

I am grateful to Mr H Bridger for permission to quote from his publications and to Dr C R Coid for reading and advising on this paper.

## Appendix

### USEFUL ADDRESSES

British Veterinary Association, 7 Mansfield Street, London W1M OAT.  
MRC Laboratory Animals Centre, Woodmansterne Road, Carshalton, Surrey.  
Laboratory Animal Science Association, 38 Mill Road, Buckden, Huntingdon PE18 9SS.  
Royal Society for the Prevention of Cruelty to Animals, The Manor House, Horsham, Sussex.  
The Universities' Federation for Animal Welfare, 230 High Street, Potter's Bar, Hertfordshire.  
The Zoological Society of London, Regent's Park, London NW1 4RY.

### BOOKS AND PUBLICATIONS

*Keeping Animals in Schools.* Department of Education and Science. London, HMSO, 1971.  
Jennings, T J, *Animals in the Home and Classroom.* Oxford, Pergamon Press, 1971.  
*The UFAW Handbook on the Care and Management of Laboratory Animals,* ed Universities' Federation for Animal Welfare, 4th ed. Edinburgh and London, Churchill Livingstone, 1972.

*The UFAW Handbook on the Care and Management of Farm Animals,* ed Universities' Federation for Animal Welfare. Edinburgh and London, Churchill Livingstone, 1971.

UFAW Publications and Information leaflets obtainable from UFAW (address above). Many of these are available free of charge and cover the care of goldfish, tortoises, hamsters and gerbils, and other animals in captivity.

## References

- 1 Bridger, H, Paper given at the Health Congress of the Royal Society of Health, 27 April-1 May, 1970, Eastbourne, Sussex.
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- 10 James, H L, in *Pet Animals and Society*, ed R S Anderson. London, Baillière Tindall, 1975.
- 11 Townsend, G H, *Veterinary Record*, 1969, **85**, 225.
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# Mortality of bereavement

AUDREY W M WARD

*British Medical Journal*, 1976, **1**, 700-702

## Summary

**The death rate of a group of 87 widowers and 279 widows was followed for two years from the death of their spouses. The life tables for England and Wales 1970-2 indicated that the expected number of deaths would be 6 men and 11 women. The actual numbers (9 men and 11 women, 5.5%) were not significantly different, though there were more widowers' deaths during the first six months of bereavement. There was no significantly greater mortality among those whose spouses had died in hospital; but when this had occurred the health of the second spouse was likely to have been poorer than that of those whose spouses had died at home.**

## Introduction

In 1967 Rees and Lutkins<sup>1</sup> reported the death rate of 51 widowers and 105 widows whose spouses had died during the six-year period after 1 January 1960. All the subjects lived in and around the small market town of Llanidloes. During the two-year

period after the death of their spouse 28 (18%) of the bereaved people died (table I). The rate is surprising since it is more than that found in earlier studies based on larger samples.<sup>2,3</sup> When Rees and Lutkins's<sup>1</sup> paper was brought to my attention data had just been collected about the death of every Sheffield citizen who had died from cancer of certain sites (pharynx, breast, bronchus, stomach, colon, and rectum) during the two summers of 1971 and 1972.<sup>4</sup> It was decided to ascertain whether the death rate of the spouses of these people agreed with that of Rees and Lutkins's group or those of the earlier studies.

## Method

In the original terminal care study 366 patients (279 men and 87 women) had been married and were living with their spouse at the time of their deaths. To avoid revisiting every bereaved household we examined the electoral roll to identify all the surviving spouses who had registered as electors at least two years and two months after the index deaths. Thus the electoral roll compiled from returns made in October 1973 (which was published early in 1974) was first examined to ascertain some of the spouses of those who had died between May and September 1971. We found that the inclusion of a spouse's name on the electoral roll could not be taken as an absolute indication of his or her survival because of the practice of retaining names from year to year in default of a new registration,<sup>5</sup> but with the co-operation of the electoral registration officer it was possible to identify over half of the spouses surviving more than two years.

The remainder of the spouses were visited at their homes when possible; and if they had moved away inquiries were made of neighbours and friends about their survival. The housing department informed us of the whereabouts of people in cases where whole neighbourhoods had been cleared for redevelopment.

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TABLE I—Death rate (%) of widows and widowers at stated intervals from bereavement (selected studies)

No of months subject died after bereavement	Widows				Widowers			
	Cox and Ford <sup>a</sup>	Rees and Lutkins <sup>1</sup>	Clayton <sup>7</sup>	Present study <sup>4</sup>	Young <i>et al</i> <sup>3</sup>	Rees and Lutkins <sup>1</sup>	Clayton <sup>7</sup>	Present study <sup>4</sup>
≤6	1.4%	8.5%	2.6%	0.4%	4.8%	13.7%	3%	8%
7-12	1.5%	6.7%	5.2%	1.8%	3.7%	5.9%	3%	2.2%
13-24	2.9%	15.2%	7.8%	1.8%	7%	4.9%	3%	10.2%
≤24				4%	15.5%	24.5%	9%	
Mean age (years)	(<70*)	67	61	64	71†	70	63	64
No of subjects	60 000	105	76	279	4486	51	33	87
Date of index death	1927	1960-6	1968	1971-2	1957	1960-6	1968	1971-2

\*Mean age not stated, but "all were under 70"

†All over 55

The procedure adopted in 1974 was repeated in 1975 for the 1972 group and succeeded in tracing all the people concerned. The mortality of the second spouses was compared with that of the total population on the basis of the abridged life tables for England and Wales, 1970-2.<sup>6</sup>

## Results

Our group consisted of 87 widowers and 279 widows. Two years after bereavement 20 (5.5%) had died (nine men and 11 women). The life tables indicated that in a group of the same size and age structure the expected number of deaths would be six men and 11 women. The actual number of widows' deaths was identical and the excess of widowers' deaths was not significant ( $P > 0.05$ ).

The widows' deaths were evenly spread over the two-year period; but for the widowers there were significantly more early deaths—seven of the nine falling within the first six months of bereavement ( $P < 0.05$ ).

## Place of death

Rees and Lutkins<sup>1</sup> found that there was an increased risk of a recently bereaved person dying within one year of bereavement if the first spouse died in hospital; and indeed they go so far as to say that the risk to a bereaved relative is determined, in part, by the place of death of the first relative.

Of the 366 married people in the terminal care study who died of cancer during the two summers 1971 and 1972 176 died at home and 190 died in hospital. Of the surviving widows and widowers six (3.4%) of the spouses of those who died at home and 14 (7.4%) of those who died in hospital died during the two years after the first deaths. This twofold difference was in the direction predicted by Rees and Lutkins's<sup>1</sup> hypothesis, but was not significant ( $P > 0.05$ ).

We examined several factors which might have influenced whether the index patient died at home or in hospital. One of these—the general practitioner's assessment of the physical health of the chief carer—might have been relevant. Some 16.3% of the spouses of those who died in hospital were assessed as being in "poor health, unable to cope adequately" (or unable to care for their spouse at all owing to ill health), compared with only 6.4% of patients who died at home. Here the difference was significant ( $P < 0.01$ ) (table II).

TABLE II—Health of the surviving spouse at the time of the index death

Surviving spouses*	First spouse died	
	At home 157 deaths	In hospital 160 deaths
Chief carers, but health "poor," etc	7	16
Unable to care because of ill health	3	10
Died within two years of bereavement	3.4%	7.4%

\*This table does not include 49 surviving spouses whose health status is not known

TABLE III—Causes of death of second spouse

	Neoplasm	Cerebrovascular disease	Cardiovascular disease	Renal failure	Broncopneumonia	Suicide	Not known
Widowers	3	2		1		1	1
Widows	4	2	4		1		1

## Discussion

The widows in Cox and Ford's<sup>2</sup> study were "all those women (60 000 in number) who were awarded widows' pensions . . . during . . . 1927 (they were all under 70)." In the two years after bereavement 3% of these widows died. In explanation of this low figure it should be noted that only those who claimed widows' benefit were included, hence some who died shortly after their husband might be excluded, and since they were all under 70 they may have been younger on average than those followed up in other studies.

Young *et al*<sup>3</sup> followed for several years a group of 4486 widowers aged 55 and older whose wives died during the first half of January and the second half of July 1957. In the two years after bereavement 15.5% of these men died, 4.8% in the first six months. They came to the conclusion that the "excess mortality in the first six months is almost certainly real. Widow(er)hood appears to bring in its wake a sudden increment in mortality rates of something like 40% in the first six months followed by a fall back to the level for married men in general."

Rees and Lutkins's<sup>1</sup> conclusion that there was about a tenfold increase in the risk of death after bereavement was based on death rates in the first year of 12.2% in the bereaved compared with only 1.2% in a control group of widows and widowers of longer standing matched by age and sex. Nevertheless, they do not appear to have compared the control group mortality, which seems remarkably low, with that of the population as a whole.

Clayton<sup>7</sup> in St Louis, Missouri, studied prospectively over four years a group of 76 widows and 33 widowers and their age- and sex-matched controls. Unlike Rees and Lutkins,<sup>1</sup> she found no great difference in mortality, and, in fact, had in the first two years two more deaths in the controls than in the index group.

Our study does, however, tend to confirm one of Rees and Lutkins's<sup>1</sup> conclusions, which had also been reported by Young *et al*,<sup>3</sup> that significantly more widowers died in the first six months of widowhood. This should alert general practitioners and other caring agencies to provide extra support both before and after the death of the wife. Although there was no conclusive evidence that if the first spouse died in hospital there was an increased probability of the second spouse dying shortly, there was a relationship between the place of death of the first spouse and the health of the survivor.

The causes of death of the second spouses (table III) were mostly of the degenerative type which would be likely to have been incipient or manifest for some considerable time. Hence probably it is the state of health of the surviving spouse which "determines" whether the first spouse dies at home or in hospital rather than the place of death of the first spouse influencing the

mortality of the second spouse, as suggested by Rees and Lutkins.<sup>1</sup>

None of the index patients in this study died at other sites—that is, in the street, etc—so it is not possible to consider the effect of such unexpected bereavements on the survival rates of their spouses. There was no difference, however, in survival rates between those spouses who were first aware of the nature of the patient's illness only after the death or for less than a month beforehand and those who had known for a longer period.

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Skidmore, director of housing, for their help in tracing. The Medical Care Research Unit is supported by a grant from the DHSS.

### References

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- <sup>2</sup> Cox, P R, and Ford, J R, *Lancet*, 1964, 1, 163.
- <sup>3</sup> Young, M, Benjamin, B, and Wallis, C, *Lancet*, 1963, 2, 454.
- <sup>4</sup> Ward, A W M, *Terminal Care in Sheffield 1971-72*, unpublished PhD thesis, 1975.
- <sup>5</sup> Ward, A W M, and Bannon, D G, *Lancet*, 1973, 2, 619.
- <sup>6</sup> Registrar General's *Quarterly Return, England and Wales*, No 498. 1973, 2nd quarter, p 35.
- <sup>7</sup> Clayton, P J, *Archives of General Psychiatry*, 1974, 30, 747.

## Letter from . . . Canada

### The open hospital ajar

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The Canadian doctor has always regarded the right to admit and treat his patients in hospital as an essential part of his professional birthright. This has been reiterated in every CMA statement on health insurance from the 1930s onwards. The reason is obvious. In earlier years, with poor communications, vast distances, and inclement weather, a small community would build and support a hospital as a bait to obtain a doctor. Every medical veteran, with two fluid ounces of encouragement, can regale his juniors with horrendous tales of medical melodrama—the desperate emergency with no help within a hundred miles, the fight to the hospital at night with the weather 50° below and a full blizzard. In comparison, Robert Service appears parochially suburban. A surprising number of the stories are true.

Later it was in the public interest to avoid a medical monopoly within a hospital. In some provinces there is even legislation to prevent a doctor from being frozen out of the public hospitals by his medical colleagues. Change came first to the big cities of the east, moving steadily west, and east to the Maritimes, paced by the development of university hospitals with closed teaching beds. With them came the classical town-gown confrontations. In the larger community hospitals the specialists began building restrictions to limit the practice of their non-specialised colleagues and now the ultra-specialists are trying to do the same. In the rural areas the general practitioner is still king. The hospitals are small, the facilities variable, and any attempt by parsimonious government to close these hospitals in the name of efficiency or economy has always been met with resolute public outcry. After all, the hospital payroll is often the biggest in town.

But a Canadian town can double or treble its population in as many decades and its hospitals grow with it. The variegated cutters usually move in first and, in the interests of high surgical standards (generously bolstered by personal self-interest), they soon set up credentials committees to limit the field. The physicians have a more difficult time, but the multiplication of

special diagnostic techniques gave them an edge, and now, with the rapid development of specialised units for coronary care, intensive care, renal dialysis, metabolic disease, or anything else that human ingenuity can devise, they are rapidly coming into their own. The general practitioners, feeling the pressure, metamorphosed into family doctors, developed a hopefully prestigious college of their own, and lobbied for departments of family medicine in the teaching centres and in the large community hospitals. One beloved euphemist in the wild west advertised to the public that he was a "general specialist."

As a result, general practice, particularly out of hospitals, is now more than holding its own. As always, the real reasons are economic. Firstly, the public, tired of being bounced from specialist to specialist, demanded an entry into the health care system through their very own family doctor. Secondly, the provincial fee schedules were manipulated to make general practice fiscally rewarding as well as just hard work. The schedules were also altered to pay consulting fees only for work referred by family doctors, thus discouraging the specialists from providing direct personal service "off the street."

### Precarious balance

In the hospitals the balance remains precarious. The family doctors admit their cases and visit them. Consultants are called in by them subject to the requirements of the local hospital bylaws. Major surgery is progressively done only by specialists, and the specialised units are staffed exclusively by experts. The effects of this mix are both good and bad.

The benefits include the continuous education of all: general practitioners by specialists and, particularly concerning the individual patient, specialists by family practitioners. A large hospital may be well run with only a handful of junior, salaried doctors. This is economical. The intern staff get plenty of experience and there is a place in the community for the good ones at the end of their term of office. The specialists and consultants cannot keep their junior colleagues out of open competition and therefore they have to give good service, keep up-to-date, and stay humble. Successful surgeons sometimes avoid this last requirement, but that is genetically universal. The patients get the benefit of continuity of care from their own doctors combined with the skills of their specialist colleagues.

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