



Variation in end of life care in Queensland

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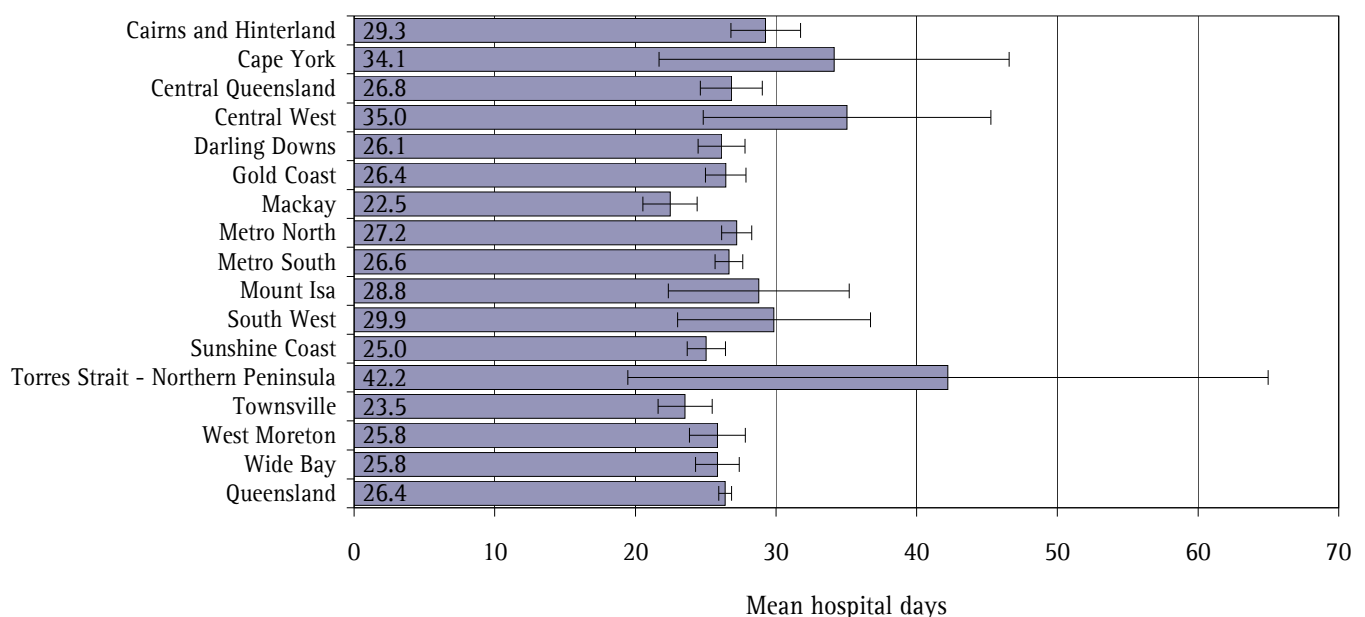
Most Australians would prefer to be cared for, and die, in their own home, rather than in a hospital, hospice or nursing home¹⁻³. However, services (and choice of services) to allow this to occur are not always available to patients. There are an estimated 1,500 community based palliative care services in Australia but there is limited sharing, between services, of models of care that work and that are able to be person-centred rather than system-centred³. Successful services, such as Silver Chain in Western Australia, are able to support approximately 60% of their patients to die at home (more than double the national average)³.

The extent and type of care provided to patients with chronic illnesses near the end of life is a sensitive issue that is of great importance to patients and their families. Given the high financial costs of providing in-hospital, end of life, medical care⁴, alternative care options (where viable) should be investigated and supported.

Recent research in New South Wales (NSW) found that the Health Service Area of usual residence of patients with chronic diseases played a large role in determining the average number of days patients spent in hospital during their last six months of life⁵. The purpose of this report was to investigate whether a similar pattern exists in Queensland.

Death data for Queensland residents who died between 1 January 2008 and 30 June 2010 were obtained from the Queensland Death Registry. These were matched to the Queensland Hospital Admitted Patient Data Collection to obtain all hospital separations for these persons between 1 July 2007 and 30 June 2010. Patients who had either a principal or 'other' diagnosis of one of the following chronic diseases at any time in the study period before death were assigned hierarchically to that disease group. From highest to lowest the hierarchy was: congestive heart failure (CHF; 6,473 persons), coronary artery disease (CAD; 1,296 persons), chronic obstructive pulmonary disease (COPD; 3,327 persons) and diabetes (3,729 persons). The number of days spent in hospital (for stays that extended overnight) during the final six months before death was studied for those with chronic disease (N = 14,825) by Health and Hospital Service (HHS) area of residence at the time of death. It was assumed that all persons died of their chronic disease and that therefore community-based palliative care would have been a viable alternative to hospital visits.

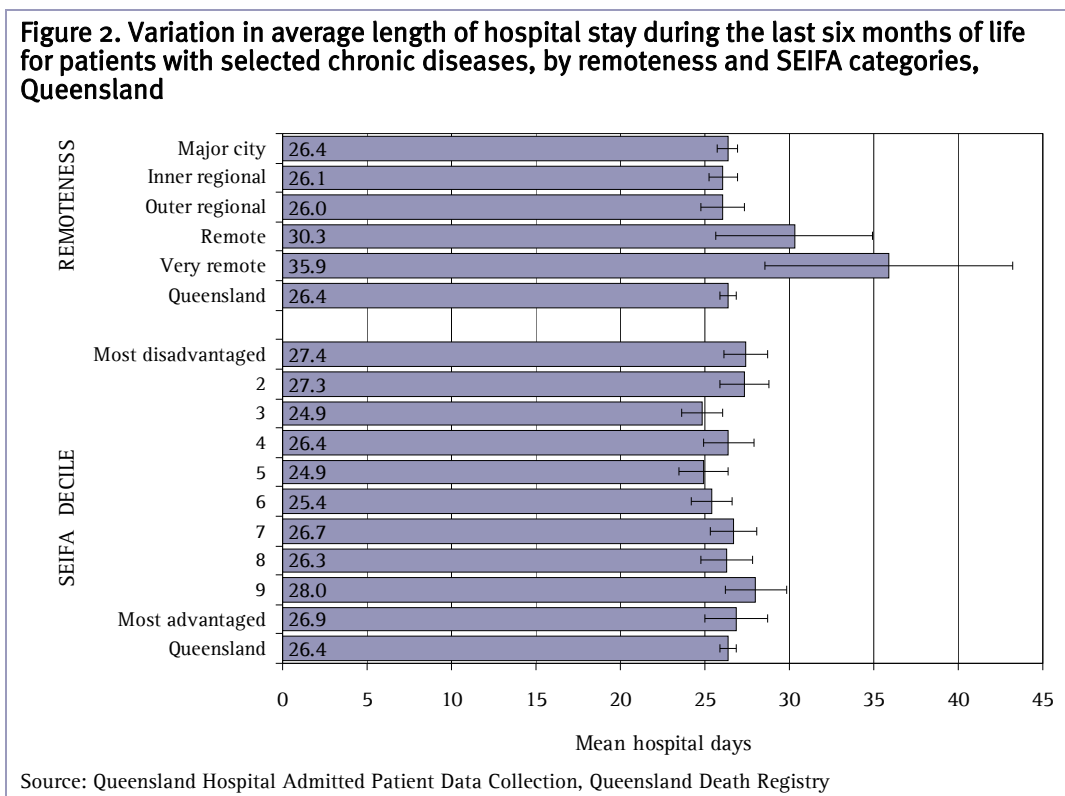
Figure 1. Variation in average length of hospital stay during the last six months of life for patients with selected chronic diseases, by HHS, Queensland



Source: Queensland Hospital Admitted Patient Data Collection, Queensland Death Registry

For all four disease groups and HHSs combined, patients spent an average of 26.4 days (95% CI 25.9-26.8) in hospital in the last six months of life. The variation by HHS for all disease groups combined is shown in Figure 1. Residents of Mackay and Townsville HHSs spent significantly less time in hospital than the Queensland average, staying on average 22.5 days (95% CI 20.5-24.4) and 23.5 days (95% CI 21.6-25.5) respectively. Older age at death did not correlate with longer hospital stays and there was no significant difference between length of stay for Indigenous and non-Indigenous persons (p=0.440).

Notably, residents who lived in remote or very remote areas spent longer in hospital during the last six months of life than those living in cities and regional areas (Figure 2). Residents in remote areas spent on average 30.3 days (95% CI 25.6-34.9) in hospital, 3.9 days longer than the Queensland average, and those in very remote areas spent 35.9 days in hospital (95% CI 28.5-43.3), 9.5 days longer on average than for Queensland overall. The variation between deciles of socio-economic advantage/disadvantage (SEIFA) was less pronounced (Figure 2).



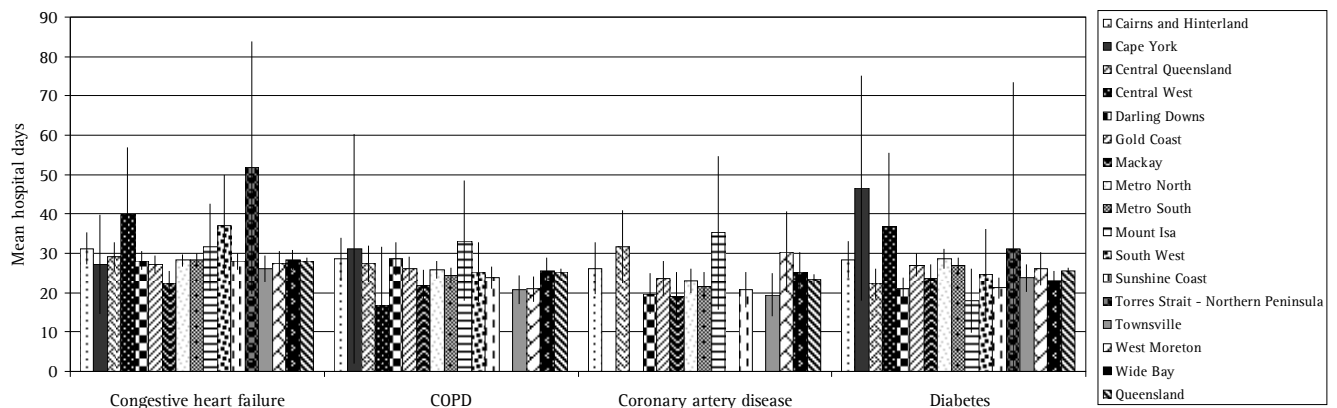
On average, persons with congestive heart failure spent the most time in hospital at the end of life (28.2 days; 95% CI 27.5-28.8), followed by diabetes (25.5 days; 95% CI 24.5-26.4), COPD (25.2 days; 95% CI 24.2-26.2) and CAD (23.2 days; 95% CI 21.7-24.7). Unlike the results seen in NSW, the differences between lengths of stay by HHS were not consistent between chronic disease groups. The variation in length of stay by HHS and chronic disease group is shown in Figure 3. Overall variation within disease groups ranges from 86-160% (Table 1). Mackay residents routinely spent fewer days in hospital than the Queensland average, while Cairns and Hinterland, and Torres Strait-Northern Peninsula residents routinely spent longer in hospital on average. Four districts had significantly shorter average stays than Queensland for a particular chronic disease, as listed in Table 2. The patterns in length of stay by disease group for remoteness and SEIFA were similar to the patterns seen for the four disease groups combined.

Table 1. Variation in end of life hospital days by disease group and HHS of usual residence, Queensland

Disease group	Lowest	Highest	Ratio High/Low
CAD	19.0	35.3	1.86
COPD	16.8	33.2	1.98
CHF	22.4	51.8	2.31
Diabetes	17.9	46.6	2.60

Source: Queensland Hospital Admitted Patient Data Collection, Queensland Death Registry

Figure 3. Variation in hospital days during the last six months of life by HHS and disease group, QLD



Source: Queensland Hospital Admitted Patient Data Collection, Queensland Death Registry

Data in Figure 3 and Tables 1-2 on CAD have been suppressed for four districts in which there were less than 5 deaths for persons previously diagnosed with CAD, and COPD data was suppressed for Torres Strait-Northern Peninsula HHS for the same reason.

Table 2. Districts with shorter end of life hospital stays than Queensland

District	Disease group	No. deaths	Average stay (days; 95% CI)	Reduction (days)
Darling Downs	Diabetes	263	21.1 (18.3-23.9)	4.3
Mackay	CHF	202	22.4 (19.3-25.5)	5.7
Sunshine Coast	Diabetes	288	21.3 (18.6-23.9)	4.2
Townsville	COPD	165	21.1 (17.4-24.8)	5.0

Source: Queensland Hospital Admitted Patient Data Collection, Queensland Death Registry

Differences exist across Queensland in the length of time spent in hospital in the last six months of life. For some HHSs these differences may be partially explained by the district comprising several remote or very remote regions in which the large distances required for travel make it difficult to support patients in their own homes. Although this study is limited by the inability to assess the extent of illness for each patient and the adequacy of specialist services, the variations suggest that opportunities may exist to provide more options for out of hospital care at the end of life.

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