



## The Role of Periodic Mortality Case Review Sessions in a Primary Care Teaching Clinic

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### Abstract

**Background:** Maintaining a death register and holding staff discussions about patients who died can aid the physician in audit and research, which will lead to improved care of the terminally ill and the bereaved and to the development of prevention strategies. These issues are important for students and residents as well.

**Objectives:** To review the value of mortality-case discussions in primary care clinics, particularly teaching clinics.

**Methods:** The clinic death register, instituted in 1998, includes age, gender, cause of death, place of death, relevant illnesses, and support provided to the patient before the death. In the half-yearly sessions, the data are reviewed, and individual cases that had an emotional impact on the staff, or information that can bring about changes in future care are discussed by the clinic staff and trainees.

**Results:** In our clinic 233 deaths occurred during a 6 year period (1998–2003). The crude all-cause mortality rate was 7.1/1000. The median age was 80 years old. Neoplastic causes were slightly more frequent than cardiovascular causes of death. Only 15% died at home; 20% lived alone and 70% lived with a spouse or family members before the death. Topics discussed in the mortality review meetings include identifying pre-suicidal patients, when to hospitalize the sick elderly, dealing with the anger of bereaved families, and ensuring proper home care for terminal patients.

**Conclusions:** We recommend keeping a death register and conducting mortality review sessions in order to improve the quality of care, emotional support of the staff, and training students and residents about the complex issues surrounding the death of patients.

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Family physicians are involved with their patients throughout all stages of their life cycle, including their deaths. Following the death of a patient the family physician can draw conclusions and improve the quality of care of other patients by keeping a death register and reviewing the management of each patient who died. Keeping a death register has been shown to be useful for medical audit and research purposes [1-3], for allowing comparison with national statistics [4,5], and, ideally, for affecting a change in practice to reduce mortality [6,7]. Death registers are also important for general practitioners to improve end-of-life care

and care of the bereaved family [8].

The sources of information available to family physicians about the deaths of patients vary and are often incomplete. Family physicians do not routinely receive information about deaths unless they themselves filled out the death certificate [9-11]. Various methods have been suggested to aid the family physician in keeping death records [2,4,8,11].

In a teaching clinic, reviewing the death register provides an opportunity to teach students and residents about health indices and other epidemiologic concepts. In addition, a mortality meeting is a unique learning opportunity with regard to clinical and medico-social aspects surrounding the death of a patient. Medical schools have come to recognize the importance of formal teaching about end-of-life care and of exposing students to terminally ill patients [12-15]. Many schools offer courses taught by specialists in palliative medicine and many also require hospice experience [13,14]. Surveys conducted among students indicate that they want the opportunity to care for dying patients and to work with physician role models [14,16].

The family physician often plays an important role in end-of-life decisions and home care [17,18]. In many cases of deaths in a general practice, the family physician has had recent clinical contact, and in some, has paid home visits and been deeply involved in caring for the patient [19]. The emotional impact of the death of a patient, especially those who have been in the physician's care for a long time, can be significant [21]. Physicians need the opportunity to reflect upon the patient's death, share emotions, and receive support [22-24].

The aim of this paper is to present the experience of a university-affiliated teaching clinic in keeping a death register and conducting periodic mortality case review sessions, as well as emphasizing the unique role of such sessions in increasing the clinic staff's epidemiologic awareness, providing them with emotional support, and enriching the educational process in a teaching clinic.

### Subjects and Methods

The Sha'arayim clinic is a teaching clinic affiliated with the Family Medicine department of Tel Aviv University's Sackler

Faculty of Medicine. It is located in a neighborhood with a low-to-middle income population. Jewish immigrants from Yemen established the neighborhood in 1909, but in the last few decades new residents have slowly replaced the older Yemenite population. There are approximately 6000 registered patients in the clinic. This number has remained relatively stable throughout the years. Patients are seen by three qualified family physicians and one pediatrician. For many years family physicians in the Sha'arayim clinic have kept track of the patients who die. In 1998 a formal clinic death register was established. The information in the register is divided into six categories: age, gender, cause of death, place of death, relevant additional illnesses, and the type of medical and psychosocial support afforded the patient before death. Information on the death of a patient is obtained from family members and/or death notices posted in the community, and confirmed by a semi-annual report from the population registry of the Clalit Health Services, the largest of the four health management organizations in Israel.

The doctors are encouraged to record the terminal illness and death in the patient's file as close as possible to the time of its occurrence. In determining the cause of death, we do not have access to the death certificates sent to the Health Ministry unless one of the clinic staff was the doctor who signed the certificate. Cause of death as recorded in the register is based on hospital summaries requested from the local hospitals or from the coroner's information obtained from the family. Information on an additional illness that may have contributed to the cause of death is obtained from patient files. The support provided to the patient before he or she died includes: the identity of the primary caregiver, whether the patient was living at home or in an institution, and the extent of the support received from the medical staff.

Mortality case review sessions are held twice a year. Participants include medical and nursing staff, as well as students, interns or residents who are part of the clinic at the time. The discussion focuses on several individual cases that had a particular impact on the practice – emotionally for the staff, as a trigger for change in patient and/or family care, or as illustrative cases for the trainees.

## Results

Over the course of 6 years there were 233 deaths in the Sha'arayim clinic out of a population of nearly 6000 patients. The mortality rate was 7.1/1000. The average age at death was 78.2 and the median age 80 years (range 32–102). Slightly more men than women died during the study period (53% vs. 47%) [Table 1]. The most frequent cause of death was neoplastic disease (21%), but cardiovascular (19%) and cerebrovascular diseases (17%) as a cause were close to that figure. Suicide was the most common cause of violent death. Seven cases of suicide and one homicide, but no motor vehicle accident deaths were registered. Other causes of death included perinatal, infectious, renal failure, complications of Parkinson's disease, and dementia. In 10.5% of the cases we were not able to obtain information regarding the cause of death.

**Table 1.** Death register information for 6 years, 1998–2003

No. of deaths	233
Crude all-cause mortality rate	7.1/1000
<b>Gender distribution</b>	
Men	123 (53%)
Women	110 (47%)
<b>Age (yrs)</b>	
Median	80
Average	78.2
Range	31–102
<b>Cause of death</b>	
Neoplastic disease	48 (21%)
Cardiovascular disease	45 (19%)
Cerebrovascular disease	39 (17%)
Chronic respiratory disease	10 (4%)
Diabetes mellitus	11 (4.5%)
Suicide	7 (3%)
Motor vehicle accidents	0
Information unavailable	25 (10.5%)
Others	48 (21%)
<b>Place of death</b>	
Home	32 (15%)
Hospital	101 (48%)
Chronic care hospital	66 (31%)
Information unavailable	12 (6%)
<b>Residence and dependence before death</b>	
Lived alone	33 (20%)
Lived with spouse	55 (34%)
Lived with family, children	59 (36%)
Institution	13 (8%)
Information unavailable	3 (2%)
Independent before death	42 (18%)
Frail before death	178 (82%)
<b>Involvement of family physician in terminal care</b>	
Intense involvement of FP in treatment of frail (2001–2003)	48%*

\* Calculated from 94 frail patients in the years 2001–2003. Information is unavailable for earlier years.

Only 15% of our patients died at home during this period; most died in an acute or chronic care hospital. This finding is surprising since 70% of the patients were living with caregivers – either their spouse (34%) or other family members (36%) – before their death. Eighty-two percent of the patients who died were classified as frail before their death: they were limited in activities of daily living, were homebound, or needed intense nursing care. Based on data gathered during the period 2001–2003, in 48% of the patients the clinic staff was intensely involved in the terminal care of the patient in the months before death, making multiple house visits, adjusting medications and providing support to the caregivers. Table 2 presents a comparison of patients who died at home, in an acute care hospital, and in a chronic care facility. Those who died in a chronic care facility were older. A very wide age range is seen in those who died at

**Table 2.** Comparison of patients who died in different settings

	Death in home (n=32)	Death in acute care hospital (n=101)	Death in chronic care hospital (n=66)
<b>Age (yrs)</b>			
Average	76.1	76.8	79
Median	83	79	81
Range	32–102	46–102	52–100
<b>Cause of death</b>			
Neoplastic disease	5%	26%	27%
Cardiovascular diseases	26%	22%	7%
Cerebrovascular diseases	5%	12%	30%
Suicide	13%	2%	0%
Unknown cause	23%	5%	2%
Other causes	28%	33%	34%

home, reflecting the young who died of sudden death or suicide on the one hand and the very elderly who reached the end of their lives at home on the other.

The most frequent causes of death at home were cardiovascular or unknown. Patients with cerebrovascular or neoplastic disease rarely died at home. Suicide was also fairly common. Of the deaths occurring in hospital, cardiovascular disease and neoplastic disease were the most frequent causes. In chronic care facilities, neoplastic disease and cerebrovascular disease were the most common causes of death.

At the semi-annual mortality case review sessions held in the Sha'arayim clinic we evaluate the care of patients who died during the previous 6 months. The death register statistics are reviewed and compared with previous periods. Individual cases are then presented and discussed by members of the medical and nursing staff.

## Illustrative cases

### Identifying pre-suicidal patients

A 31 year old man had been treated for bipolar affective disorder for several years. He was single, and had lived with his mother until the previous year when their relationship deteriorated. He then moved out but stayed in the same neighborhood. He was being treated in the local psychiatric clinic and took his medications regularly. A month before his death he was hospitalized for several days in a psychiatric hospital and began treatment with neuroleptic drugs, which caused side effects. He returned to live with his mother. The day before his death his mother requested help because he was exhibiting uncontrolled violent behavior. He was referred to the emergency room of the local psychiatric hospital but apparently refused hospitalization. The next morning his mother found him dead in his room; he had hung himself.

The discussion in the mortality meeting focused on the responsibility of the primary care staff to be more pro-active. In this case, we discussed the potential benefit of the family physician speaking directly with the psychiatrist and the physician on call in the emergency room, and raised the question whether we can influence therapeutic decisions made by other medical caregivers. In this and other cases of suicide, which appeared to

be preventable, the social worker joined the meetings to help the staff deal with guilt feelings.

### When to hospitalize sick elderly patients

We discussed the case of a 72 year old widow who lived alone. She was generally healthy except for osteoarthritis, took no chronic medications, and was independent in activities of daily living. After several days of an upper respiratory tract infection, she requested a home visit because her fever was still high and she felt too weak to come to the clinic. The family physician paid a house call, diagnosed pneumonia, and prescribed antibiotics. The possibility of hospitalization was discussed but the patient preferred to stay at home, and the physician felt that he could rely on her to take the medications properly. Early the next morning, the patient called her daughter saying she could not breathe. By the time the daughter arrived, she found her mother dead in her bed.

In the mortality case review session, the question was raised whether the family physician should have taken into consideration the fact that she was living alone, and insisted on hospitalizing the patient.

### Ensuring proper home care for the terminal patient

A 60 year old woman with multiple myeloma lived at home with her husband. She had advanced disease that was unresponsive to chemotherapy. She suffered from pain caused by the myeloma lesions in her lower spine, and from anxiety. When it became clear that the intensive oncologic treatment had become ineffective, the family physician took over her care. Two of her three children who lived nearby were actively incorporated into her treatment plan to relieve her husband. The family physician paid many visits to offer support and answer questions. Both the patient and her husband were prescribed antidepressants and were referred to a local support group for cancer patients and their families. Despite this wide support system and the acceptance by her family of her terminal state, she was brought to the hospital on the last day of her life by her husband. She died there without receiving any medical intervention.

This case raised several issues, such as dealing with the grieving husband and the process of transfer from oncology to supportive care. The staff discussed the fact that the family did not want the death to occur in the home and wanted to bring the patient to the hospital to die. Possible reasons for this behavior, not infrequent in our area, were raised, such as cultural attitudes to death, the fear of the gasping moments before death and what to do with a dead body in the house, fear of accusations of improper care by other family members, and guilt feelings by the caregivers.

## Discussion

The death of a patient should raise many questions for the family physician and his/her staff. On a practice level, the staff should be asking questions such as: Which of my patients are dying and why? Is our clinic similar to others in terms of the all-cause and cause-specific mortality rates? Are there recognizable trends in

the clinic population that should be addressed and analyzed?

Six years of data from the death register in Sha'arayim show that the annual death rate of 7.1/1000 in our clinic is slightly higher than that reported by the Israel Bureau of Statistics, namely 6.8/1000. This is most likely due to the fact that our population is older than the general population (14.5% over 65 vs. 10% nationwide).

Although 79% of the deaths occurred in a hospital setting, 90% were living in the community before their death. In our population, patients prefer to stay at home as long as possible and the families want to care for the ill and elderly in their homes. The family physician must develop the necessary skills and learn what resources are available for implementing the proper strategy of care.

Despite prolonged home care, most patients in our population die in an acute or chronic care hospital. Only 15% died at home. This is significantly less than reported in other studies: a survey of general practitioners found that the rate of patients who died at home was 38.8% in Ireland [19], 24.8% in London [3], 53.8% in northern Holland [4], and 30.2% (of cancer patients) in Nova Scotia [20].

We did not collect data on how long the patient was hospitalized before his/her death, so it is difficult to draw conclusions regarding the medical necessity of the hospitalization. However, from cases discussed in our mortality case review sessions, it seems that some are brought to the hospital to die. The caregivers still hold out hope that death can be averted, or at least want to prevent guilt feelings or accusations that not enough was done to preserve the relative's life. Dying at home is associated with indicating a preference to die at home, residing with a healthy informal caregiver, and receiving home visits by the family physician [17]. Perhaps incorporating advance directives [18] related to dying at home at the end of life could help the patients and their families to better deal with this issue.

Other topics that have been raised in the mortality case review sessions include: a) identifying pre-suicidal patients, what measures can be taken to prevent suicide, if any; b) when to hospitalize sick elderly individuals even when their family objects; c) how to deal with sick elderly who have no other family or support system and refuse to go to a hospital or an institution; and d) how to deal with the bereaved family's anger.

Discussing the cases and the reasons for certain patient and/or family behavior in the terminal setting increases understanding and reduces frustration among the staff. At the Sha'arayim clinic, the meetings are also a welcome opportunity for the medical and nursing staff to express their emotions and discuss cases that troubled them, as well as current cases they felt were dealt with relatively well. If staff members harbor guilt feelings that not enough was done or that a different decision should have been made, these feelings are discussed in a non-threatening atmosphere, sometimes with the aid of a social worker, and conclusions are drawn to improve quality of care in the future.

In a teaching clinic, the mortality conferences provide unique learning opportunities for students, interns and residents. Dealing with the death of a patient is especially difficult for doctors

in training. The mortality meeting in an ambulatory clinic is a model from which students and doctors in training can learn how to deal with the death of a patient in the community. In addition to the medical aspects of palliative care, the meetings teach them the personal side of medicine – the importance of understanding the patient's "story" and the legitimacy of expressing emotions. The students learn the importance of reflection and self-audit, and learn to appreciate the overall responsibility the family doctor bears for each patient.

## Conclusions

We recommend adopting a method to track the death of patients, and holding periodic mortality case review sessions in the clinic to aid physicians and clinic staff in dealing with the death of patients. At these meetings each case can be evaluated regarding whether appropriate care and support were administered to the patient and his or her family. The members of the medical and nursing staff can express their emotions and be offered support, if necessary. Trainees in the clinic gain knowledge of important epidemiologic concepts, learn end-of-life treatment skills, and acquire a better understanding of how medical personnel deal with the death of patients who knew them as care-giving professionals and often as "extended family."

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