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# Variations in deaths in Queensland hospitals for those aged 50 years and above

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## Variations in deaths in Queensland hospitals for those aged 50 years and above

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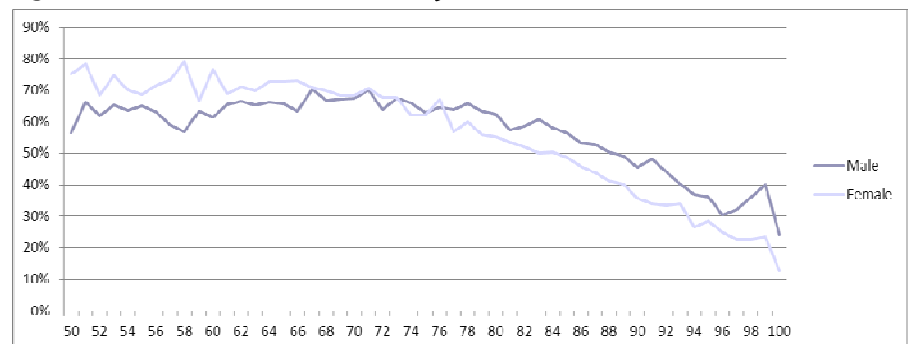
The place where people spend the last moments of their life is a critical aspect of the quality of care for dying patients<sup>1</sup>. In the United States, 33% of those who died in 2010 were inpatients at a medical facility<sup>2</sup>. In England, 53% of people who died in 2010 died in hospital, but, according to survey data, only 3% of the general population in England stated that they would prefer hospital as their place of death<sup>3</sup>. Although research suggests home is the most desirable place for a pre-anticipated death to occur, this preference can depend on the quality of care patients and carers have experienced<sup>4</sup> and may change as the terminal stage of life is reached<sup>5</sup>. It is however generally understood that hospital is not the place where patients would prefer to spend the last moments of their life, if they had a choice. This paper provides a high level overview of some of the patient characteristics and service utilisation patterns associated with those who died in Queensland hospitals.

In 2011/12, approximately 14,700 persons died as an admitted patient in a Queensland hospital<sup>6</sup>, which roughly equates to 50-55% of deaths of Queensland residents in that year<sup>7 8\*</sup>. Whilst this proportion may help to understand the hospital utilisation and provision in the final moments of life for Queensland residents, more detailed understanding of this population would add value for future planning and surveillance of end of life care, an area where demand is expected to grow even further as the proportion of the population in older age categories increases.

Linked Queensland Hospital Admitted Patient Data Collection (QHAPDC) and Queensland Death Registration data for the period between 2009/10 and 2010/11 were interrogated to further our understanding of this issue. The analysis showed the proportion of patients who die in hospital when an inpatient varied by age and by underlying cause of death. Figure 1 shows the proportion of people, aged

50 years or older at the time of death, who died when an admitted patient, by age at death and by sex.<sup>†</sup> For people aged between 50 and 70 years, approximately 60 to 70% died when an admitted patient. The proportion who died in hospital declined for both males and females with increasing age. The rate of decline was slightly greater for females than for males resulting in more males than females dying in hospital in the older age groups.

**Figure 1. Proportion of people who died as an admitted patient by age and sex, Queensland, 2009/10-2010/11**



Source: Queensland Death Registrations, Queensland Cause of Death Unit Record File, Queensland Hospital Admitted Patient Data Collection

\* The numerator was not restricted to Queensland residents, and does not include death of Queensland residents who died in hospital in other States or Territories.

† Excludes those records with the following ICD-10 codes as the cause of deaths: During pregnancy, childbirth, or puerperium (O00-O99); Originating during the perinatal period (P00-P96), Resulting from external causes of morbidity and mortality (V01-Y98).

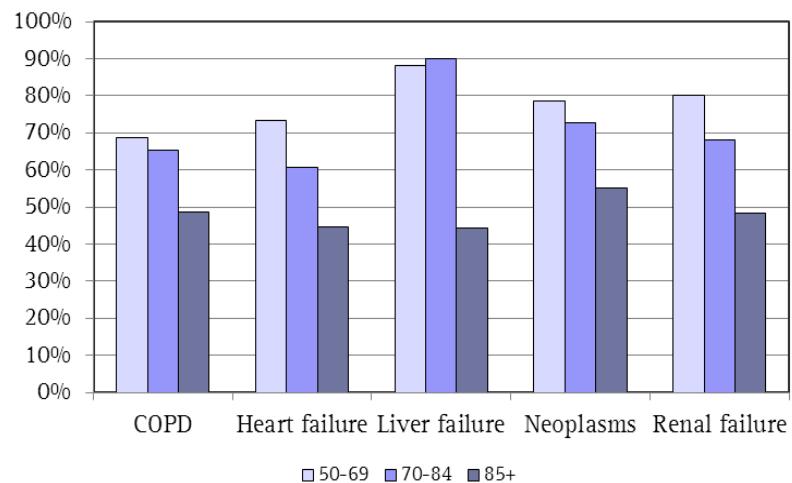
Variation was also evident by underlying cause of death. Figure 2 shows the variation in the proportion of people who died when an admitted patient by underlying cause of death for selected chronic conditions, based on definitions of end of life patient groups developed in Western Australia through extensive consultation with health professionals and others involved in the care of dying people<sup>9‡</sup>. While more than 84% of patients who died of liver failure spent their last moments as an admitted patient, only 51% of people who died of heart failure died when an admitted patient.

There were also variations in the proportion of people who died on the day of their admission to hospital. While approximately 9.8% of patients who died of chronic obstructive pulmonary disease (COPD) died on the day they were admitted for their last hospital stay, the comparative figure for patients who died of neoplasms was 3.4% (Table 1). Overall for the selected chronic diseases analysed, each had a higher proportion of deaths in the first three days (16.6% – 32.6%) than those people whose cause of death was neoplasm (15.4%).

The median lengths of stay for the last hospital admission for the analysed conditions ranged from 5 days to 11 days respectively.

Of the chronic diseases analysed, less than 30% died in a palliative care episode; COPD was the lowest at approximately 12% compared to 55% of neoplasm patients (Table 2). While this does not take co-existing conditions into consideration, the results illustrate the differences in the type of hospital care utilisation and provision for different patient cohorts in their final moments, particularly specialist palliative care services. These results are consistent with previous studies which have shown that palliative care services are under-utilised by/not accessible to non-cancer patients<sup>10 11</sup>. Further analysis on this topic is currently being undertaken and a follow-up report will investigate hospital re-admission near the end of life<sup>12</sup>.

**Figure 2. Proportion of people who died as an admitted patient by cause of death and age, Queensland, 2009/10-2010/11**



Source: Queensland Death Registrations, Queensland Cause of Death Unit Record File, Queensland Hospital Admitted Patient Data Collection

<sup>‡</sup> ICD-10 codes were based on McNamara et al<sup>9</sup>. Records with underlying cause of death of I13.2 were counted both in renal failure and heart failure.

**Table 1. Distribution of the length of stay for patients who died as an admitted patient by selected chronic conditions, Queensland 2009/10-2010/11**

Condition		Same day	Second day	Third day	Other	Total	Median length of stay (days)
COPD	Count	132	169	140	910	1,351	5
	%	9.8%	12.5%	10.4%	67.4%	100.0%	
Heart Failure	Count	27	50	29	298	404	7
	%	6.7%	12.4%	7.2%	73.8%	100.0%	
Liver Failure	Count	5	7	6	63	81	10
	%	6.2%	8.6%	7.4%	77.8%	100.0%	
Neoplasms	Count	377	692	638	9,394	11,101	11
	%	3.4%	6.2%	5.7%	84.6%	100.0%	
Renal Failure	Count	9	20	16	226	271	10
	%	3.3%	7.4%	5.9%	83.4%	100.0%	

Source: Queensland Death Registrations, Queensland Cause of Death Unit Record File, Queensland Hospital Admitted Patient Data Collection

**Table 2. Care type for patients who died as an admitted patient by selected chronic conditions, Queensland 2009/10-2010/11**

Condition		Acute	Palliative	Other	Total
COPD	Count	1,139	164	48	1,351
	%	84.3%	12.1%	3.6%	100.0%
Heart Failure	Count	318	68	18	404
	%	78.7%	16.8%	4.5%	100.0%
Liver Failure	Count	53	25	3	81
	%	65.4%	30.9%	3.7%	100.0%
Neoplasms	Count	4,854	6,064	183	11,101
	%	43.7%	54.6%	1.6%	100.0%
Renal Failure	Count	195	59	17	271
	%	72.0%	21.8%	6.3%	100.0%

Source: Queensland Death Registrations, Queensland Cause of Death Unit Record File, Queensland Hospital Admitted Patient Data Collection

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