

Hospital Mortality Meetings- Are They Essential?

Whitfield, MJ

MA, FRCGP, DPH (UK), DCH
Department of Family Medicine,
MEDUNSA

Blitz, JJ

B Sc, MB, BCh, MPraxMed
Department of Family Medicine,
University of Pretoria

Correspondence to:

Dr. MJ Whitfield

Department of Family Medicine,
Box 222, MEDUNSA 0204
mikew@lantic.net

Abstract

The introduction of regular mortality meetings in a district hospital in South Africa is described. Some of the cases discussed are outlined with some of the issues arising out of investigation of the hospital records. Such meetings have the potential for improving

hospital care and the suggestion is made that mortality meetings should form the basis of a quality improvement initiative in all hospitals.

It is not common for hospitals to hold regular meetings to formally review the deaths of patients who die in hospital.

SA Fam Pract 2000;22(1): 7-9

Introduction

It is generally assumed that doctors do their best for their patients and that occasional post-mortem examinations will make doctors aware of their mistakes so that these will not happen again. However, the climate is changing, with rates of litigation rising against doctors and even regulatory bodies like the General Medical Council in the United Kingdom taking action against doctors who fail to maintain certain standards.¹

In an attempt to learn about the deaths that were occurring in a District hospital

of about 200 beds outside Pretoria it was decided as part of a quality assurance procedure, to hold regular hospital mortality meetings. The hospital has 18 full-time doctors, many of whom also staff clinics in the surrounding district. The hospital provides full secondary care services and has a tertiary referral hospital within about 10Km. One of us (MJW), an experienced family physician, runs the meetings and writes up the minutes. This paper describes some of the patients discussed at these meetings and discusses the value of such meetings.

The day before the meeting takes place all deaths that have occurred in the hospital during the previous week are identified from the mortuary records. Sometimes the medical records are not yet available as the patients' relatives have not claimed the body, but usually the records were available in the mortuary for MJW to read through and list the causes of death and details surrounding the death. Several of the deaths are dealt with in detail at the next morning's meeting.

Methods

An open invitation is given to all relevant hospital staff to attend. This includes doctors, nurses, laboratory technicians and pharmacists. The meetings usually take place every two weeks and always finish at 09h00 and ideally start at 08h00. Inevitably mistakes by doctors and nurses are discussed, but the tone of the meeting

is carefully monitored so that all personal criticism is minimised, and emphasis is placed on the staff's responsibility as a team to improve future management of patients with similar problems.

There are usually between 8 and 20 deaths to review. The meetings tend to

focus on particular age groups or on a particular clinical topic like malnutrition. Numbers of staff attending varied from 2 on one occasion to 16; effective publicity is necessary to ensure attendance remains high.

Results

Examples from the minutes include the following case reports with the points of discussion that were brought up during the meeting:

A patient with TB and AIDS

Patient was aged 32 years and was

admitted in a severely ill state, having been losing weight for several weeks. Good medical records were kept throughout his admission lasting just over a week. He was found on admission to have renal failure and blood was taken for HIV status. A chest X-ray was negative and sputa taken the next day were positive for AFB. He

was started on double dose trimethoprim + sulfamethoxazole (Bactrim®), and seemed initially to improve with lowered urea. Deterioration in his condition occurred and his relatives wanted to take him home, but he died before this could be arranged.

Points of note:

- The results of his sputum examination apparently arrived on the ward at least a week after being taken and anti TB treatment was then commenced.
- One dose of trimethoprim + sulfamethoxazole (Bactrim®), was apparently omitted during his stay in hospital.

A child with Acute Respiratory Infection and possibly immune compromised

Boy aged 7 months. Admitted with a cough, fever and vomiting for 1 week.

Looked pale and unwell and dyspnoeic. Chest X-ray showed bilateral pneumonia and the child died after 8 hours in the hospital. Investigations showed WBC of $53.1 \times 10^9/L$ with high proportion of monocytes and neutrophils. Hb 7.3 gm/dl. Blood glucose 14.3 mmol/L (probably result of IV glucose infusion).

Treated with oxygen, fenoterol hydrochloride (Berotec®), and ipratropium bromide (Atrovent®), nebulisation and cefotaxime (Claforan®), IV. Clearly this child had an overwhelming pneumonia – but what was the underlying cause of the illness?

The following points were discussed during the meeting:

- Had this child been losing weight over the previous months? There was no mention of a weight in the medical record and no reference to the Road to Health Chart indicating whether the baby has been failing to thrive.
- Was this child HIV+? If so, should the mother have been tested also? Have we a duty as doctors to consider the family implications? If so, perhaps we should also be testing the mothers of stillborn babies for syphilis or checking on their serology.

A patient with a high blood sugar and poor facilities

The patient was 25 years old and was admitted on a Saturday. He was presumed to be HIV positive and was admitted with diarrhoea and vomiting that had been present for 3 weeks. Three days after admission routine bloods were taken and showed a blood glucose of 81mmol/L and a BUN of 34mmol/L. The blood glucose level was checked and was 68 mmol/L. Actrapid®, 10 units was started on a sliding scale as the patient was hyperventilating and ketotic. It was found that there were no glucose testing strips in the hospital to monitor

surgical emphysema on the chest and another X-ray showed him to have a left haemothorax and a grossly enlarged heart. The haemothorax was drained and no mention of the amount of blood removed was recorded. The pericardial tamponade was not recognised and the patient died at about 20h00. This patient was clearly managed very badly.

A patient with an Acute Respiratory Infection

A 27-year-old man was admitted over the weekend with acute dyspnoea and cough. He had had a cough for 2 weeks and yellow sputum. He was afebrile

and a non-smoker and had had no previous chest troubles. On examination he had bilateral inspiratory and expiratory rhonchi, chest X-ray was normal and a diagnosis of acute tracheobronchitis was made. He was treated with intravenous steroids, nebulisation with a beta2 agonist and ipratropium bromide (Atrovent®), and put on a broad-spectrum antibiotic. After having green vomit on one occasion, he died the next day. This man did not recover in spite of what appeared to be

appropriate treatment. It was not clear why he had died.

A child with Gastro-enteritis

A 7 month child who had been gaining weight through the centiles on the Road to Health chart. Admitted from clinic having had diarrhoea and vomiting for 5 days. Dehydration noted before and during admission. On admission noted to be febrile and started on penicillin G and gentamicin. Three days later noted to be grunting and having respiratory distress. WBC on that occasion $21.9 \times 10^9/L$, Hb 9.9 gm/dl, blood urea 16.6 mmol/L. We wondered whether this child had been rehydrated appropriately and certainly he had not been investigated appropriately for site of infection. A lumbar puncture was planned for the day before he died (7 days after admission).

“We have found that many deaths were apparently preventable.”

the blood sugar and the blood sugar machine was not working in the hospital laboratory. An attempt was made to transfer the patient to hospital X but the transfer was refused – every hospital has glucose monitoring strips – was the comment of the doctor! Apparently the pharmacist has not been able to get new testing strips as the bill has not been paid and also currently there are no intravenous glucose fluids for the same reason.

A patient with a severe stab wound to the chest

The patient (aged 27 years) was admitted with a stab wound to the chest on Saturday night and a chest X-ray showed no abnormality though it was a poor film. The patient was drunk and was admitted for observation. At 06h30 he started hiccuping and was given 10mg diazepam. At 15h00 he had

Discussion

Hospital mortality rates have increasingly been examined to determine whether they can be used to identify hospitals that are not performing well.^{2,3} There are two main determinants of high or low hospital mortality rates: the numbers of severely ill patients who are admitted and the standards of care of the staff. Because of the difficulties in apportioning blame, some authors suggest that mortality rates should not be used to determine quality of care.⁴ However, there are published examples of the value of using meetings where hospital mortality rates are reviewed and individual cases discussed.^{5,6}

We decided to start mortality meetings in our local district hospital as part of a

quality improvement programme. The purpose of the meetings was to review deaths that were occurring in the hospital and to use the meetings to educate hospital staff about the frequency of inevitable and preventable deaths.

We have found that many deaths were apparently preventable. We have uncovered instances of poor medical and nursing standards and these have been documented. Managing such meetings is not easy. Criticism of individuals is easily made, but often decisions are made in less than perfect conditions; sometimes doctors and nurses find themselves having to make decisions with little, if any, professional support; sometimes the resources are

grossly inadequate and sometimes the professional's training is clearly poor. For mortality meetings to achieve quality improvement, the hospital staff as a collective unit must make a concerted effort to improve standards and not to scapegoat individuals.

Whether simply discussing these instances of poor management will lead to better standards of care will remain to be seen. We are, though, convinced of the value of this relatively simple procedure as a way of improving the knowledge of hospital staff about their collective deficiencies. We believe that this type of meeting should be held in all hospitals as part of routine quality improvement methodology.

References

1. Smith R. Regulation of doctors and the Bristol inquiry. *BMJ* 1998;317:1539-40.
2. Dubois RV, Rogers WH, Moxley JH, Draper D, Brook RH. Hospital Inpatient Mortality – is it a predictor of quality? *N Eng J Med* 1987;317:1674-80.
3. Pine M, Norusis M, Jones B, Rosenthal GE. Predictions of Hospital Mortality Rates: a Comparison of Data Sources. *Ann Int Med* 1997;126(5):347-54.
4. O'Leary DP, Hardwick RH, Cosford E, Knox AJS. Does hospital mortality rate reflect quality of care on a surgical unit? *Ann R Coll Surg Engl* 1997;79:46-8.
5. Lozen YM, Cassin BJ, Ledgerwood AM, Lucas CE. The value of the medical examiner as a member of the multidisciplinary morbidity-mortality committee. *J Trauma* 1995;39(6):1054-7.
6. Manthous CA, Amoateng-Adjepong Y, Al-Kharrat T, Jacob B, Alnuaimat HM, Chatila W, Hall JB. Effects of a medical intensivist on patient care in a community teaching hospital. *Mayo Clin Proc* 1997;72:391-9.