

Mortality and Hospital Admissions in the Month before Death

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1. Introduction

This study investigates the pattern of hospital admissions in the final month of life with regard to the underlying causes of death and mentions of diseases on death certificates. Previous studies^{1,2} indicate that individuals near the end of their life have increasing need of hospital services. The aim is to improve the quality of hospital care provided at the end of life by informing policy and planning decisions concerning the nature of patients' needs.

2. Methodology

To evaluate stays in hospital for patients who have died, it is necessary to link Hospital Episode Statistics (HES) records to individual mortality records. This study used the HES/ONS Linked Mortality File (LMF) supplied by the NHS Information Centre. The LMF allows exploration of the cause of death in relation to hospital admissions in the final year of life. Deaths occurring in the five-year period 2004–08 were selected. In order to study hospital admissions during the last year of life, a subset of the LMF was used to create a 'Last Year of Life Cohort' (LYLC).

3. Results

- A fifth of all bed days in the final year of life were in the last 30 days: 9.2 million bed days for cancer; 5 million for cardiovascular disease; 4 million for respiratory disease; and 3 million for stroke.
- Of all deaths in England in 2004–08, nearly half were admitted to hospital in the month before they died and the average length of stay was more than a week.
- 28% of all people who died were 75 years or older and had an admission in the last month of life before dying in hospital.
- Of people who died in hospital following an admission in the last 30 days of life, more than a quarter had a mention of acute heart disease on their death certificate.
- Of people who died in hospital following an admission in the last 30 days of life, more than a quarter had a mention of pneumonia/acute respiratory disease on their death certificate.

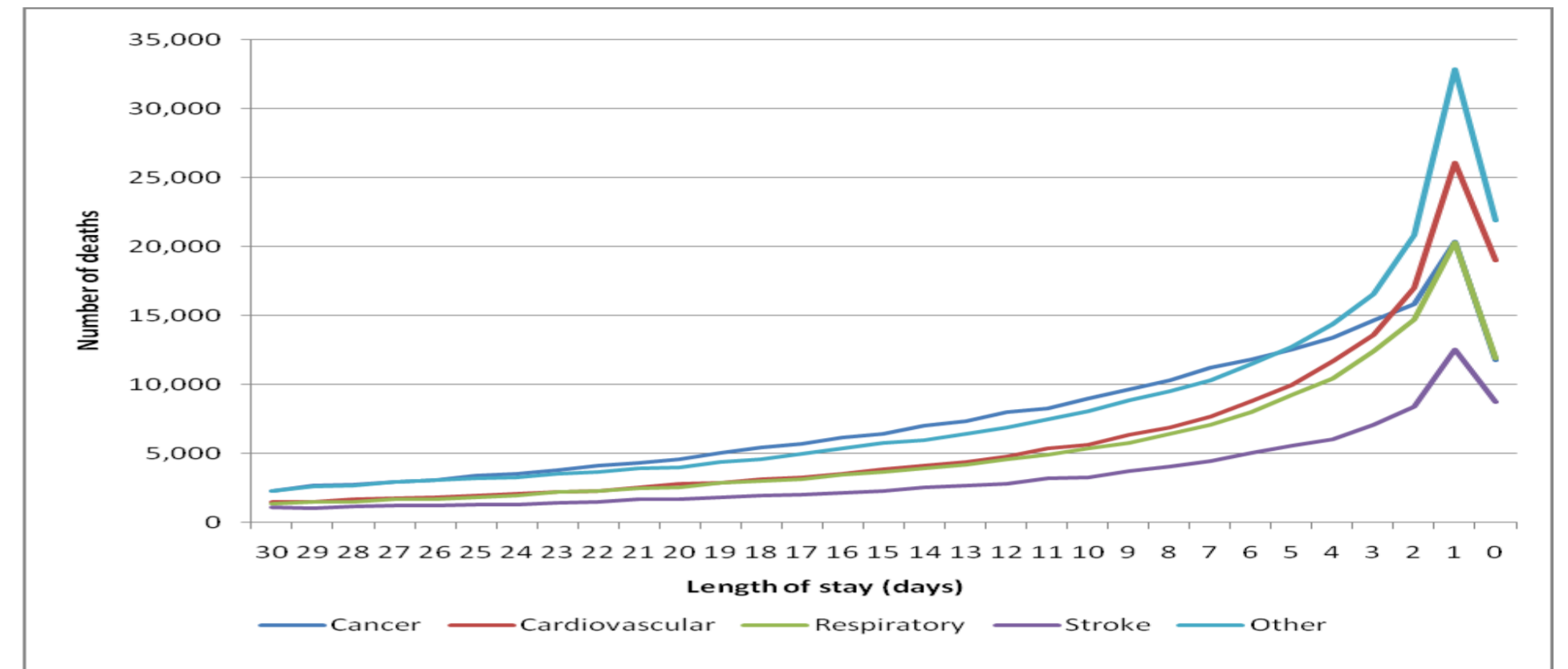
4. Discussion

On the basis of these statistics, and without detailed clinical study of the causes for admission and care given, it would seem reasonable to assume that most of the care given in the last month of life has at least some terminal component. It is essential to understand the nature of these admissions, their causes and, ideally, the other psychosocial factors which may contribute to the medical assessment of need for admission. A significant proportion of the admissions are likely to be for life-saving interventions and a further proportion patients for whom symptoms and/or psychosocial factors make care in the community difficult, or where care in the community is inadequate. A consistent finding throughout this study is that cancer patients have a shorter average length of stay, are less likely to die in hospital, and less likely to die in hospital following an admission in the last 30 days of life. The NHS' ability to manage the needs of cancer patients is an example of outcomes that may be achieved for other chronic conditions. It is hoped that this report steers a course for future studies to identify, in more detail, the chronic conditions most prevalent in our population towards the end of life. If the frequency and type of care required is understood, delivery may be improved to bring treatment in line with that a cancer patient would expect.

References

- ¹ Dixon T, Shaw M, Frankel S & Ebrahim S (2004) – *Hospital admissions, age, and death: retrospective cohort study*, *BMJ* 38072.481933.EE
- ² Van den Block L, Deschepper R, Driessens K, Bauwens S, Bilsen J, Bossuyt N & Deliens L. (2007) – *BMC Health Services Research* 2007, 7:69 doi:10.1186/1472-6963-7-69

Figure 1: Distribution of length of stay (up to 30 days) for patients that die in hospital by underlying cause of death, England 2004-08



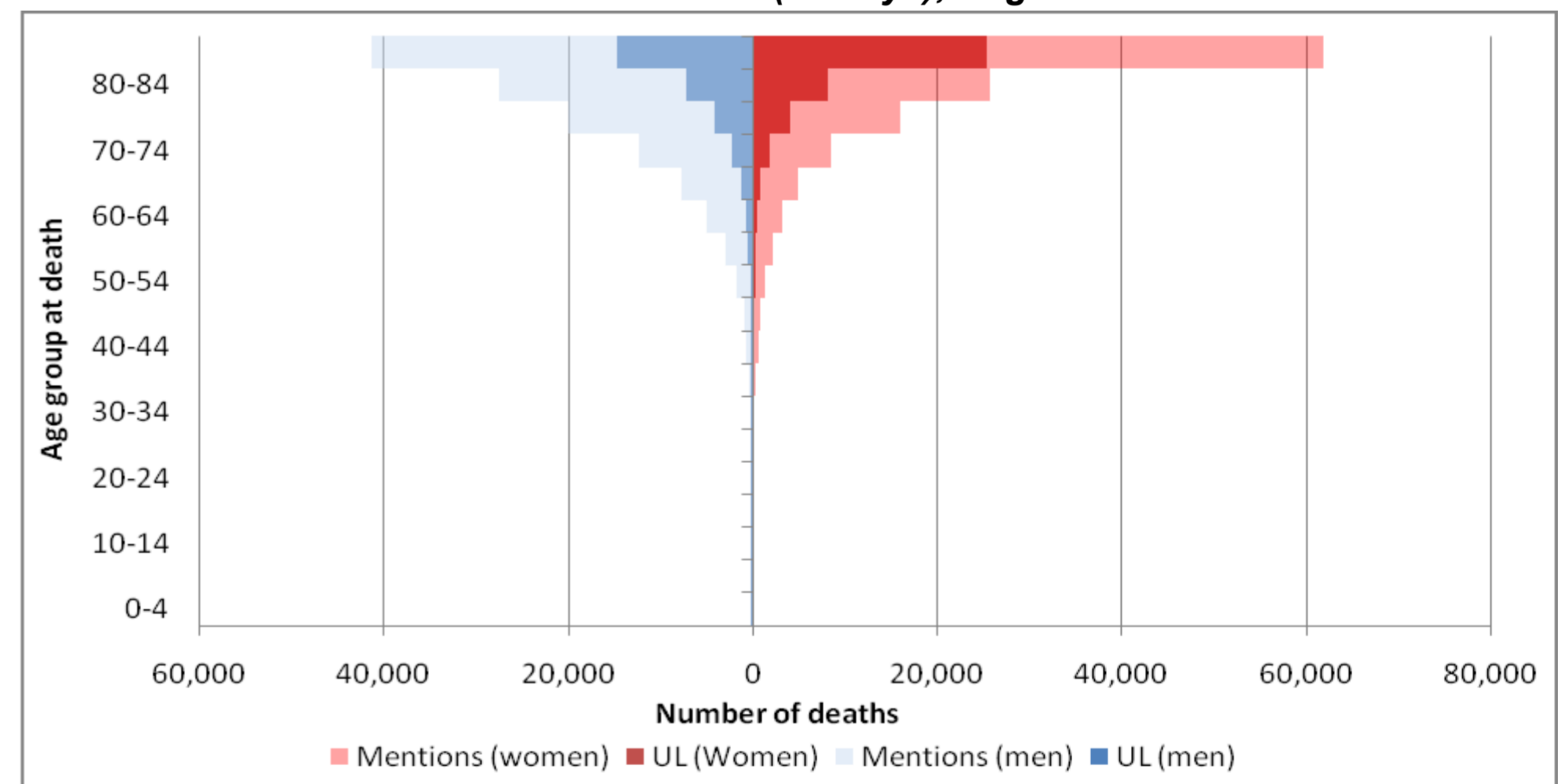
Source: Linked Mortality File, Office for National Statistics, annual mortality file and NHS Information Centre, Hospital Episode Statistics

Table A: A table of people who died in hospital with an admission in the last month of life (30 days), England 2004-08

Disease / Cause of illness	Underlying cause of death		Contributory		Mentions (UL + Cont)	
	n	%	n	%	n	%
Acute heart	139,848	14.7%	103,813	10.9%	243,661	25.5%
Aortic aneurism	12,755	1.3%	2,526	0.3%	15,281	1.6%
Chronic heart	28,645	3.0%	99,041	10.4%	127,686	13.4%
COPD	74,558	7.8%	49,369	5.2%	123,927	13.0%
Dementia-Alzheimers-Senility	23,023	2.4%	81,483	8.5%	104,506	11.0%
Diabetes mellitus	6,521	0.7%	36,930	3.9%	43,451	4.6%
Falls	9,293	1.0%	2,771	0.3%	12,064	1.3%
Neurodegenerative disease	10,363	1.1%	7,844	0.8%	18,207	1.9%
Pneumonia due to food & vomit	8,412	0.9%	26,935	2.8%	35,347	3.7%
Pneumonia/acute respiratory	73,700	7.7%	173,978	18.2%	247,678	26.0%
Renal disease	12,203	1.3%	69,448	7.3%	81,651	8.6%
Stroke	103,882	10.9%	41,258	4.3%	145,140	15.2%
Urinary tract infection, site unspecified	18,033	1.9%	26,465	2.8%	44,498	4.7%
Other (excludes nulls)	432,470		-		-	
Grand Total	953,706		721,861		1,243,097	

Note: *Proportions are of all deaths in 0-30 day admission
Source: Linked Mortality File, Office for National Statistics, annual mortality file and NHS Information Centre, Hospital Episode Statistics

Figure 2: Mentions of pneumonia on death certificate for patients who died in hospital with an admission in the last month of life (30 days), England 2004-08



Note: UL = Underlying cause of death
Source: Linked Mortality File, Office for National Statistics, annual mortality file and NHS Information Centre, Hospital Episode Statistics