate delegation of duties
- Failure to inform seniors
- Failure to inform other specialists
- Failure of combined care
- Failure of communication
- Failure to diagnose
- Failure to appreciate severity
- Inadequate, inappropriate or delayed therapy
- Delay or failure of referral
- Failure of home visits/ defaulter tracing
- Failure of adherence to protocols

**Contributory factors:**

These are non-clinical factors that are likely to have significantly contributed to the mortality. Contributory factors are subclassified into personnel and facility factors as well as patient factors.

**Personnel or facility factors:**

These are factors related to inadequacies in the number, types or availability of personnel or facilities.

The following factors were taken into consideration under this group:

- The availability of a specialist
- The experience of the medical officer handling the case in the field of O&G as well as anaesthesia where appropriate.
- The availability of theater staff
- The availability of a surgeon or physician where appropriate.
- The presence of appropriate laboratory facilities.
- The presence of blood support
- The availability of ICU facilities
- The availability of transport
- The accessibility or remoteness of the place of occurrence of the delivery

**Patient factors:**

These are factors attributable to the attitude of women and /or their relatives which prevented appropriate care being received by the patient.

The reasons were classified under the following headings:

- Unbooked case
- Non-compliance to advice
- Non-compliance to admission
- Non-compliance to therapy

**Did we do better?**

**Remediable clinical factors**

There were 251 maternal deaths (203 direct; 48 indirect) in 1995 while there were 220 deaths in 1996 (175 direct; 45 indirect). There were 45.8% of cases with at least one remediable clinical factor identified in 1995 (115 cases out of 251 maternal deaths). The corresponding figure was however higher in 1996 with 60% of cases demonstrating a remediable clinical factor (132 cases out of 220 maternal deaths.

If substandard care was to be taken to be equivalent to remediable clinical factors (this is not strictly so), then the trend shown in the table below demonstrates that there is no clear pattern of improvement. In fact, the figure is the highest recorded since the initiation of the Confidential Enquiry system.

**Fig 1: Maternal Deaths 1991-1996**
**Percentage of Remediable Clinical Factors**
**(1991-1993-Substandard care)**

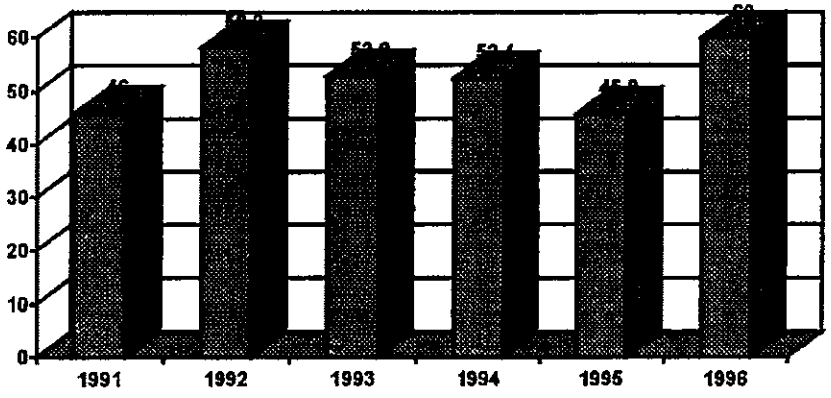

**Table 1:**
**Clinical factors identified 1995 & 1996**

| Clinical factors | 1995 | 1996 |
|---|---|---|
| Inappropriate delegation of duties | 8 | 13 |
| Failure to inform seniors | 24 | 22 |
| Failure to inform other specialists | 7 | 19 |
| Failure of combined care | 8 | 14 |
| Failure of communication | 22 | 30 |
| Failure to diagnose | 42 | 62 |
| Failure to appreciate severity | 81 | 108 |
| Inadequate, inappropriate or delayed treatment | 76 | 117 |
| Delay/failure of referral | 32 | 54 |
| Failure of home visits/defaulter tracing | 5 | 11 |
| Failure of adherence to protocols | 15 | 24 |

More than one remediable factor could have been identified in a particular case. Thus these factors cannot be analysed as a percentage of the cases studied. It can be seen from the above that the clinical domain was a major area that led to shortfalls in care. This was despite the committee taking cognisance of the fact that in some parts of the country, especially East Malaysia, medical officers often work without the supervision of specialists and often very commendably handle cases in trying circumstances and with limited experience. In such circumstances, the committee has not taken an overly judgmental view. It is thus of major concern that failure to diagnose, failure to appreciate severity, delay or failure of referral as well as inadequate, inappropriate or delayed therapy were the main areas in which remediable clinical factors were identified.

When the above specific clinical factors were analysed as to the place of occurrence, the health sector accounted for 21% of instances, the district hospitals without specialists 47% of instances and the general hospitals 22%. The private hospitals had a proportion of 11%.

All periods of pregnancy had lapses in clinical care with 32% in the antenatal period, 47% in the intrapartum period and 21% in the postpartum period.

**What can be done?**

Obviously, closer supervision by specialists can improve care in the district hospitals. There would be a long period before enough specialist manpower would be available to man (no pun intended) important district hospitals. Even now, there is a rapid turnover of specialists in some of the major referral hospitals.

Innovative approaches for closer contact between the specialists in the referral hospitals and district hospitals need to be explored. An active district hospital visit programme for audit and education purposes can bring good rewards as demonstrated in Negri Sembilan. Networking between hospitals has been done to good effect in some hospitals in this country. Improved lines of communication are a necessity including the basic direct phone lines to the obstetric departments. Fax machines in the labour wards should be an essential item in all hospitals. The provision of handphones to obstetricians is becoming an acute necessity. There is a need to explore the use of teleconferencing between some of the hospitals in this country to improve care in obstetrics and bring specialist care to some of the more remote areas. The data indicates that continuing education of staff should improve the clinical acumen and management of problems. There should be greater emphasis on the use of the materials already produced by the National Technical Committee for the education of all categories of staff. A leadership role should be played by all obstetricians in the fight to reduce maternal mortality. This role should be greatest in the state committees to evaluate maternal mortality.

The placement of family health specialists may improve care in the health sector. It however, should be emphasised that matters will only improve with close collaboration between these specialists and the obstetricians manning the referral hospitals.

The private hospitals should be given adequate feedback of the shortfalls identified in their sector. The incorporation of a private sector representative to the National Technical Committee from 1999 is a step in the right direction. The strengthening of private sector representation in certain state committees will need to be explored. There should be regular feedback about the lessons from these Enquiries in scientific meetings held in this country. It is particularly illustrative that individual members of the National Technical Committee have valued the tremendous learning opportunities that they have gained from being members of this enquiry.

**Suggested remedies to avoid medical errors**

What can be done about these errors? They cannot be ignored. Once errors are recognised their causes must be analysed so that preventive measures can be applied. Some of the mistakes are caused by systems failures. This has been shown, for example, with drug errors or wrong transfusions. Clear

definition of clinical responsibilities is need. Fatigue may also cause problems, as does the use of inappropriately junior staff. The main causes of adverse events relate to operative errors, drugs, medical procedures, and diagnosis. Each of these is amenable to prevention. Better surgical training is obvious. This has been taken on board by the Royal College of Surgeon, though concerns remain that, because of shorter training and tighter working hours, young surgeons are less experienced than previously. Better training programs will also help with medical procedures. Fewer operations and procedures during the night may also help. Drug errors remain a problem no one can remember all the possible drug interactions that may occur, and incorrect dosages are also a recurrent problem. A computer linked pharmacology system, such as that described from Birmingham, seems an ideal preventive and learning tool. This system sends warnings when incompatible or otherwise dangerous drugs are prescribed, and the introduction of such a system nationwide could prevent hundreds, indeed thousands, of errors. Errors in diagnosis could be minimised by better training and wider use of protocols and diagnostic algorithms.

Errors are problems what will not go away. A pilot study by the Royal College of Physicians into deaths after admission for medical emergencies suggests that some error occurred in as many as one in five cases, although not necessarily leading to an adverse event (unpublished). These data should be interpreted cautiously but do suggest that actual recorded adverse events are the tip of the iceberg. Analogies are often drawn with airline pilots. These are over intrerpreted in that an aeroplane should behave predictably on all occasions, whereas every patient is different and the same disease can present in myriad ways. Nevertheless, we can learn from the airlines, as David Johnson suggests. They spend a much higher proportion of revenue on training and they report all incidents, with "blame" being minimised. This is a habit which we should adopt, but it required a much more sympathetic approach from management than has pertained in the past.

Even more important, we need to put in place a national system for recording adverse events. This is an enormous undertaking and could be introduced initially in high risk areas but in the end it should be a matter of course in every medical setting, public and private. Only then will we really learn and improve our practice to the ultimate benefit of the public.

Doctors, however experienced and eminent can never sit back and rest on their laurels. They must constantly be reading and sharing their experiences with their colleagues. As Lord Lister is reported to have said:

*' If you are now willing to learn and unlearn all your life through, you should give up medicine and take up a third-rate trade.'*

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Prepared by:

Dr Ravindran Jegasothy
Chairman
Ethics Committee

Malaysian Medical Association