

Death certificates in Jerusalem: sources of information about cause of death

P. E. SLATER, MD

S-T. HALFON, MD

P. EVER-HADANI, MPH

Introduction and Method

DEATH certificates are the main source of data for mortality statistics and causes of death¹ and in some countries may even be a prime source of information on incidence and prevalence of disease.² In Israel, the autopsy rate among hospital deaths is low, approximately 20 per cent, and in Jerusalem, a city with a high percentage of Orthodox Jews, the rate is lower still, about 13 per cent.

In order to discover the sources of cause of death information appearing on death certificates, we extracted information from 315 consecutive certificates filed at the Jerusalem District Health Office and conducted brief personal interviews with the certifying physicians for 282 of them.

Results

Seventy-three per cent of persons died in hospital and an additional 10 per cent were pronounced dead in hospital emergency rooms. The remainder died at home or in nursing care facilities.

One-third of the deaths were ascribed to heart disease, 19 per cent to malignancies, 13 per cent to neurological causes and 9 per cent to infections. In 6 per cent of cases the underlying cause of death was written in but not decipherable; in an additional 7 per cent it was not known, that is, either the appropriate space was left blank or the word 'unknown' appeared. No certificate had been updated by autopsy information as at the time of review.

The 315 death certificates surveyed were completed by 162 physicians. For 60 per cent of certificates, the certi-

fying physician had personal knowledge of the patient before death. For 18 per cent the physician consulted the medical record to decide cause of death; for 15 per cent he based his diagnosis on the clinical picture during the patient's final moments; and for 7 per cent of certificates the physician stated that he had no source of information by which to determine cause of death.

The certifying physician was most likely to have had personal knowledge of the patient if death was ascribed to a malignancy (86 per cent), whereas if recorded cause of death was cardiac disease 55 per cent of patients were known to the certifying doctor before death. If death occurred in hospital the certifying doctor had personal knowledge of the patient in 72 per cent of cases; if death occurred at home the certifying doctor knew about only 42 per cent of cases and for 35 per cent of these no source of information could be cited. These findings are summarized in Table 1.

Discussion

The best person to certify cause of death would seem logically to be the personal physician of the deceased. Ideally, he should have been present at the time of death and should have the benefit of information gleaned from postmortem examination before being required to record cause of death. In practice, however, this ideal rarely prevails.

In an era when the autopsy rate has dropped markedly all over the world,³ data derived exclusively from death certificates are open to doubt. In such a situation we would recommend, at the very least, that physicians certifying cause of death be required to indicate on the death certificate the source of their information and an estimate of their confidence in its reliability. This requirement would enable persons making vital health planning decisions to judge the validity of the death certificate data they may have to use.

P. E. Slater, S-T. Halfon, P. Ever-Hadani, Department of Medical Ecology, Hebrew University-Hadassah School of Public Health and Community Medicine, Jerusalem.

© *Journal of the Royal College of General Practitioners*, 1984, 34, 619-620.

Table 1. Doctor's source of information for certifying cause of death.

	Recorded underlying cause (%)				Place of death ^a (%)			Percentage total (n = 282 deaths)
	Cardiac disease (n = 93)	Malignancy (n = 56)	Trauma (n = 12)	Others (n = 121)	Home (n = 46)	Hospital (n = 202)	Emergency room (n = 28)	
Personal knowledge of patient	55	86	33	55	42	72	7	60
Medical record	19	13	25	19	23	12	54	18
Clinical picture during final moments	24	2	25	12	0	15	36	15
No source of information	2	0	17	13	35	0	4	7

^a For six cases, place of death was not recorded.

References

1. Anonymous. Uncertain certificates. *Lancet* 1981; 2: 22-23.
2. Engel LW, Strauchen JA, Chiazze L, *et al.* Accuracy of death certification in an autopsied population with specific attention to malignant neoplasms and vascular diseases. *Am J Epidemiol* 1980; 111: 99-112.
3. Goldman L, Sayson R, Robbins S, *et al.* The value of the autopsy in three medical eras. *N Engl J Med* 1983; 308: 1000-1005.

Acknowledgements

This project was supported by the Joint Research Fund of the Hebrew University and Hadassah and the Isaac and Rose Hurwitz Trust Fund.

Address for correspondence

Dr P. E. Slater, Department of Medical Ecology, Hebrew University, Hadassah School of Public Health and Community Medicine, PO Box 1172, Jerusalem, Israel.

EPIDEMIOLOGY AND RESEARCH IN A GENERAL PRACTICE

Dr Ian Watson, well known as Honorary Director of the Epidemic Observation Unit and a distinguished past-President of the College, died before he was able to complete a book he was writing on respiratory tract infections. *Epidemiology and Research in a General Practice* has now been published posthumously in a limited edition as a tribute to Dr Watson by his patients and the College. It comprises 16 chapters of his unfinished work and nine previously published articles mainly on the impact of virus diseases on general practice.

Based on a lifetime of observation and research, this book has lessons for all general practitioners and can be recommended both as the personal testimony of a great physician and as a contribution to the literature of general practice.

The book can be obtained, while stocks last, from the Publications Sales Office, Royal College of General Practitioners, 8 Queen Street, Edinburgh EH2 1JE, price £10.50 including postage. Payment should be made with order.

THE INFLUENCE OF TRAINERS ON TRAINEES IN GENERAL PRACTICE

Occasional Paper 21

The latest Occasional Paper on vocational training reports on the educational progress of a group of trainees in the North of England. Two groups of trainees were identified, those who underwent the greatest change and those who underwent the least change precourse to postcourse, and their characteristics were compared with the characteristics of their trainers. Several new findings have emerged which are fully consistent with those of *Occasional Paper 18* and add still further support for the present system of selecting training practices. The report will therefore need to be considered by regional general practice subcommittees, course organizers, and regional advisers, and is recommended to all trainers and trainees.

The Influence of Trainers on Trainees in General Practice, Occasional Paper 21, can be obtained from the Publications Sales Office, Royal College of General Practitioners, 8 Queen Street, Edinburgh EH2 1JE, price £3.25 including postage. Payment should be made with order.