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Trends in palliative care in Australian hospitals

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Contents

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Abbreviations

AACR	Australasian Association of Cancer Registries
ABS	Australian Bureau of Statistics
ACHI	Australian Classification of Health Interventions
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
ALOS	average length of stay
AR-DRG	Australian Refined Diagnosis Related Groups
ARTG	Australian Register of Therapeutic Goods
ASGC	Australian Standard Geographical Classification
ASR	age-standardised rate
COPD	chronic obstructive pulmonary disease
DHFS	Department of Health and Family Services
DoHA	Australian Government Department of Health and Ageing
DVA	Department of Veterans' Affairs
HITH	hospital-in-the-home
ICD	International Statistical Classification of Diseases and Related Health Problems
ICD-9-CM	International Statistical Classification of Diseases, ninth revision, Clinical Modification
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, tenth revision, Australian Modification
IRAD	Index of Relative Socio-economic Advantage and Disadvantage
MBS	Medicare Benefits Schedule
MHPCU	Mental Health and Palliative Care Unit
METeOR	Metadata Online Registry
NCCH	National Centre for Classification in Health
NCP	National Consensus Project for Quality Palliative Care
NHDD	National health data dictionary
NHHRC	National Health and Hospitals Reform Commission
NHMD	National Hospital Morbidity Database
NPCP	National Palliative Care Program
NPHED	National Public Hospital Establishments Database
NSW	New South Wales
NT	Northern Territory
PBS	Pharmaceutical Benefits Scheme
PCA	Palliative Care Australia
PCOC	Palliative Care Outcomes Collaboration
Qld	Queensland

RACS	residential aged care service
SA	South Australia
SEIFA	Socio-Economic Indexes for Areas
Tas	Tasmania
Vic	Victoria
WA	Western Australia
WHO	World Health Organization
WPCA	Worldwide Palliative Care Alliance

Symbols

. .	not applicable
%	per cent
n.p.	not published

Executive summary

Trends in palliative care in Australian hospitals provides a comprehensive picture of the nature and extent of palliative care separations in Australian public and private hospitals. In this report, a 'palliative care separation' is defined as an episode of admitted patient care for which the principal clinical intent of the care was palliation during part or all of that separation. Such care may have been delivered in a hospice, a dedicated palliative care ward or in other admitted patient beds in a hospital.

Over 50,000 palliative care separations in 2008–09

In 2008–09, there were 52,347 palliative care separations in Australian hospitals. Patients aged 75 years and over accounted for almost half (49%) of these separations, while those aged under 55 years accounted for 12%.

Palliative care separations accounted for a total of 653,468 patient days in 2008–09, with an average length of stay of 12.5 days per separation. This is almost four times longer than the average length of stay of 3.2 days for all hospital separations.

Clear differences by state and territory in the age-standardised rate of palliative care separations were noted. As well, separation rates for palliative care were higher than average for males, Indigenous Australians and people living in areas of lower socioeconomic status.

Cancer patients comprised the majority of those using palliative care services in admitted patient settings—a principal diagnosis of cancer was recorded for 60% of the palliative care separations. When both principal and additional diagnoses were taken into account, this percentage increased to 77% of the palliative care separations.

Substantial increase in palliative care separations over time

Over the 10-year period from 1999–00 to 2008–09, the number of palliative care separations in admitted patient care increased by 56%. Much of this increase was in public hospitals. Meanwhile, the average length of stay in hospital per palliative care separation remained fairly steady over the period.

Increase in palliative care before death in hospital

Of all deaths in Australia in 2008–09, just over half (52%) occurred in an admitted patient setting within a hospital.

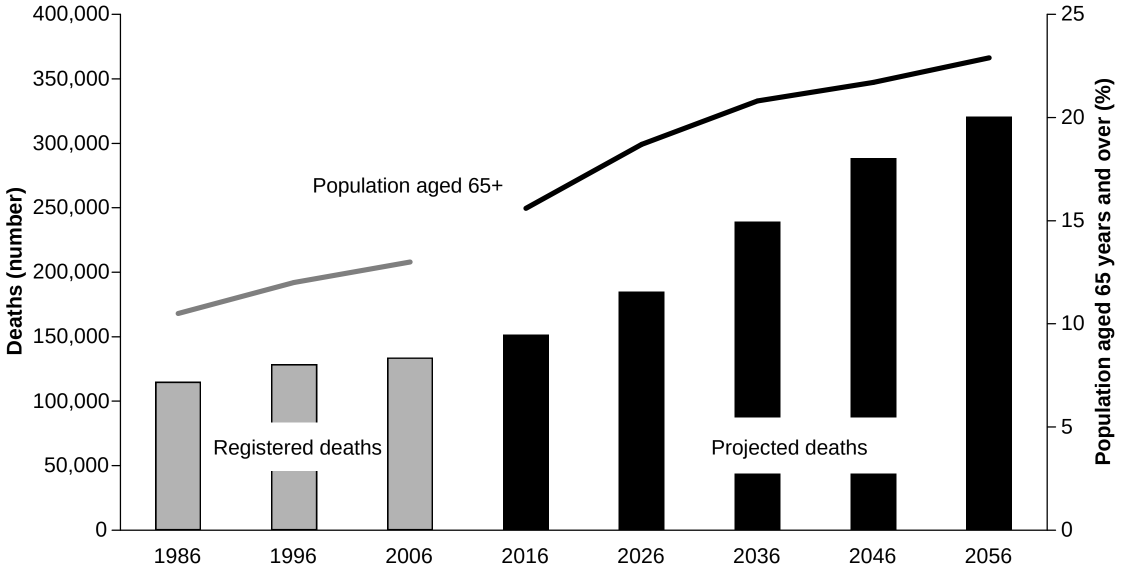
During the period from 1999–00 to 2008–09, there was an increase (from 21% to 34%) in the proportion of people who were palliative care patients during the hospital stay that ended with their death.

In 2008–09, almost 7 out of 10 (69%) patients with cancer as the principal diagnosis were palliative care patients during the hospital stay that ended with their death. This is higher than the proportion observed for a number of other diseases.

Those cancer patients whose usual residence was in a *Major city* and those living in areas of highest socioeconomic status were relatively more likely than other cancer patients to have been a palliative care patient during the hospital stay that ended with their death. In contrast, there was no marked difference by Indigenous status and, contrary to previous research, older cancer patients were no less likely than their younger counterparts to have been a palliative care patient during their final hospitalisation.

1 Introduction

An increase in demand for palliative care is expected to be one of the many consequences of the continued growth and ageing of Australia's population. As shown in Figure 1.1, both the number of deaths and the proportion of Australians aged 65 years and over are projected to increase dramatically over upcoming decades. Projections indicate that 1 in 4 Australians could be aged 65 years and over by 2056, up from 1 in 8 in 2009, and the annual number of deaths in 2056 could be more than double the number in 2009 (ABS 2008b, 2010b). In addition, the pattern of disease at the end of life is changing so that an increasing proportion of people are expected to suffer and eventually die from chronic progressive illnesses (Davies & Higginson 2004; Lynn & Adamson 2003). Lastly, there is also an increasing focus on the appropriateness of palliative care, the preferred place of such care, and equity of access (e.g. DoHA 2010a; NHHRC 2009; Productivity Commission 2011). All of these factors are expected to lead to the need for more, and a greater diversity of, palliative care services.



Note: Data for this figure are shown in Appendix Table A1.1. The projected data shown are from 'Series B'.

Sources: ABS 2008a, 2008b, 2010a, 2010b.

Figure 1.1: Deaths and proportion of population aged 65 years and over, observed (1986 to 2006) and projected (2016 to 2056)

What is palliative care?

Although the term 'palliative care' has been used since the mid-1970s, much has been written in the international literature about the fact that there is no consensus on the definition of the term and, consequently, a variety of definitions are used (Billings 1998; Doyle 2003; Hanks 2008; Pastrana et al. 2008; von Gunten 2007). To complicate matters further, other terms—such as 'hospice', 'end-of-life care' and 'specialist palliative care'—are at times used interchangeably with the term palliative care'. As part of a review of terminology used globally, Pastrana and others (2008) noted that palliative care definitions may include and/or differ on one or more of the following dimensions:

- the theoretical principles underpinning care provision (for example, impact on timing of death; equity of care)
- the goals of care (for example, quality of life; relief from suffering)
- the target group (for example, patient population according to age, type and/or stage of disease; role of the family; when palliative care should commence)
- the structure of care provision (for example, individual or team-based; number of disciplines and health-care settings involved)
- the tasks to be undertaken (for example, control of symptoms; comprehensive care)
- the expertise of the care providers (for example, their knowledge, skills and attitudes).

Similarly, a variety of definitions of palliative care are used across Australia (e.g. PCA 2008; PCOC 2009; SA Health 2009). While recognising this diversity, the national Palliative Care Working Group (formerly the Palliative Care Intergovernmental Forum) has adopted the definition put forward by the World Health Organization (see Box 1.1) as the national definition of palliative care (DoHA 2010a). Some jurisdictions also refer to this definition in their palliative care strategies (e.g. ACT Health 2007; NSW Health 2010).

Box 1.1: The World Health Organization definition of palliative care

Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.

Palliative care:

- provides relief from pain and other distressing symptoms;
- affirms life and regards dying as a normal process;
- intends neither to hasten or postpone death;
- integrates the psychological and spiritual aspects of patient care;
- offers a support system to help patients live as actively as possible until death;
- offers a support system to help the family cope during the patients illness and in their own bereavement;
- uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated;
- will enhance quality of life, and may also positively influence the course of illness;
- is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications.

Source: World Health Organization 2002.

Palliative care as defined in admitted patient data collections

While the WHO definition outlines the basic principles for the delivery of palliative care in all health-care settings (NCP 2009; WPCA 2009), a more specific definition of palliative care is used for the collection of admitted patient data in Australian hospitals. This definition, which is described in the *National health data dictionary* (NHDD) (AIHW 2010b), allows for the standard coding and collection of data pertaining to palliative care in clinical settings and, in turn, is the definition that is applicable for the purposes of this report. The definition of palliative care in the NHDD is as follows:

> Palliative care is care in which the clinical intent or treatment goal is primarily quality of life for a patient with an active, progressive disease with little or no prospect of cure. It is usually evidenced by an interdisciplinary assessment and/or management of the physical, psychological, emotional and spiritual needs of the patient; and a grief and bereavement support service for the patient and their carers/family. It includes care provided:
>
> - in a palliative care unit
> - in a designated palliative care program, or
> - under the principal clinical management of a palliative care physician or, in the opinion of the treating doctor, when the principal clinical intent of care is palliation.

Scope of this report

In Australia, palliative care is delivered in a range of health-care settings. Such settings include hospitals (some of which include hospices), residential aged care facilities, the home and other community settings, with the exact model of care provision differing from one jurisdiction to another (DoHA (WestWood Spice) 2005).

This report pertains to palliative care provided to admitted patients in Australian hospitals as recorded in the National Hospital Morbidity Database (NHMD) (see Appendix C for further information about this database). Palliative care in the admitted patient setting may be provided in a hospice, in a dedicated palliative care ward or in beds distributed throughout a hospital.

Within the admitted patient setting, many patients receive some amount of palliative care. However, information on palliative care that is captured in the NHMD pertain to a subset of such patients—that is, those for whom palliation was a substantial component of the care provided. Such separations were identified in the NHMD using information from the 'Care type' and diagnosis data items (see Box 1.2 and Appendix B for further information).

This report does not cover palliative care provided in settings other than in admitted patient care. While the importance of having a comprehensive, national data collection on community-based palliative care services is well recognised (AIHW 2004a; Jellie & Shaw 1999), such a collection does not currently exist. Thus, the data in this report describe a subset of all palliative care services delivered in Australia. While the relative balance between the provision of palliative care services in the admitted patient setting and other settings is unknown and is likely to vary across the jurisdictions, available data suggest that a substantial proportion of palliative care provided in Australia occurs within the admitted patient setting (PCOC 2010).

Box 1.2: What is covered in this report?

The report describes palliative care separations in admitted patient settings in Australian hospitals. The palliative care may have been delivered in a hospice, a dedicated palliative care ward or in other admitted patient beds in a hospital.

In this report, a palliative care separation is defined as a separation for which palliation was a substantial component of the care provided. Such separations were identified as those for which the principal clinical intent of the care was palliation during part or all of the separation, as evidenced by a code of *Palliative care* for the 'Care type' and/or diagnosis data items in the NHMD.

This report makes no comment on the appropriateness of a hospital setting versus other settings as a place for palliative care and/or to die. Instead, it presents details on admitted patient palliative care in Australian hospitals, recognising that admissions to hospital for palliative care are associated with an often complex combination of factors, including disease-related factors, availability of carers and other health-care services, and patient/carer preferences.

Structure of this report

The first AIHW report on admitted patient palliative care, which presented data for 1999–00, was released in 2003 (AIHW 2003). This second report differs substantially from the first report in the following ways. First, an examination of change over a 10-year period is included in this report, with data presented for 1999–00 to 2008–09. Second, and as explained more fully in the 'Data sources' section, the approach used to identify palliative care separations for this report differs from the approach used for the 2003 report. Third, more methodological details are provided, along with additional data interpretation. Lastly, this report has been restructured to improve readability and to provide more in-depth analyses. It presents information on five key topics:

- the number of admitted patient palliative care separations in 2008–09 (Chapter 2)
- the characteristics of those who received palliative care, including both demographic and clinical characteristics (Chapter 3)
- the nature of the palliative care separations, such as what care was provided and the main funding source (Chapter 4)
- change over time in the number of admitted patient palliative care separations and the average length of stay in hospital (Chapter 5)
- the proportion of people who died while in admitted patient care who were palliative care patients (Chapter 6).

The remainder of this chapter provides contextual information for the analyses that follow and covers three topics:

- the national framework for palliative care
- the data sources used for this report
- key points to consider when interpreting the information presented in this report.

National framework for palliative care

National Palliative Care Program

While the Australian Government does not directly fund or manage the provision of specialist palliative care services, it funds palliative care activities in two ways.

First, the Australian Government has had a National Palliative Care Program (NPCP) in place since 1993 (DHFS 1998). The aim of the program is to improve the standards of palliative care through:

- providing increased support and training
- adopting a national approach
- encouraging the use of quality medicines
- funding research that improves evidence-based care (DoHA 2010b).

The NPCP budget totalled over $25 million in 2010–11 (DoHA 2009). Examples of some of the activities funded under the NPCP are detailed in Box 1.3.

Box 1.3: Examples of projects funded under the National Palliative Care Program

Local Palliative Care Program: funds organisations to provide improved care and support to people requiring palliative care, and their families, in their communities. Each round of funding for this program has had a different focus, with the fifth round of funding (2010–11) focused on projects with innovative approaches to palliative care for people with mental illness, Alzheimer disease or other dementias.

National Standards Assessment Program: a quality improvement program available for all specialist palliative care services across Australia. It involves services conducting a self-assessment against palliative care standards, and developing and implementing a quality improvement action plan.

Palliative Care Clinical Studies Collaborative: manages multi-site clinical drug trials in order to gather the evidence required to register palliative care medicines on the Australian Register of Therapeutic Goods (ARTG) and for possible listing on the Pharmaceutical Benefits Scheme (PBS).

Palliative Care Knowledge Network (known as CareSearch): an online resource for palliative care information of relevance to health professionals, patients, researchers, carers and families <www.caresearch.com.au>.

Palliative Care Outcomes Collaboration (PCOC): supports services to compare and consistently measure the quality and outcomes of the palliative care they provide by benchmarking for continuous improvement.

Sources: CareSearch 2011; DoHA 2009, 2010b, 2011b.

Second, the Australian Government provides financial assistance to state and territory governments to help them operate palliative care services as part of their responsibilities in providing health and community services. In 2008–09, the Australian Government provided $500 million to the states and territories for sub-acute care, including palliative care. This funding will be used over the period 2009–10 to 2012–13 to expand service provision. From

1 July 2010, the Australian Government is providing an additional $1.63 billion to fully fund the delivery, by 2013–14, of an additional 1,316 new sub-acute places, including palliative care places.

National Palliative Care Strategy

In 2010, the Australian Government released its second national palliative care strategy: *The National Palliative Care Strategy: supporting Australians to live well at the end of life* (DoHA 2010a). This strategy, which was endorsed by Australian Health Ministers, updates the first national palliative care strategy, which was released in 2000 (DoHA 2000). In line with the first strategy, the 2010 strategy represents the commitment of the Australian Government and the State and Territory governments to build on the work occurring at the jurisdictional level. The overall aim of the 2010 strategy is to promote a coordinated and consistent approach to the delivery of palliative care across Australia.

The strategy addresses palliative care provided in specialist and other health-care settings, as well as end-of-life issues. Four goal areas are articulated and it is suggested that these areas need to be the focus of the whole of the health and human services sector (not just those providing specialist palliative care) in order to meet the rising demand for high-quality palliative care across the nation. The four goal areas are:

- awareness and understanding
- appropriateness and effectiveness
- leadership and governance
- capacity and capability.

Each goal area has corresponding goal statements, action areas and measures of success. While the 2010 strategy does not yet have performance indicators to monitor its progress, work has begun on developing these.

Data sources

The key data source for this report is the National Hospital Morbidity Database (NHMD). This database, which is compiled by the AIHW, includes summary records for patients admitted to public and private hospitals in Australia. Coverage of the NHMD is essentially complete, as detailed in Appendix C.

Data for the financial years from 1999–00 to 2008–09 are presented in this report. The year of 1999–00 was chosen as the initial year for two reasons. First, this was the year covered in the first AIHW palliative care report (AIHW 2003), when a different method of identifying palliative care separations was used. In that report, palliative care separations were identified based solely on information from the 'Care type' data item; those data are not comparable with the data presented in this report. Thus, in this report, data are provided back to 1999–00 to allow for differences from that year forward to be examined, using a consistent method of identifying palliative care separations.

Second, 1999–00 was the first full year for which the same classification system (i.e. the tenth revision of the International Statistical Classification of Diseases and Related Health Problems, Australian Modification (ICD-10-AM)) had been used by all jurisdictions to code diagnoses. This report covers data up to the year of 2008–09 since this was the most up-to-date collection of NHMD available at the time of preparing this report.

Information is provided in this report on the number of *separations* for which palliation was a substantial component of the care provided, not the number of *people* who received such care. This is because the NHMD contains records for each separation, not for each patient. Thus, patients who separated more than once during a financial year will have more than one record in the database. Note, though, that the data presented in Chapter 6 is an exception. Since the focus of that chapter is on persons who died while in hospital, the number of separations and the number of people is equal in those data.

Further information about the NHMD is provided in Appendix C.

Apart from the NHMD, a number of other data sources were used to prepare this report, including the AIHW's National Public Hospital Establishments Database, and the Australian Bureau of Statistics' (ABS) mortality data and population estimates. Information about these data sources can be found in Appendix C.

Data interpretation

As noted earlier, this report provides information on admitted patient separations for which palliative care was a substantial component of the care provided. Such separations were identified as those for which the principal clinical intent of the care was palliation during part or all of the separation as evidenced by a code of *Palliative care* for the 'Care type' and/or diagnosis data items in the NHMD (see Appendix B).

Specific classification and coding rules apply to the assignment of the code of *Palliative care* for the 'Care type' and diagnosis data items. As detailed in the AIHW's technical paper on the identification of palliative care separations in admitted patient data (AIHW 2011b), variation in the way that these coding rules are interpreted and applied across the jurisdictions is evident. Other, less evident differences in the coding of *Palliative care* across and within jurisdictions may also exist. How the *actual* number of palliative care separations across Australia compares with the number of such separations that were recorded as such in the NHMD is unknown. Recent Australian research suggests that the number of palliative care separations identified in hospital data collections may be an underestimation of the actual number of such separations (To et al. 2011).

Note that this report pertains only to the *provision* of palliative care services within the admitted patient setting, not the *demand* for such services. There is no data item in the NHMD that allows one to identify all admitted patients who could benefit from the provision of palliation as a substantial component of their care.

A summary of key terms of relevance to the data presented in this report is provided in Box 1.4. In addition, the Glossary provides definitions of other terms used in this report with which readers may not be familiar.

To take into account differences in the age structure and size of the population between groups (such as by jurisdiction, by Indigenous status or across time), age-standardised rates are presented in this report. This is especially important in regard to palliative care since the likelihood of requiring this form of care increases with age. In this report, rates have been standardised to the Australian population at 30 June 2001 and are expressed per 10,000 persons. Further information on age standardisation and other methodological issues can be found in Appendix D.

Box 1.4: Summary of key terms

Admitted patients are patients who undergo a hospital's formal admission process to receive treatment and/or care.

A **separation** refers to an episode of admitted patient care which can be either a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change of care type (for example, from acute care to palliative care).

Most of the data on the use of hospitals by admitted patients is based on information provided at the end of the patients' episodes of care—that is, when they '**separate'** from the hospital—rather than at the beginning. This is because the length of stay and the procedures carried out are then known and the diagnostic information is more accurate.

Care type refers to the overall nature of a clinical service provided to an admitted patient during an episode of care. Examples of care types are: *Acute care*, *Rehabilitation care*, *Palliative care* and *Geriatric evaluation and management*.

The **principal diagnosis** is the diagnosis established after study to be chiefly responsible for occasioning the patient's episode of admitted patient care. An **additional diagnosis** is a condition or complaint that either coexists with the principal diagnosis or arises during the episode of care.

Palliative care separations are defined, for the purposes of this report, as those separations for which palliative care was a substantial component of the care provided. Such separations were identified as those for which the principal clinical intent of the care was palliation during part or all of the separation, as evidenced by a code of *Palliative care* for the 'Care type' and/or diagnosis data items in the NHMD.

Patient day means the occupancy of a hospital bed (or chair in the case of some same-day patients) by an admitted patient for all or part of a day. The **length of stay** for an overnight patient is calculated by subtracting the date the patient is admitted from the date of separation and deducting any days the patient was 'on leave'. A **same-day patient** (that is, a patient who is admitted and separated from the hospital on the same day) is allocated a length of stay of 1 day.

Although differences in jurisdictional size and age structure are taken into account when age-standardised rates are considered, other demographic differences exist between states and territories such as the distribution of the population by remoteness of usual residence, socioeconomic status and Indigenous status. These differences may affect the nature of health-care use, including palliative care use, within and across jurisdictions. Furthermore, the delivery of palliative care and all other health services are undertaken within the complex and diverse Australian health system. For these reasons, observed differences in jurisdictional data about palliative care may reflect *real* differences in palliative care provision, 'all else being equal', and/or differences in some or all of the following factors:

- service delivery practices across jurisdictions
- admitted patient admission and separation practices
- the types of establishments categorised as hospitals
- demographic characteristics of the population.

The interpretation of differences between states and territories should be undertaken with these caveats in mind.

In this report, unless otherwise specified, jurisdictional data are presented according to the state or territory that *delivered* the service, not the state or territory in which the patient usually resided. Some jurisdictions provide health care—including palliative care services—to patients who usually reside in another jurisdiction. This is particularly the case for the Australian Capital Territory as substantial numbers of residents living in surrounding areas of New South Wales use services in the Australian Capital Territory. In 2008–09, for example, 16% of admitted patient palliative care separations in public hospitals in the Australian Capital Territory were for patients who usually resided in New South Wales (see Appendix Table A1.2). This cross-border flow of patients, especially in relation to the Australian Capital Territory, should also be taken into account when comparing rates between jurisdictions.

A number of different classifications are referred to in this report, such as the ICD-10-AM and the ACHI (Australian Classification of Health Interventions). Information about these classifications is provided in Appendix E.

2 Palliative care in 2008–09

An overview of palliative care separations within admitted patient care in 2008–09 is presented in this chapter. The overall number and length of such separations is described, as are details on where these separations occurred (considering both the sector and the state and territory of the hospital). For comparison purposes, corresponding data on separations for all reasons (that is, all admitted patient separations) are also presented; these data are shaded in grey in the tables. As noted in Chapter 1, a 'palliative care separation' is defined throughout this report as a separation for which palliation was a substantial component of the care provided.

How many palliative care separations were there?

In 2008–09, there were 52,347 palliative care separations in Australian hospitals (Table 2.1). In that same year, there were over 8.1 million separations for all reasons. Thus, 6 out of every 1,000 separations (0.6%) in Australian hospitals were for palliative care.

Table 2.1: Palliative care separations by sex, and all separations, all hospitals, 2008–09

	Palliative care separations			Separations for all reasons
	Males	**Females**	**Total**	
Number	27,937	24,410	52,347	8,148,448
% of palliative care separations	53.4	46.6	100.0	. .
% of separations for all reasons	0.34	0.30	0.64	100.0
Age-standardised rate[(a)]	26.5	18.9	22.2	3,636.2

(a) The rates were age standardised to the Australian population as at 30 June 2001 and are expressed per 10,000 persons (see Appendix D).

Source: National Hospital Morbidity Database, AIHW.

Males accounted for 53% of palliative care separations and females for the remaining 47%. The age-standardised rate of palliative care separations among males was 26.5 per 10,000 males. This is higher than the rate for females of 18.9 per 10,000 females.

The provision of palliative care by age group is shown in Table 2.2. People aged 75 years and over accounted for just under half (49%) of the palliative care separations, while those aged 65 to 74 years accounted for 23%, those aged 55 to 64 years for 16% and those aged under 55 years for the remaining 12%. The average (mean) age of those receiving palliative care was 71.7 years. As would be expected, this is considerably older than the average age of 52.9 years for separations for all reasons.

As noted earlier, 0.6% of all separations among admitted patients were for palliative care. This percentage varied substantially by age, with the highest proportions observed among the oldest age groups. That is, 1 in 50 (2.1%) separations for those aged 85 years and over was for palliative care, as was 1 in 76 (1.3%) for those aged 75 to 84 years.

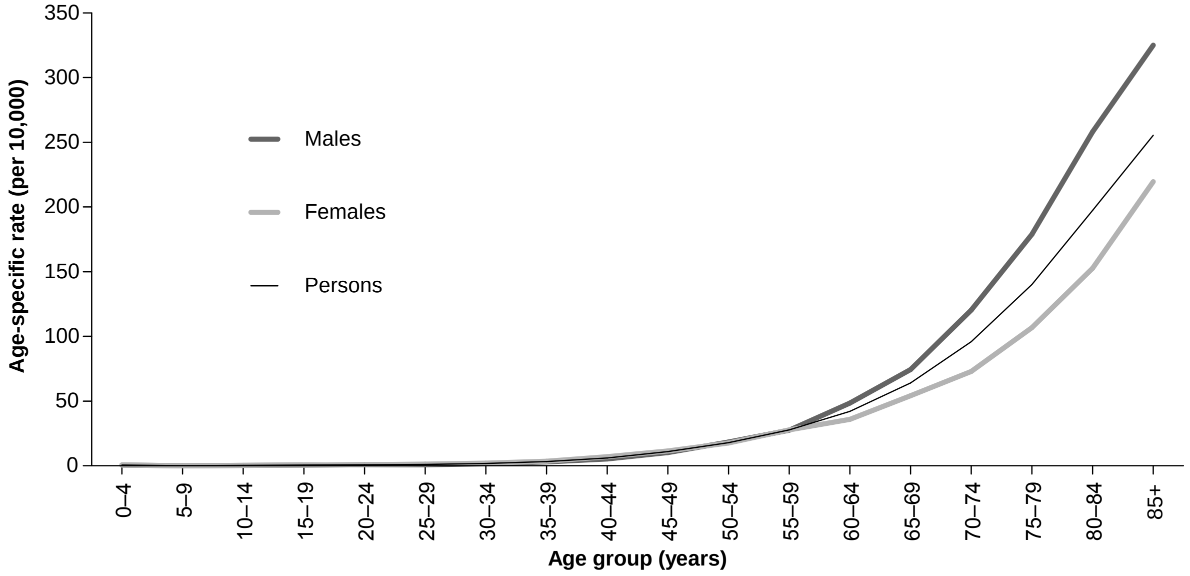
While Table 2.2 provides details on the number of palliative care separations for people in different age groups, it does not take into account the number of people at those ages in the overall population. To make such a comparison, age-specific rates for 2008–09 are shown in Figure 2.1. These rates show the number of palliative care separations for the specified age groups relative to the total population in that age group.

Table 2.2: Palliative care separations by age and sex, and all separations, all hospitals, 2008–09

	Palliative care separations						
	Number			Percentage			% of separations for all reasons
Age (years)	Males	Females	Total	Males	Females	Total	
0–14	59	55	114	0.2	0.2	0.2	0.02
15–24	90	90	180	0.3	0.4	0.3	0.03
25–34	165	250	415	0.6	1.0	0.8	0.05
35–44	635	817	1,452	2.3	3.3	2.8	0.16
45–54	2,079	2,160	4,239	7.4	8.8	8.1	0.41
55–64	4,547	3,865	8,412	16.3	15.8	16.1	0.64
65–74	7,038	4,873	11,911	25.2	20.0	22.8	0.90
75–84	9,200	6,901	16,101	32.9	28.3	30.8	1.32
85+	4,124	5,399	9,523	14.8	22.1	18.2	2.08
Total	**27,937**	**24,410**	**52,347**	**100.0**	**100.0**	**100.0**	**0.64**
Average (mean) age	*71.6*	*71.8*	*71.7*	. .	. .	. .	*52.9*

Source: National Hospital Morbidity Database, AIHW.

As expected, the age-specific rate of palliative care separations increased with age, with the highest rate occurring among those in the 85 years and over age group. For that age group, there were 255.5 admitted patient palliative care separations per 10,000 persons. There was a substantial difference in the rates by sex, however, with the age-specific rate for males aged 85 years and over equal to 325.1 (per 10,000 males) compared with a corresponding rate of 219.6 (per 10,000 females) for females.



Note: Data for this figure are shown in Appendix Table A2.1.

Source: National Hospital Morbidity Database, AIHW.

Figure 2.1: Age-specific rates of palliative care separations by sex, all hospitals, 2008–09

Where was the palliative care provided?

Public versus private hospitals

Table 2.3 presents data on where the palliative care separations occurred in terms of whether the hospital was private or public, and the jurisdiction in which the hospital was located. In order to ensure the confidentiality of information, data for private hospital separations in the Australian Capital Territory, the Northern Territory and Tasmania are not shown (see Appendix C for further information). As noted in Chapter 1, observed differences in the number of palliative care separations across the states and territories may be due to a range of factors, including differences in the characteristics of the population, and health-care systems and delivery practices.

In 2008–09, most (85%) of the admitted patient palliative care separations occurred in public hospitals (44,405 separations) rather than in private hospitals (7,942 separations) (Table 2.3). In comparison, a lower proportion—60%—of separations for all reasons occurred within public hospitals in the same year.

Similar to the national picture, the majority of palliative care separations took place in public (rather than private) hospitals in New South Wales (94%), Victoria (91%), South Australia (79%) and Queensland (74%). In contrast, in Western Australia, the majority of palliative care separations occurred in private hospitals (63%) rather than in public hospitals (37%).

The largest number of palliative care separations that occurred in public hospitals took place in New South Wales (18,591), followed by Victoria (13,362) and Queensland (5,457). However, the highest age-standardised rate is observed for the Northern Territory, with a rate of 64.7 palliative care separations in public hospitals per 10,000 residents. This rate is substantially higher than that for public hospitals in other jurisdictions, including the next highest rate which was for New South Wales (23.4 per 10,000 residents). This was followed closely by a rate of 23.1 for the Australian Capital Territory and 22.4 for Victoria. Western Australia had the lowest age-standardised rate of palliative care separations within public hospitals, with a rate of 5.7 palliative care separations per 10,000 residents.

While Western Australia had the lowest rate of palliative care separations within public hospitals, it had the highest rate of such separations within private hospitals, with a rate of 9.9 palliative care separations per 10,000 residents. This rate was more than double the next highest rates which were observed for South Australia (4.5) and Queensland (4.4).

Type of public hospital

For public hospitals, information is available on the type of hospital that provided the care. The categories—also referred to as peer groups—indicate broadly similar groups of public hospitals in terms of geographical location, and the type and volume of admitted patient activity. Further information about the peer groups, and the types of hospitals included within each group, can be found in Appendix D.

Nationally, almost half (49%) of palliative care separations in public hospitals occurred in *Principal referral* hospitals, while only 4% occurred in *Small acute* hospitals (Table 2.4). The rest of the palliative care separations in public hospitals were fairly evenly distributed among the remaining four types of hospitals (all at 12%). By comparison, a higher proportion of public hospital separations for all reasons took place within *Principal referral* hospitals (64%) and a lower proportion within *Sub-acute and non-acute* hospitals (2%).

Table 2.3: Palliative care separations by states and territories, and all separations, public and private hospitals, 2008–09

	Palliative care separations									Separations for all reasons
	NSW	Vic	Qld	WA	SA	Tas[(a)]	ACT[(a)]	NT[(a)]	Total[(a)]	
Public hospitals										
Number	18,591	13,362	5,457	1,246	3,389	916	699	745	44,405	4,891,023
Proportion	93.9	90.5	73.7	36.6	78.9	n.p.	n.p.	n.p.	84.8	60.0
Age-standardised rate(b)	23.4	22.4	12.4	5.7	17.1	15.3	23.1	64.7	18.9	2,193.1
Private hospitals										
Number	1,211	1,408	1,949	2,156	906	n.p.	n.p.	n.p.	7,942	3,257,425
Proportion	6.1	9.5	26.3	63.4	21.1	n.p.	n.p.	n.p.	15.2	40.0
Age-standardised rate(b)	1.5	2.3	4.4	9.9	4.5	n.p.	n.p.	n.p.	3.4	1,443.1
All hospitals										
Number	19,802	14,770	7,406	3,402	4,295	n.p.	n.p.	n.p.	52,347	8,148,448
Proportion	100.0	100.0	100.0	100.0	100.0	n.p.	n.p.	n.p.	100.0	100.0
Age-standardised rate(b)	24.9	24.7	16.7	15.6	21.5	n.p.	n.p.	n.p.	22.2	3,636.2

(a) To ensure confidentiality of information, data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory are not shown. 'Total' includes data for all jurisdictions.

(b) The rates were age standardised to the Australian population as at 30 June 2001 and are expressed per 10,000 persons (see Appendix D).

Source: National Hospital Morbidity Database, AIHW.

Table 2.4: Palliative care separations by states and territories, and all separations, by type of public hospital, 2008–09

	Palliative care separations									Separations for all reasons
Public hospital type[(a)]	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Total**	
Number										
Principal referral	8,542	5,741	3,822	233	1,582	472	699	706	21,797	3,119,638
Large	1,924	1,828	240	294	n.p.	n.p.	. .	. .	5,159	642,226
Medium	1,787	1,982	750	218	621	. .	. .	. .	5,358	544,807
Small acute	733	437	156	109	251	47	. .	39	1,772	182,199
Sub-acute and non-acute	3,455	652	341	325	106	294	. .	. .	5,173	119,227
Other	2,150	2,722	148	67	n.p.	n.p.	. .	. .	5,146	282,907
All public hospitals[(b)]	*18,591*	*13,362*	*5,457*	*1,246*	*3,389*	*916*	*699*	*745*	*44,405*	*4,891,023*
Proportion										
Principal referral	45.9	43.0	70.0	18.7	46.7	51.5	100.0	94.8	49.1	63.8
Large	10.3	13.7	4.4	23.6	n.p.	n.p.	. .	. .	11.6	13.1
Medium	9.6	14.8	13.7	17.5	18.3	. .	. .	. .	12.1	11.1
Small acute	3.9	3.3	2.9	8.7	7.4	5.1	. .	5.2	4.0	3.7
Sub-acute and non-acute	18.6	4.9	6.2	26.1	3.1	32.1	. .	. .	11.6	2.4
Other	11.6	20.4	2.7	5.4	n.p.	n.p.	. .	. .	11.6	5.8
All public hospitals[(b)]	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

(a) See Appendix Table D.4 for a description of the public hospital types (also known as peer groups).

(b) Includes those separations for which the hospital type was not reported.

Source: National Hospital Morbidity Database, AIHW.

Considerable variability in the distribution of palliative care separations by hospital type is observed across the states and territories. In Queensland, for example, 70% of palliative care separations in public hospitals took place within *Principal referral* hospitals, compared with 19% in Western Australia. In Tasmania and Western Australia, more than 1 in 4 palliative care separations (32% and 26%, respectively) took place within *Sub-acute and non-acute* hospitals compared with correspondingly smaller proportions in these types of hospitals in each of the other jurisdictions.

How long did patients stay?

Data on the total number of days that patients stayed in hospital during any one separation distinguish between 'same-day' and 'overnight' separations. Same-day separations are those in which the patient was admitted and discharged on the same day. Conversely, overnight separations are those in which the patient was admitted and discharged on a different day, and thus the separation involved at least one overnight stay. When calculating the number of patient days, same-day separations are allocated a length of stay of 1 day.

Of the 52,347 palliative care separations in 2008–09, most (94%) included an overnight stay; this compares with less than half (43%) of separations for all reasons (Table 2.5). The proportion of palliative care separations that involved an overnight stay was 94% in public hospitals and 92% in private hospitals.

Table 2.5: Palliative care separations and all separations by same-day and overnight status, public and private hospitals, 2008–2009

	Palliative care separations				Separations for all reasons			
	Same-day		Overnight		Same-day		Overnight	
	Number	%	Number	%	Number	%	Number	%
Public hospitals	2,703	6.1	41,702	93.9	2,460,879	50.3	2,430,144	49.7
Private hospitals	678	8.5	7,264	91.5	2,183,666	67.0	1,073,759	33.0
All hospitals	**3,381**	**6.5**	**48,966**	**93.5**	**4,644,545**	**57.0**	**3,503,903**	**43.0**

Source: National Hospital Morbidity Database, AIHW.

In 2008–09, palliative care separations accounted for 653,468 patient days and the average length of stay for such separations was 12.5 days (Table 2.6). This length of stay is almost four times longer than the average length of stay of 3.2 days for all separations.

Table 2.6: Palliative care separations and all separations by sex, patient days and average length of stay (ALOS), all hospitals, 2008–2009

	Palliative care separations						Separations for all reasons
	Same-day[(a)]	Overnight		Total		% of separations that were overnight separations	
	Patient days	Patient days	ALOS (days)	Patient days	ALOS (days)		ALOS (days)
Males	1,663	339,628	12.9	341,291	12.2	94.0	3.1
Females	1,718	310,459	13.7	312,177	12.8	93.0	3.2
Total	**3,381**	**650,087**	**13.3**	**653,468**	**12.5**	**93.5**	**3.2**

(a) By definition, the average length of stay (ALOS) for same-day separations equals 1 day.

Source: National Hospital Morbidity Database, AIHW.

For both males and females, most of the palliative care separations involved an overnight stay (94% and 93%, respectively). The average length of stay per palliative care separation was 12.2 days for males and 12.8 days for females.

For the majority of age groups, the average length of the palliative care separations was similar (about 12 to 13 days), as was the proportion of palliative care separations that involved an overnight stay (around 92% to 95%) (Table 2.7). There is one exception, however; for those separations in which the patient was aged 0 to 14 years, the average length of stay was considerably longer (16.8 days). The difference is even more marked when only overnight separations are considered (18.7 days compared with an average of 13.3 days). As shown in Table 2.2, there were 114 admitted patient palliative care separations in 2008–09 in which the patient was aged 0 to 14 years.

Table 2.7: Palliative care separations by age group, patient days and average length of stay (ALOS), all hospitals, 2008–2009

Age (years)	Same-day separations[(a)]	Overnight separations		Total separations		% of separations that were overnight separations
	Patient days	Patient days	ALOS (days)	Patient days	ALOS (days)	
0–14	12	1,906	18.7	1,918	16.8	89.5
15–24	10	2,171	12.8	2,181	12.1	94.4
25–34	24	5,713	14.6	5,737	13.8	94.2
35–44	121	18,233	13.7	18,354	12.6	91.7
45–54	328	51,356	13.1	51,684	12.2	92.3
55–64	702	99,558	12.9	100,260	11.9	91.7
65–74	717	148,758	13.3	149,475	12.5	94.0
75–84	997	208,495	13.8	209,492	13.0	93.8
85+	470	113,897	12.6	114,367	12.0	95.1
Total	**3,381**	**650,087**	**13.3**	**653,468**	**12.5**	**93.5**

(a) By definition, the average length of stay (ALOS) for same-day separations equals 1 day.

Source: National Hospital Morbidity Database, AIHW.

The average length of stay per palliative care separation was similar in public and private hospitals (12.5 and 12.6 days, respectively) (Table 2.8). In contrast, for all separations, the average length of stay was longer in public hospitals (3.7 days) than in private hospitals (2.4 days).

Table 2.8: Palliative care separations and all separations, patient days and average length of stay (ALOS), public and private hospitals, 2008–2009

	Palliative care separations					Separations for all reasons
	Same-day[(a)]	Overnight		Total		
	Patient days	Patient days	ALOS (days)	Patient days	ALOS (days)	ALOS (days)
Public hospitals	2,703	551,007	13.2	553,710	12.5	3.7
Private hospitals	678	99,080	13.6	99,758	12.6	2.4
All hospitals	**3,381**	**650,087**	**13.3**	**653,468**	**12.5**	3.2

(a) By definition, the average length of stay (ALOS) for same-day separations equals 1 day.

Source: National Hospital Morbidity Database, AIHW.

Table 2.9 presents information on the average length of stay per palliative care separation in each jurisdiction, by hospital sector. In public hospitals, the average length of stay per palliative care separation was longest in South Australia (15.6 days), followed by Victoria and the Northern Territory (both 13.3 days). Meanwhile, the average length of stay for such separations was shortest in Queensland (9.4 days) and Western Australia (9.5 days).

In private hospitals, as was the case in public hospitals, South Australia recorded the longest average length of stay per palliative care separation (14.6 days) while such separations in Western Australia were relatively short (9.7 days). However, unlike in public hospitals, the average length of stay per palliative care separation in private hospitals in Queensland was relatively long (14.2 days).

Table 2.9: Palliative care separations by states and territories, average length of stay, public and private hospitals, 2008–09

	Average length of stay (days)								
	NSW	**Vic**	**Qld**	**WA**	**SA**	**Tas**[(a)]	**ACT**[(a)]	**NT**[(a)]	**Total**[(a)]
Public hospitals									
Overnight separations	13.5	13.7	9.9	10.0	16.0	12.6	12.9	14.1	13.2
Total separations[(b)]	*12.4*	*13.3*	*9.4*	*9.5*	*15.6*	*12.2*	*12.3*	*13.3*	*12.5*
Private hospitals									
Overnight separations	13.4	12.6	16.6	11.2	14.8	n.p.	n.p.	n.p.	13.6
Total separations[(b)]	*13.3*	*12.4*	*14.2*	*9.7*	*14.6*	*n.p.*	*n.p.*	*n.p.*	*12.6*
All hospitals									
Overnight separations	13.5	13.6	11.5	10.7	15.8	n.p.	n.p.	n.p.	13.3
Total separations[(b)]	*12.5*	*13.2*	*10.7*	*9.6*	*15.3*	*n.p.*	*n.p.*	*n.p.*	*12.5*

(a) To ensure confidentiality of information, data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory are not shown. 'Total' includes data for all jurisdictions.

(b) 'Total separations' include same-day and overnight separations. By definition, the average length of stay (ALOS) for same-day separations equals 1 day.

Source: National Hospital Morbidity Database, AIHW.

How much hospital care was provided in the patient's home?

Most states and territories have hospital-in-the-home (HITH) programs under which admitted patients are provided with hospital care in their home. This care has been defined as occurring in the patient's place of residence—which may be a permanent or temporary place of residence—as a substitute for hospital accommodation (AIHW 2010b). Such care days are counted as patient days in the data presented in this report. Two jurisdictions (namely, New South Wales and Tasmania) did not provide information on HITH activity and thus data for those two states are not included in the data presented in this section.

Hospital-in-the-home activity is not a large component of palliative care provided to admitted patients. In the six jurisdictions for which data were available in the NHMD, just under 100 palliative care separations involved HITH care in 2008–09, equating to less than 1% (0.3%) of palliative care separations (Table 2.10). In comparison, 1.1% of separations for all reasons involved HITH care.

The average length of HITH separations for palliative care was 8.7 days; this compares with an average of 7.0 days for all HITH separations.

Table 2.10: Palliative care separations and all separations by participation in the hospital-in-the-home (HITH) program, selected states and territories(a), 2008–09

	Palliative care separations	Separations for all reasons
Number of separations with HITH care	98	60,467
Percentage of separations	0.3	1.1
Average length of HITH care (days)	8.7	7.0

(a) New South Wales and Tasmania did not provide information on hospital-in-the-home (HITH) activity. Data from these jurisdictions are not included.

Source: National Hospital Morbidity Database, AIHW.

3 Patient characteristics in 2008–09

The previous chapter provided information on the sex and age of patients who had a palliative care separation within an admitted patient setting in 2008–09. This chapter provides further descriptive information about the characteristics of these patients. First, comparisons are made according to the following demographic characteristics: Aboriginal and Torres Strait Islander status, remoteness of usual residence, and socioeconomic status. In order to take into account differences in the age structures and the size of the groups compared, age-standardised rates are provided for each of the comparisons. In the second part of this chapter, the focus shifts to the clinical characteristics of patients and, in particular, the diagnoses recorded for the palliative care patients.

Observed differences in the receipt of palliative care according to the demographic characteristics of patients may be influenced by a complex range of factors (e.g. Currow et al. 2008). Some of these factors are as follows:

- population characteristics (for example, Indigenous Australians are relatively more likely to live in remote areas, which can impact on accessibility of services)
- the prevalence of various diseases (for example, palliative care is often associated with cancer, and Indigenous people have relatively low rates of cancer)
- the availability and accessibility of palliative care in admitted patient settings compared with other settings
- the availability of informal support from family, friends and others in the community
- preferences for place of palliative care.

Who received palliative care?

Differences by Indigenous status

Aboriginal and Torres Strait Islander people are disadvantaged relative to other Australians across a range of health-related and socioeconomic indicators (AIHW 2011c) and this may affect their use of, and access to, admitted patient palliative care. In particular, life expectancies are considerably shorter, with estimates suggesting that the life expectancy gap was 11.5 years for Indigenous males and 9.7 years for Indigenous females for the 2005–2007 period (AIHW 2011c). Indigenous Australians also have a relatively young age structure and, although 3 in 4 live in cities and non-remote regional areas, they are more likely to live in remote areas of Australia (25%) than non-Indigenous Australians (2%) (ABS & AIHW 2008; AIHW 2011c). For Australians living in remote areas, access and usage patterns of health services may differ from those living in non-remote areas. Finally, while Indigenous Australians are more likely than non-Indigenous Australians to suffer certain health conditions such as diabetes and end-stage renal disease (AIHW 2011c), available data indicate that Indigenous Australians were significantly less likely to have been diagnosed with cancer than non-Indigenous Australians in the 5-year period from 2003 to 2007 (AIHW & AACR 2010).

The quality of the Indigenous status data in the NHMD is not consistent across jurisdictions (see Appendix D). For 2008–09, such data are considered acceptable for analysis purposes in six jurisdictions: New South Wales, Victoria, Queensland, Western Australia, South Australia and public hospitals in the Northern Territory (AIHW 2010c). Thus, comparisons by Indigenous status in this report include data from only those six jurisdictions. The data for those jurisdictions may not necessarily be representative for Tasmania and the Australian Capital Territory.

In 2008–09, there were 762 palliative care separations for Indigenous people in admitted patient settings in these six jurisdictions (Table 3.1). This equates to 1.5% of palliative care separations during that period. In comparison, Indigenous Australians accounted for 3.6% of separations for all reasons in the six jurisdictions (AIHW 2010a).

Table 3.1: Palliative care separations by Indigenous status, selected states and territories[(a)], all hospitals, 2008–09

	Number				
	Male	Female	Total	Percentage	Age-standardised rate[(b)]
Indigenous Australians	354	408	762	1.5	37.2
Other Australians[(c)]	26,569	23,089	49,658	98.5	22.7
Total	**26,923**	**23,497**	**50,420**	**100.0**	**22.9**

(a) Data for Tasmania, the Australian Capital Territory and private hospitals in the Northern Territory are excluded (see Appendix D).

(b) The rates were age standardised to the Australian population as at 30 June 2001 and are expressed per 10,000 persons (see Appendix D).

(c) 'Other Australians' includes separations for non-Indigenous Australians and those for whom the Indigenous status was not reported.

Source: National Hospital Morbidity Database, AIHW.

Females accounted for the majority of the palliative care separations for Indigenous Australians (54%). This contrasts with the situation for other Australians where females accounted for less than half of the palliative care separations (46%).

When differences by age and population size are taken into account, the rate of palliative care separations for Indigenous Australians was substantially higher than the corresponding rate for other Australians (37.2 and 22.7 per 10,000 persons, respectively) (Figure 3.1). This finding is in line with the observed difference in the rate of all separations as reported in *Australian hospital statistics 2008–09* (AIHW 2010a), although the difference was even larger in that case. That is, in 2008–09, the admitted patient separation rate for all reasons for Indigenous Australians was 2.4 times larger than the separation rate for other Australians (8,698 and 3,625 per 10,000 persons, respectively).

While the data indicate that the rate of palliative care separations differs substantially by Indigenous status, this is not the case in terms of the length of stay, as shown in Table 3.2.

Table 3.2: Palliative care separations by Indigenous status, patient days and average length of stay (ALOS), selected states and territories[(a)], 2008–2009

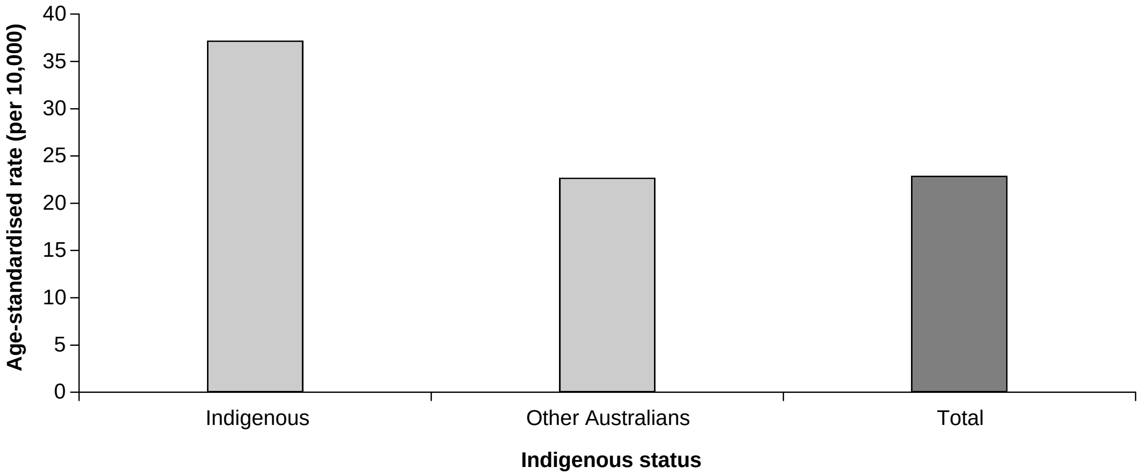
	Same-day separations[(b)]	Overnight separations		Total separations		% of separations that were overnight separations
	Patient days	Patient days	ALOS (days)	Patient days	ALOS (days)	
Indigenous Australians	41	9,590	13.3	9,631	12.6	94.6
Other Australians[(c)]	3,270	616,353	13.3	619,623	12.5	93.4
Total	**3,311**	**625,943**	**13.3**	**629,254**	**12.5**	**93.4**

(a) Data for Tasmania, the Australian Capital Territory, and private hospitals in the Northern Territory are excluded (see Appendix D).

(b) By definition, the average length of stay (ALOS) for same-day separations equals 1 day.

(c) 'Other Australians' includes separations for non-Indigenous Australians and those for whom the Indigenous status was not reported.

Source: National Hospital Morbidity Database, AIHW.



Notes

1. Data for Tasmania, the Australian Capital Territory and private hospitals in the Northern Territory are excluded (see Appendix D).
2. 'Other Australians' includes separations for non-Indigenous Australians and those for whom the Indigenous status was not reported.
3. The rates were age standardised to the Australian population as at 30 June 2001 and are expressed per 10,000 persons (see Appendix D).
4. Data for this figure are shown in Table 3.1.

Source: National Hospital Morbidity Database, AIHW.

Figure 3.1: Palliative care separations by Indigenous status, selected states and territories, all hospitals, 2008–09

The average length of stay per palliative care separation was 12.6 days for Indigenous Australians and 12.5 days for other Australians. Likewise, the proportion of palliative care separations for Indigenous Australians that involved an overnight stay (95%) was similar to the corresponding proportion for other Australians (93%).

Differences by remoteness area

People living in more inaccessible regions of Australia are often disadvantaged regarding access to goods and services (including health-care services), income, educational and employment opportunities and, in some instances, access to basic amenities such as clean water and fresh food (AIHW 2008). To examine differences in the receipt of palliative care according to level of remoteness of the area in which the patients usually lived, the Australian Standard Geographical Classification Remoteness Area classification (ABS 2001) was used. This classification divides all areas of Australia into five categories—namely, *Major cities*, *Inner regional*, *Outer regional*, *Remote* and *Very remote*—depending on the distance of the area from differently sized urban centres (AIHW 2004b). The population size of the urban centre is considered to govern the range and type of services available. For the analyses presented in this report, the categories of *Remote* and *Very remote* were collapsed owing to the relatively small number of palliative care separations in these two categories.

In 2008–09, just over 2 in 3 (68%) palliative care separations in the admitted patient setting were for people whose usual residence was in a *Major city*, while 21% were for those who lived in an *Inner regional* area, 10% in an *Outer regional* area and 2% in a *Remote or very remote* part of Australia (Table 3.3). For each of the four categories considered in this report, males accounted for a greater proportion of the palliative care separations than females.

Analyses of data for separations for all reasons indicated that the age-standardised rates of such separations were significantly higher than average for those from *Remote* and *Very remote* areas (AIHW 2010a). This finding was not observed when only palliative care separations are considered, with no clear trend evident in the rate of palliative care separations according to remoteness area.

Table 3.3: Palliative care separations by remoteness area, all hospitals, 2008–09

	Number				
Remoteness area[(a)]	**Male**	**Female**	**Total**	**Percentage**	**Age-standardised rate[(b)]**
Major cities	18,621	17,024	35,645	68.1	23.0
Inner regional	5,909	4,827	10,736	20.5	20.8
Outer regional	2,852	2,113	4,965	9.5	22.0
Remote or very remote	476	382	858	1.6	21.4
Not reported	79	64	143	0.3	. .
Total	**27,937**	**24,410**	**52,347**	**100.0**	**22.5**

(a) Remoteness area was measured using the Australian Standard Geographical Remoteness Area classification (see Appendix E).

(b) The rates were age standardised to the Australian population as at 30 June 2001 and are expressed per 10,000 persons (see Appendix D).

Source: National Hospital Morbidity Database, AIHW.

Compared with an average length of hospital stay of 12.5 days for all palliative care separations, the average length of stay for palliative care separations was shorter for those whose usual residence was in an *Inner regional* area (11.0 days) (Table 3.4). The proportion of palliative care separations that involved an overnight stay, however, was similar across each of the four remoteness areas.

Table 3.4: Palliative care separations by remoteness area, patient days and average length of stay (ALOS), all hospitals, 2008–2009

	Same-day separations[(b)]	Overnight separations		Total separations		
Remoteness area[(a)]	**Patient days**	**Patient days**	**ALOS (days)**	**Patient days**	**ALOS (days)**	**% of separations that were overnight separations**
Major cities	2,394	457,994	13.8	460,388	12.9	93.3
Inner regional	674	117,287	11.7	117,961	11.0	93.7
Outer regional	259	60,747	12.9	61,006	12.3	94.8
Remote or very remote	51	11,754	14.6	11,805	13.8	94.1
Total[(c)]	**3,381**	**650,087**	**13.3**	**653,468**	**12.5**	**93.5**

(a) Remoteness area was measured using the Australian Standard Geographical Remoteness Area classification (see Appendix E).

(b) By definition, the average length of stay (ALOS) for same-day separations equals 1 day.

(c) 'Total' includes separations for which the remoteness area of usual residence was not reported.

Source: National Hospital Morbidity Database, AIHW.

Differences by socioeconomic status

Socioeconomic status is generally associated with access to material resources, educational opportunities and health status (AIHW 2010e). In this report, the Index of Relative Socio-economic Advantage and Disadvantage (IRAD) was used to indicate socioeconomic status. This index is one of four Socio-Economic Indexes for Areas (SEIFAs) developed by the Australian Bureau of Statistics (ABS 2008c). It is based on factors such as average household income, education levels, unemployment rates, occupation and housing characteristics. Note that the IRAD, like the other SEIFA indexes, is an area-based measure of socioeconomic status—rather than a person-based measure—in which small areas of Australia are classified on a continuum from disadvantaged to affluent. This information is used as a proxy for the socioeconomic status of people living in those areas and may not be correct for each person living in that area. In this report, the first socioeconomic status group (labelled '1') corresponds to geographical areas containing the 20% of the population with the lowest socioeconomic status according to the IRAD, and the fifth group corresponds to the 20% of the population with the highest socioeconomic status.

In 2008–09, people living in areas classified as having the lowest socioeconomic status (group 1) accounted for a relatively higher proportion of palliative care separations (23%) than those living in other areas (each of which was 20% or less) (Table 3.5). Furthermore, the age-standardised rate of palliative care separations was highest for those living in areas classified as having the lowest socioeconomic status (25.1 per 10,000 persons). Conversely, the rate of palliative care separations was lowest for those living in the second-lowest socioeconomic status areas and the highest socioeconomic status areas (20.7 and 20.8, respectively).

Males accounted for more than half of the palliative care separations in each socioeconomic status group, with the exception of the highest socioeconomic status group; for that group, there was a similar number of palliative care separations for males and females.

Table 3.5: Palliative care separations by socioeconomic status, all hospitals, 2008–09

	Number				
Socioeconomic status[(a)]	**Male**	**Female**	**Total**	**Percentage**	**Age-standardised rate[(b)]**
1 (lowest)	6,739	5,496	12,235	23.4	25.1
2	5,763	4,687	10,450	20.0	20.7
3	5,549	5,051	10,600	20.2	23.6
4	5,051	4,280	9,331	17.8	22.1
5 (highest)	4,754	4,831	9,585	18.3	20.8
Not reported	81	65	146	0.3	. .
Total	**27,937**	**24,410**	**52,347**	**100.0**	**22.5**

(a) Socioeconomic status was measured using the ABS Socio-economic Index for Areas (SEIFA) Index of Relative Socio-economic Advantage and Disadvantage (see Appendix E).

(b) The rates were age standardised to the Australian population as at 30 June 2001 and are expressed per 10,000 persons (see Appendix D).

Source: National Hospital Morbidity Database, AIHW.

As shown in Table 3.6, there was no substantial difference in the average length of stay per palliative care separation according to socioeconomic status group. However, there was a difference in the proportion of separations that were overnight rather than same-day separations. That is, the proportion of palliative care separations that involved an overnight stay was lower than average for those living in areas in the lowest socioeconomic status group (91% compared with the average of 94%).

Table 3.6: Palliative care separations by socioeconomic status, patient days and average length of stay (ALOS), all hospitals, 2008–2009

Socioeconomic status[(a)]	Same-day separations[(b)]	Overnight separations		Total separations		% of separations that were overnight separations
	Patient days	Patient days	ALOS (days)	Patient days	ALOS (days)	
1 (lowest)	1,096	144,482	13.0	145,578	11.9	91.0
2	502	121,724	12.2	122,226	11.7	95.2
3	692	130,984	13.2	131,676	12.4	93.5
4	439	122,740	13.8	123,179	13.2	95.3
5 (highest)	649	127,804	14.3	128,453	13.4	93.2
Total[(c)]	**3,381**	**650,087**	**13.3**	**653,468**	**12.5**	**93.5**

(a) Socioeconomic status was measured using the ABS Socio-economic Index for Areas (SEIFA) Index of Relative Socio-economic Advantage and Disadvantage (see Appendix E).

(b) By definition, the average length of stay (ALOS) for same-day separations equals 1 day.

(c) 'Total' includes separations for which socioeconomic status could not be determined.

Source: National Hospital Morbidity Database, AIHW.

What was the diagnosis?

Existing Australian and overseas research has consistently shown that cancer patients comprise the majority of those using palliative care services (e.g. Currow et al. 2008; Kaasa et al. 2007; Potter et al. 2003; Rosenwax & McNamara 2006; WA Department of Health 2006). A variety of explanations is given for this including: difficulties in estimating the prognosis of decline and predicting the disease trajectory for non-cancer patients; resource implications; and the skills of current specialists in palliative care (Coventry et al. 2005; Field & Addington-Hall 1999; Murray & Sheik 2008; Seale 1991; Teno et al. 2001). Nonetheless, many have pointed to the need to extend palliative care provision beyond the traditional focus on cancer patients to those nearing the end of life with other diseases (e.g. Coventry et al. 2005; Hudson et al. 2006; Luddington et al. 2001; Mathew et al. 2003; Mitchell et al. 2010).

In this section, information is provided on the diagnoses reported for palliative care patients, with consideration given to just the principal diagnosis initially and then to both the principal diagnosis and any additional diagnoses. In Australian hospitals, a principal diagnosis is assigned during each admitted patient separation; however, one or more additional diagnoses may also be assigned. The principal diagnosis is 'the diagnosis established after study to be chiefly responsible for occasioning an episode of admitted patient care' (AIHW 2010b; NCCH 2010a). Additional diagnoses are 'conditions or complaints either coexisting with the principal diagnosis or arising during the episode of admitted patient care' (AIHW 2010b; NCCH 2010a). Note that while the diagnosis codes usually describe a disease, injury or poisoning, in some instances they can be used to indicate the specific care or service provided for a current condition or other reasons for hospitalisation (AIHW 2009). This is the case when *Palliative care* is recorded as a diagnosis code. As detailed in Appendix E, diagnoses are coded in the NHMD according to ICD-10-AM.

Diseases based on principal diagnosis

Information on the principal diagnoses of those who had palliative care is shown in Table 3.7. These diagnoses are grouped at the 'chapter level' of ICD-10-AM except for cancer. At the chapter level, cancers (that is, invasive neoplasms) are grouped with non-invasive and benign neoplasms. Given the close association between palliative care and cancer, information is presented separately for cancers and for non-invasive and benign neoplasms in this report. Furthermore, the approach used to identify cancer separations for this report mirrors that used in *Cancer in Australia: an overview* (AIHW & AACR 2010). Further details on that approach are provided in Appendix D.

Table 3.7: Palliative care separations by principal diagnosis, broad disease groups, all hospitals, 2008–09

Principal diagnosis (ICD-10-AM codes)(a)	Number	Percentage
Cancer (C00-C97, D45, D46, D47.1, D47.3, selected Z codes)(a)	31,450	60.1
Cardiovascular diseases (I00 to I99)	4,273	8.2
Respiratory system diseases (J00 to J99)	4,192	8.0
Digestive system diseases (K00 to K93)	2,584	4.9
Ill-defined conditions (R00 to R99)	1,627	3.1
Injuries and poisoning (S00 to T98)	1,265	2.4
Genitourinary diseases (N00 to N99)	1,220	2.3
Infectious and parasitic diseases (A00 to B99)	1,136	2.2
Factors influencing contact with health services (Z00 to Z99 except for selected Z codes(a))	1,036	2.0
Endocrine-related disorders (E00 to E90)	1,017	1.9
Nervous system disorders (G00 to G99)	891	1.7
Musculoskeletal diseases (M00 to M99)	468	0.9
Mental disorders (F00 to F99)	394	0.8
Blood-related diseases (D50 to D89)	356	0.7
Skin-related diseases (L00 to L99)	263	0.5
Non-malignant neoplasms (D00 to D48 except for D45, D46, D47.1, D47.3)	114	0.2
Congenital anomalies (Q00 to Q99)	26	0.0
Conditions originating in the perinatal period (P00 to P96)	17	0.0
Eye diseases (H00 to H59)	9	0.0
Ear diseases (H60 to H95)	4	0.0
Unspecified	5	0.0
Total	**52,347**	**100.0**

(a) Principal diagnoses are shown according to ICD-10-AM chapter groupings, with the exception of cancer (see Appendix D).

Source: National Hospital Morbidity Database, AIHW.

The most common group of principal diagnosis codes recorded for palliative care separations was cancer (60% of palliative care separations), with this principal diagnosis being assigned for 31,450 of the 52,347 palliative care separations in 2008–09. A principal diagnosis in the cardiovascular diseases group came a distant second (4,273 separations), followed closely by a principal diagnosis in the respiratory system diseases group (4,192 separations); each of these two groups accounted for 8% of palliative care separations.

Table 3.8 provides information on the principal diagnosis at a more specific disease level. In addition to showing the most common cancer types recorded for palliative care separations, data on nine other diseases are shown. Although determining what patients could potentially benefit from palliative care is complex (Borgsteede et al. 2006; Rosenwax et al. 2005), the non-cancer diseases shown in this report are some of those diseases considered to be amenable to palliative care (e.g. DoHA 2010a; McNamara et al. 2006).

Table 3.8: Palliative care separations by selected diseases, all hospitals, 2008–09

	Based on principal diagnosis		Based on principal & additional diagnoses[(c)]	
Disease[(a)] (ICD-10-AM codes)	**Number**	**%[(b)]**	**Number**	**%[(b)]**
Cancer[(a)]				
Secondary site (C77–C79)	7,587	14.5	27,989	53.5
Lung (C33–C34)	5,108	9.8	8,151	15.6
Bowel (C18–C20)	2,643	5.0	4,912	9.4
Prostate (C61)	1,528	2.9	3,299	6.3
Pancreas (C25)	1,479	2.8	2,130	4.1
Breast (C50)	1,279	2.4	3,090	5.9
Brain (C71)	1,096	2.1	1,331	2.5
Stomach (C16)	910	1.7	1,345	2.6
Non-Hodgkin lymphoma (C82–C85)	832	1.6	1,147	2.2
Liver (C22)	732	1.4	1,063	2.0
Oesophagus (C15)	722	1.4	1,017	1.9
Ovary (C56)	610	1.2	1,210	2.3
Kidney (C64)	544	1.0	1,001	1.9
Bladder (C67)	511	1.0	918	1.8
Mesothelioma (C45)	477	0.9	625	1.2
Melanoma of skin (C43)	462	0.9	1,304	2.5
Unknown primary site (C80)	433	0.8	2,324	4.4
All cancers (C00-C97, D45, D46, D47.1, D47.3, selected Z codes)	*31,450*	*60.1*	*40,273*	*76.9*
Diseases other than cancer[(a)]				
Heart failure (I50)	1,157	2.2	3,996	7.6
Chronic obstructive pulmonary disease (J40–J44)	1,124	2.1	3,483	6.7
Renal failure (N17–N19)	736	1.4	6,749	12.9
Motor neurone disease (G12.2)	332	0.6	471	0.9
Liver failure (K70.4, K71.1, K72)	329	0.6	1,004	1.9
Dementia and Alzheimer disease (F00 to F03, G30)	198	0.4	2,775	5.3
Parkinson disease (G20, G21, G22)	66	0.1	497	0.9
Huntington disease (G10, F02.2)	11	0.0	17	0.0
HIV/AIDS (B20–B24)	11	0.0	82	0.2

(a) Data on the most common cancer types recorded for palliative care separations are shown, as are data on selected other diseases. See Appendix D for details on the approach used to present disease-related information.

(b) The percentage is based on the total number of palliative care separations (i.e. 52,347).

(c) When both principal and additional diagnoses are considered, the sum of the separations may exceed the total number of palliative care separations since patients may have had more than one diagnosis recorded during any one separation.

Source: National Hospital Morbidity Database, AIHW.

The most common type of cancer recorded for the palliative care separations was secondary site cancer (that is, a malignant tumour that originated from a cancer elsewhere in the body); this principal diagnosis was assigned to almost 1 in 7 (15%) palliative care separations in 2008–09. The next most frequently recorded type of cancer (as the principal diagnosis) was lung cancer (10% of palliative care separations), followed by bowel cancer (5%), prostate cancer (3%) and pancreatic cancer (3%).

For diseases other than cancer, the two most frequently reported principal diagnoses were heart failure and chronic obstructive pulmonary disease (COPD) (2% of palliative care separations each).

The average length of the palliative care separations for the most common cancer and non-cancer principal diagnoses is shown in Table 3.9. For cancer, as a group, the average length of stay was 12.8 days, but some variation by cancer site is evident. In particular, those palliative care separations for which the principal diagnosis was brain cancer were substantially longer (18.8 days) than average. When only overnight separations are considered, the average length per palliative care separation for those with a principal diagnosis of brain cancer increased to 20.4 days (compared with the overall average of 13.8 days for all cancers). The shortest average length of stay among the most common cancer sites was for those with a principal diagnosis of pancreatic cancer (11.3 days).

Table 3.9: Palliative care separations by principal diagnosis, patient days and average length of stay (ALOS), selected diseases, all hospitals, 2008–2009

Principal diagnosis[(a)] (ICD-10-AM codes)	**Same-day separations[(b)]**	**Overnight separations**		**Total separations**		**% of separations that were overnight separations**
	Patient days	**Patient days**	**ALOS (days)**	**Patient days**	**ALOS (days)**	
Cancer[(a)]						
Secondary site (C77–C79)	229	97,042	13.2	97,271	12.8	97.0
Lung (C33–C34)	403	60,939	13.0	61,342	12.0	92.1
Bowel (C18–C20)	185	36,053	14.7	36,238	13.7	93.0
Prostate (C61)	104	21,269	14.9	21,373	14.0	93.2
Pancreas (C25)	100	16,635	12.1	16,735	11.3	93.2
Breast (C50)	183	17,018	15.5	17,201	13.4	85.7
Brain (C71)	91	20,518	20.4	20,609	18.8	91.7
All cancers[(a)]	*2,437*	*400,477*	*13.8*	*402,914*	*12.8*	*92.3*
Diseases other than cancer[(a)]						
Heart failure (I50)	40	12,764	11.4	12,804	11.1	96.5
COPD (J40–J44)	81	12,492	12.0	12,573	11.2	92.8
Renal failure (N17–N19)	37	7,601	10.9	7,638	10.4	95.0
Total[(c)]	**3,381**	**650,087**	**13.3**	**653,468**	**12.5**	**93.5**

(a) The most common cancers and non-cancer diseases, based on principal diagnosis, are shown. Cancers were defined in accordance with the approach used in *Cancer in Australia: an overview* (AIHW & AACR 2010). 'All cancers' includes the following ICD-10-AM codes: C00–C97, D45, D46, D47.1, D47.3 and selected Z codes. See Appendix D for further details on the approach used to present disease-related information.

(b) By definition, the average length of stay (ALOS) for same-day separations equals 1 day.

(c) 'Total' includes all palliative care separations including those for which the principal diagnosis was unspecified.

Source: National Hospital Morbidity Database, AIHW.

For those with a principal diagnosis of COPD, the average length of stay was 11.2 days; it was 11.1 days for those with a principal diagnosis of heart failure, and 10.4 days for those with a principal diagnosis of renal failure.

The data also indicate that a higher than average proportion of palliative care separations with a principal diagnosis of secondary site cancer or a principal diagnosis of heart failure involved an overnight stay (both 97%, compared with an average of 94%). Conversely, a relatively low proportion of palliative care separations with a principal diagnosis of breast cancer involved an overnight stay (86%).

Diseases based on principal and additional diagnoses

As discussed earlier, the principal diagnosis provides information on the main reason why a person was admitted to hospital at a particular time. In addition, it is relevant to examine disease information as identified by all of the diagnoses (including the principal and additional diagnoses) associated with any one separation (see Box 3.1). Note that since any one patient may be assigned multiple diagnosis codes, the sum of the number of palliative care separations for each disease considered, as identified by principal and additional diagnosis codes, is greater than the total number of palliative care separations.

Box 3.1: Why consider both principal and additional diagnoses?

It is relevant to examine disease information based not only on the principal diagnosis, but also on the principal and any additional diagnoses for the three reasons outlined below.

First, in some cases, the principal diagnosis does not provide information on the chronic disease (or diseases) that may be associated with the main reason for admission. For example, the principal diagnosis was pneumonia for over 1,000 palliative care separations, sepsis for over 800 separations and intestinal obstruction for over 600 separations. Unless one examines the additional diagnoses, the chronic disease (such as cancer or heart failure) from which these palliative care patients suffered is not identified.

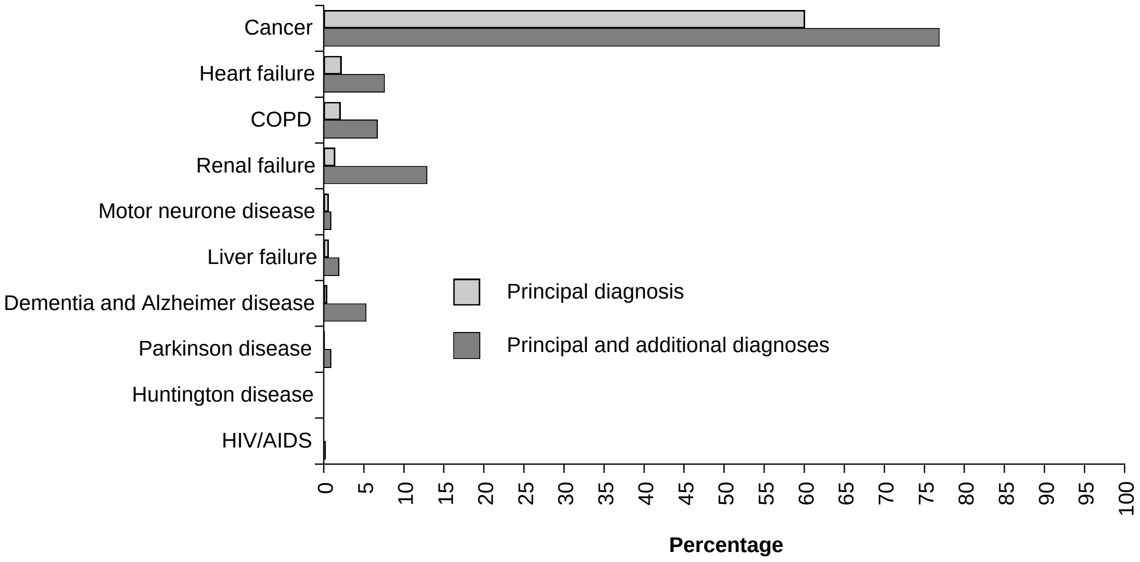
Second, examining the additional diagnoses as well as the principal diagnosis provides a fuller picture of the types of medical issues being managed for palliative care patients. Note, though, that not *all* diseases or conditions from which a patient suffers are necessarily assigned as an additional diagnosis—instead, only those ‘conditions that were significant in terms of treatment required, investigations needed and resources used’ during the particular separation are assigned (AIHW 2010b; NCCH 2010a). Thus, data that are based on principal and additional diagnoses provide a fuller, but not necessarily a complete, count of the number of separations for which the specified diseases were applicable.

Third, HIV/AIDS is not usually coded as a principal diagnosis, but as an additional diagnosis, as specified in the coding standards (NCCH 2010a). Thus, an accurate picture of the number of patients with HIV/AIDS who were receiving palliative care can be gained only by considering data on all diagnoses.

The data shown in Table 3.8 clearly indicate that considering both principal and additional diagnoses makes a difference in understanding the diseases with which palliative care patients are presenting. For example, the number of palliative care separations with a principal or an additional diagnosis of secondary site cancer was 3.7 times larger than the number of palliative care separations for which this cancer was assigned as the principal diagnosis. Similarly, renal failure was found to be relevant to nine times as many palliative care separations when the principal and additional diagnoses were considered compared with when just the principal diagnosis was examined.

When both the principal and additional diagnoses are considered, a diagnosis of cancer was recorded for over 3 in 4 palliative care separations (77%) in admitted patient settings in 2008–09 (Figure 3.2 and Table 3.8). This compares with 60% when only the principal diagnosis was taken into account. Considering the specific types of cancers, a principal or additional diagnosis of a secondary site cancer was assigned to over half (54%) of the palliative care separations, followed by lung cancer (16%) and bowel cancer (9%).

In terms of the specified non-cancer diseases, a principal or an additional diagnosis of renal failure was reported for 13% of the palliative care separations, followed by heart failure (8%), COPD (7%) and dementia and Alzheimer disease (5%).



Notes

1. See Appendix D for details on the approach used to present disease-related information.
2. When both principal and additional diagnoses are considered, multiple diseases may be observed for any one separation. Thus, for such analyses, the sum of the percentages exceeds 100%.
3. Data for this figure are shown in Table 3.8.

Source: National Hospital Morbidity Database, AIHW.

Figure 3.2: Palliative care separations by selected diseases, all hospitals, 2008–09

Separations with cancer as a diagnosis

Given the close association between cancer and palliative care separations, further analyses were undertaken that focused on differences by hospital sector and jurisdiction solely for those palliative care separations for which cancer was assigned as a diagnosis.

While, overall, a principal diagnosis of cancer was assigned for 60% of palliative care separations, such a principal diagnosis accounted for a larger proportion of palliative care separations in private hospitals (75%) than in public hospitals (58%) (Table 3.10).

Table 3.10: Palliative care separations with cancer as a diagnosis, public and private hospitals, by states and territories, 2008–09

	NSW	Vic	Qld	WA	SA	Tas[(a)]	ACT[(a)]	NT[(a)]	Total[(a)]
Principal diagnosis of cancer[(b)]									
Public hospitals									
Number	10,807	6,867	3,780	771	2,037	513	386	363	25,524
% of palliative care separations	58.1	51.4	69.3	61.9	60.1	56.0	55.2	48.7	57.5
Private hospitals									
Number	790	984	1615	1711	667	n.p.	n.p.	n.p.	5,926
% of palliative care separations	65.2	69.9	82.9	79.4	73.6	n.p.	n.p.	n.p.	74.6
All hospitals									
Number	11,597	7,851	5,395	2,482	2,704	n.p.	n.p.	n.p.	31,450
% of palliative care separations	58.6	53.2	72.8	73.0	63.0	n.p.	n.p.	n.p.	60.1
Principal or additional diagnosis of cancer[(b)]									
Public hospitals									
Number	14,562	9,234	4,327	858	2,706	690	480	500	33,357
% of palliative care separations	78.3	69.1	79.3	68.9	79.8	75.3	68.7	67.1	75.1
Private hospitals									
Number	1,090	1,162	1,756	1,887	798	n.p.	n.p.	n.p.	6,916
% of palliative care separations	90.0	82.5	90.1	87.5	88.1	n.p.	n.p.	n.p.	87.1
All hospitals									
Number	15,652	10,396	6,083	2,745	3,504	n.p.	n.p.	n.p.	40,273
% of palliative care separations	79.0	70.4	82.1	80.7	81.6	n.p.	n.p.	n.p.	76.9

(a) To ensure confidentiality of information, data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory are not shown. 'Total' includes data for all jurisdictions.

(b) Cancer was defined in accordance with the approach used in *Cancer in Australia: an overview* (AIHW & AACR 2010) (see Appendix D). The following ICD-10-AM codes are included: C00–C97, D45, D46, D47.1, D47.3 and selected Z codes.

Source: National Hospital Morbidity Database, AIHW.

Differences by state and territory are also evident. Compared with public hospitals in other jurisdictions, public hospitals in Queensland had a substantially higher proportion of palliative care separations with a principal diagnosis of cancer (69%). For palliative care separations in private hospitals, Queensland and Western Australia had a relatively high proportion of palliative care separations with a principal diagnosis of cancer (83% and 79%, respectively).

When both the principal and additional diagnoses were considered, the data indicated that a diagnosis of cancer was assigned to 87% of palliative care separations in private hospitals and a relatively smaller proportion (75%) in public hospitals. While differences by jurisdiction remained, they were less marked. In public hospitals, South Australia (80%), Queensland (79%) and New South Wales (78%) had the highest proportion of palliative care separations with a principal or additional diagnosis of cancer. At the other end of the scale were the Northern Territory (67%) and the Australian Capital Territory, Western Australia and Victoria (all 69%).

4 Profile of palliative care separations in 2008–09

Further details on the nature of admitted patient palliative care separations in 2008–09 are provided in this chapter, including:

- the patient's setting before starting the palliative care separation
- the type of care provided during the separation
- the funding source for the separation
- the status of the patient at the end of the separation.

To provide a point of comparison, the corresponding information for separations for all reasons is also provided, there being 8,148,448 such separations in 2008–09 (Table 2.1).

Setting before admission

Information on the setting before admission, as collected in the NHMD, describes the 'mechanism by which a person begins an episode of care' (AIHW 2010b). It distinguishes between the following three categories:

- *Transfer from another hospital*
- *Statistical admission*—an administrative process that begins a new separation when there was a change in the clinical intent of the care during a patient's hospital stay (for example, from a focus on acute care to palliative care)
- *Other*—all other settings for planned and unplanned admissions, including people from the community and non-hospital establishments such as residential aged care facilities.

In 2008–09, the setting before admission for 2 in 3 palliative care separations (68%) was in the *Other* category; this is substantially lower than the corresponding 94% for all separations (Table 4.1 and Figure 4.1). Meanwhile, palliative care separations were more likely than all separations to have begun following a *Transfer from another hospital* (20% compared with 4% for all separations) or with a *Statistical admission* (13% compared with 1%).

For palliative care separations, differences by hospital sector in the setting before admission are evident, with a substantially higher proportion of *Statistical admissions* in public hospitals than in private hospitals (14% compared with 4%) and a lower proportion of *Transfers from another hospital* (18% for public hospitals and 27% for private hospitals).

There was a marked difference in the proportion of palliative care separations that began with a *Statistical admission* in public hospitals across the states and territories, with this proportion ranging from 50% in Queensland to 1% in Victoria. Meanwhile, there was also a substantial difference across the jurisdictions in the proportion of such separations that involved a *Transfer from another hospital*: Victoria had the highest proportion of palliative care separations in public hospitals in this category (26%) and the Northern Territory the lowest proportion (4%). Note that at least some portion of these differences across the states and territories are due to jurisdictional differences in admitted patient admission and separation practices, especially in the use of statistical admissions (AIHW 2011b), as well as to jurisdictional differences in the capacity to transfer patients within the same hospital or to other hospitals for palliative care.

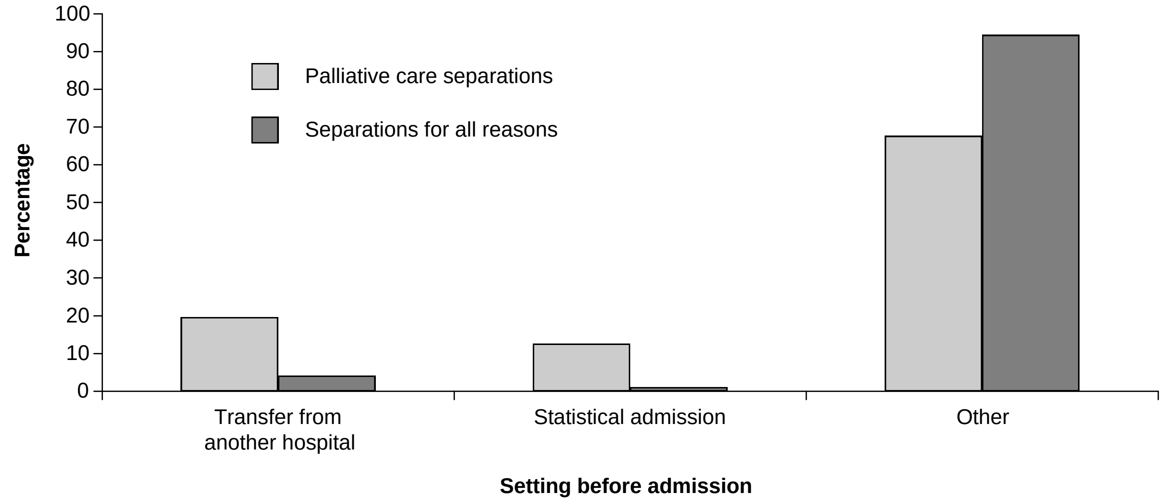
Table 4.1: Palliative care separations and all separations by setting before admission, states and territories, public and private hospitals, 2008–09

	Palliative care separations (%)									Separations for all reasons (%)
Mode of admission	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**[(a)]	**ACT**[(a)]	**NT**[(a)]	**Total**[(a)]	
Public hospitals										
Transfer from another hospital	17.0	26.2	10.2	13.1	13.7	15.9	21.0	3.8	18.4	4.8
Statistical admission	12.0	1.0	50.4	30.7	9.1	3.8	37.6	19.7	14.1	1.4
Other[(b)]	70.6	72.7	39.5	56.2	76.5	79.4	41.3	76.5	67.3	93.1
Not specified	0.4	0.0	0.0	0.0	0.7	0.9	0.0	0.0	0.2	0.7
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Private hospitals										
Transfer from another hospital	31.4	24.5	23.4	36.6	12.3	n.p.	n.p.	n.p.	26.5	3.0
Statistical admission	1.3	0.5	9.3	5.0	0.1	n.p.	n.p.	n.p.	4.2	0.7
Other[(b)]	67.3	75.0	67.3	58.4	87.6	n.p.	n.p.	n.p.	69.3	96.3
Not specified	0.0	0.0	0.0	0.0	0.0	n.p.	n.p.	n.p.	0.0	0.0
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*n.p.*	*n.p.*	*n.p.*	*100.0*	*100.0*
All hospitals										
Transfer from another hospital	17.9	26.1	13.7	28.0	13.4	n.p.	n.p.	n.p.	19.6	4.1
Statistical admission	11.3	1.0	39.6	14.4	7.2	n.p.	n.p.	n.p.	12.6	1.1
Other[(b)]	70.4	72.9	46.8	57.6	78.8	n.p.	n.p.	n.p.	67.6	94.4
Not specified	0.4	0.0	0.0	0.0	0.5	n.p.	n.p.	n.p.	0.2	0.4
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*n.p.*	*n.p.*	*n.p.*	*100.0*	*100.0*

(a) To ensure confidentiality of information, data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory are not shown. ‘Total’ includes data for all jurisdictions.

(b) ‘Other’ refers to all other settings before planned or unplanned admissions.

Source: National Hospital Morbidity Database, AIHW.



Note: Data for this figure are shown in Table 4.1.

Source: National Hospital Morbidity Database, AIHW.

Figure 4.1: Palliative care separations and all separations by setting before admission, all hospitals, 2008–09

What care was provided?

This section presents information on the care provided during the separation, including the overall type of care (medical, surgical or other) and the type(s) of procedures undertaken.

Medical, surgical or other care

Admitted patient separations can be grouped into one of three categories—*Surgical*, *Medical* and *Other*—based on the absence or presence of procedures typically carried out within operating rooms or elsewhere as follows:

- *Surgical*—involved at least one operating room procedure
- *Medical*—did not involve either an operating room procedure or a 'significant' non-operating room procedure
- *Other*—involved a least one non-operating room procedure (such as an endoscopy) that is considered 'significant' (DoHA 2006).

These categories (and the procedures considered to be 'significant') are based on the Australian Refined Diagnosis Related Group (AR-DRG) classification (see Appendix E for further information about this classification).

In 2008–09, most (93%) of the palliative care separations were for *Medical* care, while 5% were for *Surgical* care and the remaining 2% for *Other* care (Table 4.2). As would be expected, this differs markedly from the pattern for all separations, where 61% were for *Medical* care, 27% for *Surgical* care and 12% for *Other* care.

Table 4.2: Palliative care separations and all separations by type of care, public and private hospitals, 2008–09

	Palliative care separations		Separations for all reasons
Type of care[a]	**Number**	**Percentage**	**Percentage**
Public hospitals			
Surgical	2,318	5.2	19.4
Medical	41,229	92.8	74.3
Other	858	1.9	6.3
Total	*44,405*	*100*	*100.0*
Private hospitals			
Surgical	260	3.3	39.0
Medical	7,594	95.6	41.1
Other	88	1.1	19.9
Total	*7,942*	*100.0*	*100.0*
All hospitals			
Surgical	2,578	4.9	27.2
Medical	48,823	93.3	61.0
Other	946	1.8	11.7
Total	*52,347*	*100.0*	*100.0*

(a) 'Type of care' is assigned according to the *Medical, Surgical* and *Other* partitions of the AR-DRG classification (see Appendix E).

Source: National Hospital Morbidity Database, AIHW.

For the palliative care separations, there were no marked differences between the public and private hospitals in the distribution of separations according to type of care provided. This contrasts with separations for all reasons; for example, a higher proportion of private hospital separations for all reasons were for *Surgical* care (39% compared with 19% for public hospital separations).

Procedures

A procedure is defined as a clinical intervention that includes one or more of the following (AIHW 2010b):

- is surgical in nature
- carries a procedural risk
- carries an anaesthetic risk
- requires specialised training
- requires special facilities or equipment only available in an acute care setting.

Procedures therefore include surgical procedures, non-surgical procedures for investigative and therapeutic purposes (such as chemotherapy), and client support interventions (for example, anaesthesia, physiotherapy and psychology). Information on procedures undertaken in admitted patient settings are coded using the Australian Classification of Health Interventions (ACHI) (NCCH 2008b). For any one separation, one or more procedures may have been undertaken and coded. Conversely, for some separations, none of the procedure codes may have been applicable to the care provided during that separation and thus no procedure codes may be assigned.

In 2008–09, no procedure was reported for 12,202 (23%) palliative care separations, with a total of 145,488 procedures reported for the remaining 40,145 palliative care separations (Table 4.3). Overall, there was an average of 2.8 procedures reported per palliative care separation. When consideration is given to those palliative care separations for which there was at least one procedure reported, the average is 3.6 procedures.

Table 4.3: Palliative care separations, most common procedures, public and private hospitals, 2008–09

	Public hospitals[b,c]		Private hospitals[b,c]		All hospitals[b,c]	
Procedure (ACHI code)[a]	**Number**	**%**	**Number**	**%**	**Number**	**%**
Generalised allied health interventions (1916)	31,191	70.2	4,052	51.0	35,243	67.3
Physiotherapy (95550-03)	*18,589*	*41.9*	*2213*	*27.9*	*20,802*	*39.7*
Social work (95550-01)	*17,192*	*38.7*	*1350*	*17.0*	*18,542*	*35.4*
Occupational therapy (95550-02)	*12079*	*27.2*	*605*	*7.6*	*12,684*	*24.2*
Dietetics (95550-00)	*11399*	*25.7*	*911*	*11.5*	*12,310*	*23.5*
Pastoral care (95550-12)	*6203*	*14.0*	*1215*	*15.3*	*7,418*	*14.2*
Speech pathology (95550-05)	*6868*	*15.5*	*400*	*5.0*	*7,268*	*13.9*
Pharmacy (95550-09)	*3488*	*7.9*	*229*	*2.9*	*3,717*	*7.1*
Other allied health interventions (95550-11)	*1,925*	*4.3*	*225*	*2.8*	*2,150*	*4.1*
Music therapy (95550-13)	*827*	*1.9*	*191*	*2.4*	*1,018*	*1.9*
Psychology (95550-10)	*762*	*1.7*	*20*	*0.3*	*782*	*1.5*
Administration of blood and blood products (1893)	5,342	12.0	840	10.6	6,182	11.8
Computerised tomography of brain (1952)	4,386	9.9	342	4.3	4,728	9.0
Cerebral anaesthesia (1910)	3,209	7.2	379	4.8	3,588	6.9
Administration of pharmacotherapy (1920)	2,027	4.6	620	7.8	2,647	5.1
Computerised tomography of abdomen and pelvis (1963)	2,036	4.6	226	2.8	2,262	4.3
Computerised tomography of chest, abdomen and pelvis (1961)	1,429	3.2	223	2.8	1,652	3.2
Magnetic resonance imaging (2015)	1,373	3.1	179	2.3	1,552	3.0
Spiral angiography by computerised tomography (1966)	1,423	3.2	111	1.4	1,534	2.9
Application, insertion or removal procedures on abdomen, peritoneum or omentum (983)	1,071	2.4	193	2.4	1,264	2.4
No procedure recorded	9,640	21.7	2,562	32.3	12,202	23.3
Total palliative care separations	**44,405**	**. .**	**7,942**	**. .**	**52,347**	**. .**
Total procedures recorded for palliative care separations[b]	130,288	. .	15,200	. .	145,488	. .

(a) The ten most common Australian Classification of Health Interventions (ACHI) codes (at the block level) for all hospitals are shown. In addition, for the generalised allied health intervention block, the ten most common procedure codes are shown.

(b) The number (and percentage) shown indicates the number (and percentage) of palliative care separations for which the indicated procedure was recorded. The last row is an exception as it shows the total number of procedures recorded for the palliative care separations.

(c) Even though only the most common procedures are shown, the sum of the number of separations exceeds the total number of separations. This is because multiple procedures (or no procedures) may be recorded for any one separation. For the same reason, the sum of the percentages in this table exceeds 100.

Source: National Hospital Morbidity Database, AIHW.

Procedures that fell within the 'Generalised allied health intervention' group were reported for 2 in 3 (67%) palliative care separations. The next most common procedure group, 'Administration of blood and blood products', was reported for 12% of the palliative care separations, followed by 'Computerised tomography of brain' (9%) and 'Cerebral anaesthesia' (7%).

Specific interventions in the 'Generalised allied health intervention' group that were provided during palliative care separations included *Physiotherapy* (40% of palliative care separations), *Social work* (35%), *Occupational therapy* (24%) and *Dietetics* (24%).

The procedures reported during palliative care separations varied according to the sector of the hospital. For example, the proportion of such separations for which no procedure was recorded was higher in private hospitals than in public hospitals (32% and 22%, respectively). For those separations for which a procedure was reported, the average number of procedures was higher in public hospitals (3.7 per separation) than in private hospitals (2.8 per separation). Furthermore, the proportion of palliative care separations that included a 'Generalised allied health intervention' was higher in public hospitals (70%) than in private hospitals (51%). The data also indicated that *Physiotherapy* and *Social work* were more often reported for palliative care separations in public hospitals (42% and 39%, respectively) than in private hospitals (28% and 17%, respectively).

Who paid for the care?

Information is recorded in the NHMD on the main funding source—that is, the 'expected principal source of funds for an admitted patient separation'. In public hospitals in 2008–09, over three-quarters (77%) of palliative care separations were for *Public patients*; 16% of such separations were funded by *Private health insurance* and 7% by the *Department of Veterans' Affairs* (DVA) (Table 4.4). This contrasts with the distribution of the main funding source in public hospitals for separations for all reasons, with *Public patients* comprising 86% of such separations, 9% were funded by *Private health insurance* and 3% by the *Department of Veterans' Affairs*.

Differences by jurisdiction in the main funding source for palliative care separations in public hospitals are evident. The proportion of such separations that was for *Public patients* ranged from a low of 68% in New South Wales to a high of 96% in the Northern Territory, while the proportion that was funded by *Private health insurance* ranged from less than 1% in the Northern Territory to 23% in New South Wales.

As would be expected, the main funding source for palliative care separations in private hospitals differed substantially from that in public hospitals (Figure 4.2). Over half (54%) of palliative care separations in private hospitals were funded by *Private health insurance*, 31% were for *Public patients*, and the *DVA* funded 12% of such separations. Furthermore, compared with separations for all reasons, palliative care separations in private hospitals were more likely to be for *Public patients* (31% for palliative care separations compared with 3% for separations for all reasons), and less likely to be funded by *Private health insurance* (54% compared with 79%).

As was the case for public hospitals, there were also marked differences in the main funding source by jurisdiction in private hospitals. For example, the proportion of palliative care separations in private hospitals that was for *Public patients* ranged from less than 1% in Victoria to 61% in Western Australia.

Table 4.4: Palliative care separations and all separations by principal source of funds, states and territories, public and private hospitals, 2008–09

	Palliative care separations (%)									
Principal source of funds	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas[(a,b)]**	**ACT[(a)]**	**NT[(a)]**	**Total[(a)]**	**Separations for all reasons (%)**
Public hospitals										
Public patients[(c)]	68.1	79.9	92.7	88.9	80.8	78.2	70.1	96.1	76.9	85.6
Private health insurance	23.4	13.1	2.4	6.4	11.5	15.1	20.7	0.1	15.7	9.2
Department of Veterans' Affairs	7.5	6.4	4.5	4.3	7.6	6.4	8.7	3.2	6.6	2.5
Other[(d)]	1.0	0.6	0.4	0.4	0.0	0.3	0.4	0.5	0.7	2.6
Total[(e)]	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Private hospitals										
Public patients[(c)]	18.9	0.4	39.4	60.9	9.3	n.p.	n.p.	n.p.	30.7	3.1
Private health insurance	63.0	84.3	44.6	29.6	76.7	n.p.	n.p.	n.p.	53.9	79.2
Department of Veterans' Affairs	14.7	10.5	12.1	9.1	12.0	n.p.	n.p.	n.p.	11.8	6.1
Other[(d)]	3.4	4.8	3.9	0.3	2.0	n.p.	n.p.	n.p.	2.6	10.9
Total[(e)]	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*n.p.*	*n.p.*	*n.p.*	*100.0*	*100.0*

(a) To ensure confidentiality of information, data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory are not shown. 'Total' includes data for all jurisdictions.

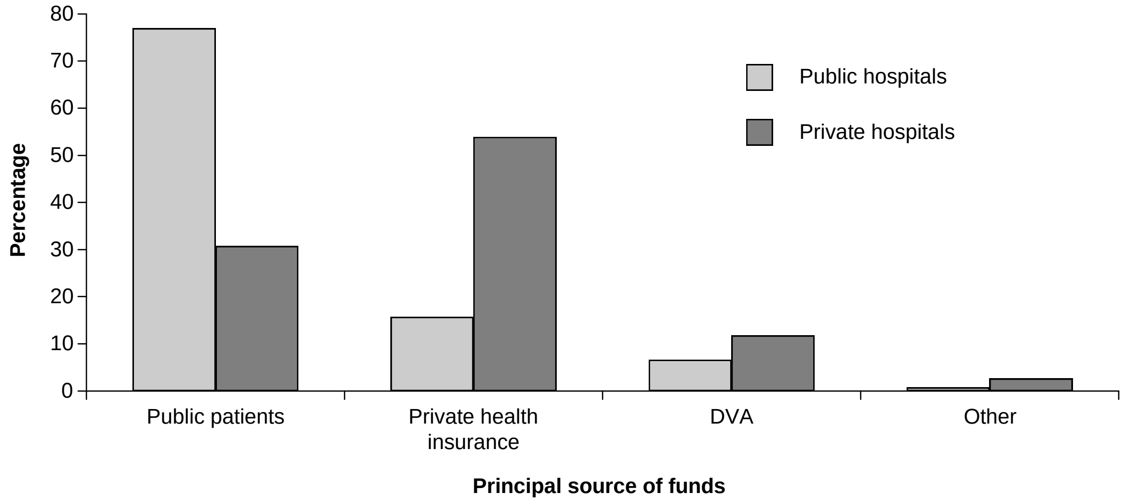
(b) Tasmania was unable to identify all patients whose funding source may have been *Self-funded* (a funding source that is included in the *Other* category in this table). Therefore, the number of separations in the *Other* category may be underestimated while the number in the other categories may be overestimated.

(c) The 'Public patients' category includes separations with a funding source of *Australian Health Care Agreements*, *Reciprocal health care agreements*, *Other hospital or public authority* (with a public patient election status) and *No charge raised* (in public hospitals).

(d) 'Other' includes separations with a funding source of *Self-funded*, *Workers compensation*, *Motor vehicle third party personal claim*, *Other compensation (for example, public liability, common law, medical negligence)*, *Department of Defence*, *Correctional facility*, *Other hospital or public authority* (without a public patient election status), *Other* and *No charge raised* (in private hospitals).

(e) 'Total' includes those separations for which the principal source of funds was not reported.

Source: National Hospital Morbidity Database, AIHW.



Note: Data for this figure and details on the types of funding included within each of the categories are shown in Table 4.4.

Source: National Hospital Morbidity Database, AIHW.

Figure 4.2: Palliative care separations by principal source of funds, all hospitals, 2008–09

How was the care completed?

Information on the 'mode of completing a separation' describes the status of a patient at the end of the separation in terms of whether the person died and, if not, their destination after discharge from hospital. A *Statistical discharge* is one discharge option, with this type of discharge being assigned to those patients for whom the intent of the care changed during their stay within a hospital. The *Other* option includes those who were discharged to their own accommodation, their usual residence (which could be a residential aged care service), or a welfare institution (such as a prison, hostel or group home providing primarily welfare services).

As would be expected, there were notable differences in the way in which the palliative care separations and all separations ended (Table 4.5 and Figure 4.3). Almost 1 in 2 palliative care separations ended with the patient's death (49%) compared with 1 in 100 (1%) separations for all reasons. Further, about one-third (34%) of palliative care separations ended with a mode of *Other*; this is much lower than the proportion of all separations that ended in this way (92%).

The manner in which palliative care separations ended within private hospitals compared with public hospitals did not tend to differ greatly. However, there were some marked differences by jurisdiction among the public hospitals. For example, the proportion of palliative care separations that ended with the patient's death was lowest in public hospitals in the Northern Territory (32%) and highest in the Australian Capital Territory (61%) and in Western Australia (60%). Further, the proportion of palliative care separations in public hospitals that ended with a *Statistical discharge* ranged from 1% in Victoria to 16% in the Northern Territory.

Table 4.5: Palliative care separations and all separations by mode of completing separation, states and territories, all hospitals, 2008–09

Mode of completing separation	Palliative care separations (%) NSW	Vic	Qld	WA	SA	Tas[a]	ACT[a]	NT[a]	Total[a]	Separations for all reasons (%)
Public hospitals										
Discharge or transfer to:										
• an(other) acute hospital	7.2	11.6	6.0	7.6	7.9	4.5	4.0	4.4	8.3	6.0
• a residential aged care service[b]	4.5	3.8	2.6	3.9	7.7	5.5	2.3	1.6	4.2	1.2
• other health-care accommodation[c]	1.9	0.3	1.9	0.4	0.4	8.3	6.4	1.1	1.5	0.4
Statistical discharge (incl. from leave)	3.9	0.6	7.9	3.5	3.2	5.2	5.2	16.0	3.6	1.6
Left against medical advice	0.3	0.2	0.4	0.4	0.2	0.0	0.0	1.7	0.3	0.8
Died	43.6	53.9	50.1	59.6	41.6	43.3	60.7	32.2	47.9	1.2
Other[d]	38.6	29.6	31.0	24.6	39.0	33.2	21.5	43.0	34.3	88.8
Total[e]	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Private hospitals										
Discharge or transfer to:										
• an(other) acute hospital	6.3	8.9	1.1	14.3	8.1	n.p.	n.p.	n.p.	7.6	1.7
• a residential aged care service[b]	3.0	4.8	1.5	2.3	5.4	n.p.	n.p.	n.p.	3.0	0.3
• other health-care accommodation[c]	0.4	0.0	0.5	0.0	1.3	n.p.	n.p.	n.p.	0.4	0.1
Statistical discharge (incl. from leave)	1.3	0.3	1.7	0.9	0.1	n.p.	n.p.	n.p.	1.1	0.4
Left against medical advice	0.0	2.7	0.1	0.0	0.0	n.p.	n.p.	n.p.	0.5	0.1
Died	46.1	52.9	60.7	52.6	56.5	n.p.	n.p.	n.p.	54.1	0.4
Other[d]	42.9	30.5	34.3	29.9	28.6	n.p.	n.p.	n.p.	33.2	97.1
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*n.p.*	*n.p.*	*n.p.*	*100.0*	*100.0*

(continued)

Table 4.5 (continued): Palliative care separations and all separations by mode of completing separation, states and territories, all hospitals, 2008–09

	Palliative care separations (%)									
Mode of completing separation	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas[(a)]**	**ACT[(a)]**	**NT[(a)]**	**Total[(a)]**	**Separations for all reasons (%)**
All hospitals										
Discharge or transfer to:										
• an(other) acute hospital	7.1	11.4	4.7	11.8	7.9	n.p.	n.p.	n.p.	8.2	4.3
• a residential aged care service[(b)]	4.4	3.9	2.3	2.9	7.2	n.p.	n.p.	n.p.	4.0	0.8
• other health-care accommodation[(c)]	1.8	0.3	1.6	0.2	0.6	n.p.	n.p.	n.p.	1.3	0.3
Statistical discharge (incl. from leave)	3.8	0.6	6.3	1.8	2.6	n.p.	n.p.	n.p.	3.2	1.1
Left against medical advice	0.3	0.4	0.3	0.2	0.1	n.p.	n.p.	n.p.	0.3	0.5
Died	43.7	53.8	52.9	55.1	44.7	n.p.	n.p.	n.p.	48.8	0.9
Other[(d)]	38.9	29.7	31.9	28.0	36.8	n.p.	n.p.	n.p.	34.1	92.1
Total[(e)]	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*n.p.*	*n.p.*	*n.p.*	*100.0*	*100.0*

(a) To ensure confidentiality of information, data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory are not shown. ‘Total’ includes data for all jurisdictions.

(b) Excluding those for whom a residential aged care service was the usual place of residence.

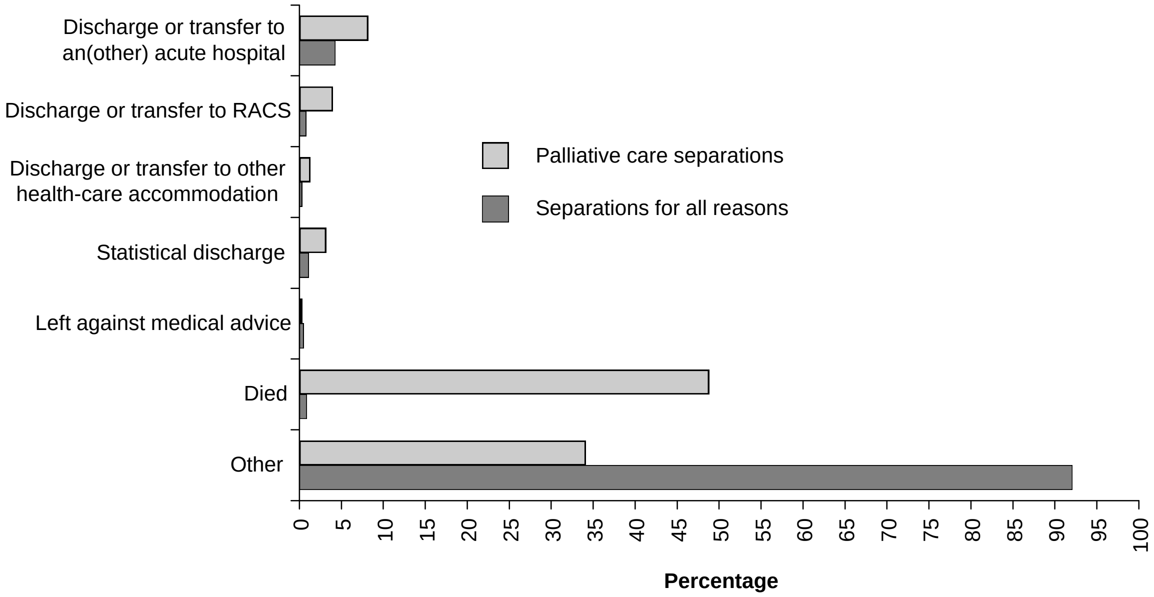
(c) Includes psychiatric hospitals and mothercraft hospitals.

(d) Includes discharge to own accommodation, usual residence or a welfare institution (such as a prison, hostel or group home providing primarily welfare services).

(e) Includes those separations for which the mode of completing the separation was not reported.

Source: National Hospital Morbidity Database, AIHW.

For private hospitals, some differences by jurisdiction are also evident. The proportion of palliative care separations that ended with the patient's death ranged from 46% in New South Wales to 61% in Queensland. Meanwhile, the proportion of separations that ended with a *Discharge (or transfer) to an(other) acute hospital* varied from a low of 1% in private hospitals in Queensland to 14% in such hospitals in Western Australia.



Notes

1. 'Discharge or transfer to a residential aged care service (RACS)' does not include those for whom a RACS is their usual place of residence.
2. 'Other' includes a discharge to own accommodation, usual residence or a welfare institution (such as a prison, hostel or group home providing primarily welfare services).
3. Data for this figure are shown in Table 4.5.

Source: National Hospital Morbidity Database, AIHW.

Figure 4.3: Palliative care separations and all separations by mode of completing separation, all hospitals, 2008–09

5 Trends in palliative care separations

This chapter describes how the number and rate of palliative care separations in Australian hospitals have changed between 1999–00 and 2008–09. The number of palliative care separations recorded in any one year nationally, as well as within any one state or territory, is contingent on a range of factors, including:

- the number of people in need of palliative care
- the number requiring such care as an admitted patient
- the availability of alternative services
- relative accessibility of hospital care
- hospital admission criteria and policies.

In addition, the number of palliative care separations recorded in any one year can be affected by coding rules and practices, with the latter varying by jurisdiction in some cases. Details about differences in coding rules and practices can be found in the AIHW's technical paper on the identification of palliative care separations (2011b).

Change over time in the amount of activity

In 1999–00, there were 33,523 palliative care separations in admitted patient care; by 2008–09, this number had increased by 56% to 52,347 separations (Table 5.1). This compares with an increase of 38% for all separations over the same period.

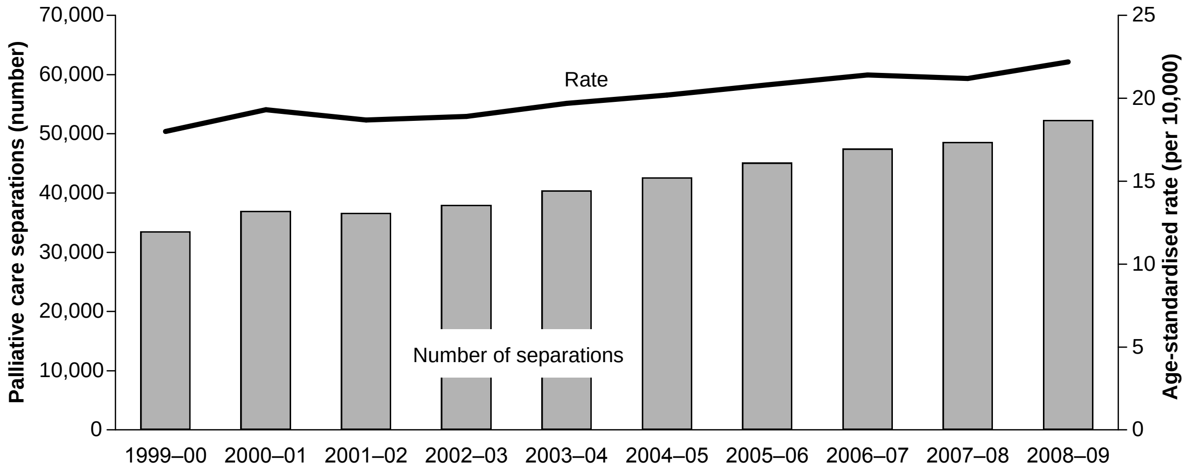
Table 5.1: Palliative care separations and all separations, all hospitals, 1999–00 to 2008–2009

	Palliative care separations				Separations for all reasons	
	Number of separations	% change from previous year	ASR[(a)]	% of separations for all reasons	Number of separations	% change from previous year
1999–00	33,523	. .	18.0	0.57	5,898,804	. .
2000–01	36,980	10.3	19.3	0.60	6,153,769	4.3
2001–02	36,667	–0.8	18.7	0.57	6,398,171	4.0
2002–03	37,996	3.6	18.9	0.57	6,644,984	3.9
2003–04	40,435	6.4	19.7	0.59	6,841,225	3.0
2004–05	42,622	5.4	20.2	0.61	7,018,850	2.6
2005–06	45,134	5.9	20.8	0.62	7,311,983	4.2
2006–07	47,472	5.2	21.4	0.62	7,602,917	4.0
2007–08	48,631	2.4	21.2	0.62	7,873,945	3.6
2008–09	52,347	7.6	22.2	0.64	8,148,448	3.5

(a) The rates were age standardised to the Australian population as at 30 June 2001 and are expressed per 10,000 persons (see Appendix D).

Source: National Hospital Morbidity Database, AIHW.

There was an increase in the number of palliative care separations from one year to the next in all cases but one, with a slight decrease (of 1%) between 2000–01 and 2001–02 (Figure 5.1). The largest year-to-year increase (of 10%) occurred between 1999–00 and 2000–01. This relatively large increase may be partly due to the broadening of the definition of palliative care used in the coding of diagnoses from 2000–01 onwards (AIHW 2011b).



Note: Data for this figure are shown in Table 5.1.

Source: National Hospital Morbidity Database, AIHW.

Figure 5.1: Palliative care separations, all hospitals, 1999–00 to 2008–2009

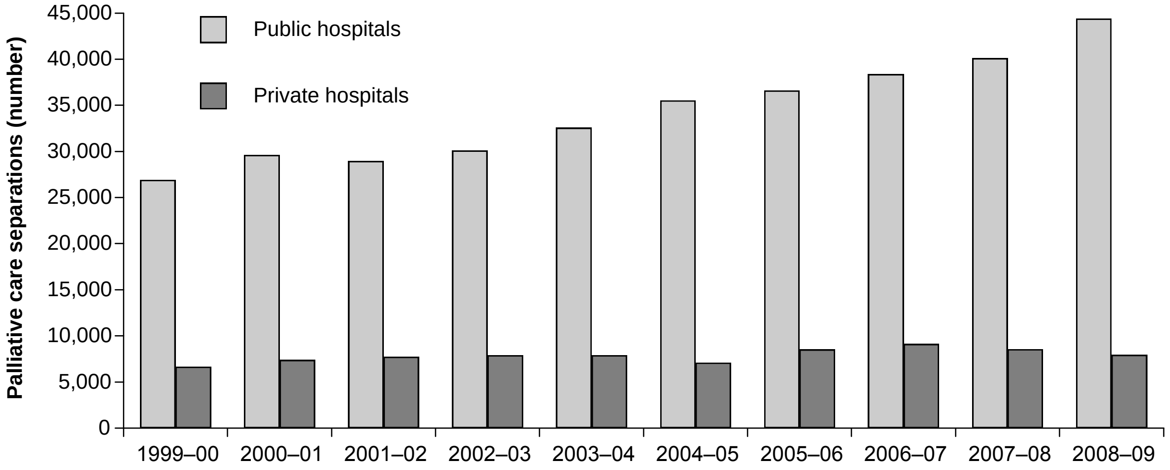
The age-standardised rate of palliative care separations increased from 18.0 per 10,000 persons in 1999–00 to 22.2 per 10,000 persons in 2008–09. This indicates that, over the 10-year period, there was a 'real' increase in the number of admitted patient palliative care separations that goes beyond the increase that can be explained by population growth and an ageing population.

The share of all admitted patient separations that were for palliative care also increased somewhat over the years; that is, in 1999–00, 5.7 out of every 1,000 separations (0.57%) were for palliative care compared with 6.4 out of every 1,000 separations (0.64%) in 2008–09.

Change over time by sector

In this section and the next, differences in the number of separations are considered by sector. Note that there has been some variation between jurisdictions and over time in the reporting of hospitals as either public or private hospitals. For example, from 2006–07, some of the health services provided by two private hospitals in Western Australia were reported as public hospital activity whereas, in previous years, all activity for those hospitals was reported as private sector activity. Change in the reporting of activity as either private or public also occurred in one hospital in Tasmania during the period considered. Thus, the data by sector, as presented below, should be interpreted in the light of such variations (see Appendix 2 of *Australia's hospital statistics* (AIHW 2010a) for further information).

While there has been an overall increase in the number of palliative care separations in admitted patient care between 1999–00 and 2008–09, much of this increase occurred in public rather than in private hospitals (Figure 5.2). Over the 10-year period, there was an increase of 65% in the number of palliative care separations in public hospitals. In contrast, the number of palliative care separations in private hospitals fluctuated over the years (including a decrease from the previous year in both 2007–08 and 2008–09), with a net increase of 20% between 1999–00 and 2008–09 (Table 5.2). This contrasts with an increase from one year to the next in the number of all separations in private hospitals over the same time period; the number of such separations increased by 61% between 1999–00 and 2008–09.



Note: Data for this figure are shown in Table 5.2.

Source: National Hospital Morbidity Database, AIHW.

Figure 5.2: Palliative care separations, public and private hospitals, 1999–00 to 2008–2009

While the overall share of all separations that were palliative care separations rose over the 10-year period in public hospitals (from 6.9 out of every 1,000 separations in 1999–00 to 9.1 per 1,000 separations in 2008–09), it fell in private hospitals (from 3.3 to 2.4 per 1,000 separations) over the same period (Table 5.2).

Likewise, when public hospital data are considered, an increase in the age-standardised rate of palliative care separations is evident over time, with an increase from 14.4 palliative care separations per 10,000 persons in 1999–00 to 18.9 such separations per 10,000 in 2008–09. In contrast, the rate of palliative care separations in private hospitals fluctuated within a narrow range over the years, ranging from a low of 3.4 per 10,000 persons in both 2004–05 and 2008–09 to a high of 4.1 per 10,000 persons in 2006–07. Overall, there was no discernible trend over the ten-year period in the rate of palliative care separations in private hospitals.

Table 5.2: Palliative care separations and all separations, public and private hospitals, 1999–00 to 2008–2009

	Palliative care separations				Separations for all reasons	
	Number of separations	% change from previous year	ASR[(a)]	% of separations for all reasons	Number of separations	% change from previous year
Public hospitals						
1999–00	26,894	. .	14.4	0.69	3,872,815	. .
2000–01	29,619	10.1	15.5	0.76	3,881,875	0.2
2001–02	28,946	–2.3	14.7	0.73	3,965,512	2.2
2002–03	30,093	4.0	15.0	0.74	4,090,969	3.2
2003–04	32,542	8.1	15.8	0.77	4,200,517	2.7
2004–05	35,522	9.2	16.9	0.83	4,276,425	1.8
2005–06	36,623	3.1	16.9	0.82	4,466,076	4.4
2006–07	38,355	4.7	17.3	0.82	4,661,280	4.4
2007–08	40,096	4.5	17.5	0.85	4,744,060	1.8
2008–09	44,405	10.7	18.9	0.91	4,891,023	3.1
Private hospitals						
1999–00	6,629	. .	3.6	0.33	2,025,989	. .
2000–01	7,361	11.0	3.9	0.32	2,271,894	12.1
2001–02	7,721	4.9	3.9	0.32	2,432,659	7.1
2002–03	7,903	2.4	3.9	0.31	2,554,015	5.0
2003–04	7,893	–0.1	3.8	0.30	2,640,708	3.4
2004–05	7,100	–10.0	3.4	0.26	2,742,425	3.9
2005–06	8,511	19.9	3.9	0.30	2,845,907	3.8
2006–07	9,117	7.1	4.1	0.31	2,941,637	3.4
2007–08	8,535	–6.4	3.7	0.27	3,129,885	6.4
2008–09	7,942	–6.9	3.4	0.24	3,257,425	4.1

(a) The rates were age standardised to the Australian population as at 30 June 2001 and are expressed per 10,000 persons (see Appendix D).

Source: National Hospital Morbidity Database, AIHW.

Change over time by jurisdiction

The number of palliative care separations recorded in each jurisdiction for the five-year period from 2004–05 to 2008–09 is shown in Table 5.3. The average annual change during that period varied widely across the states and territories. Among public hospitals, the average annual increase in the number of palliative care separations ranged from a low of 1% in both Western Australia and South Australia to a high of 33% in the Northern Territory (Figure 5.3). Note, however, that the number of palliative care separations in the Northern Territory and the Australian Capital Territory is relatively small.

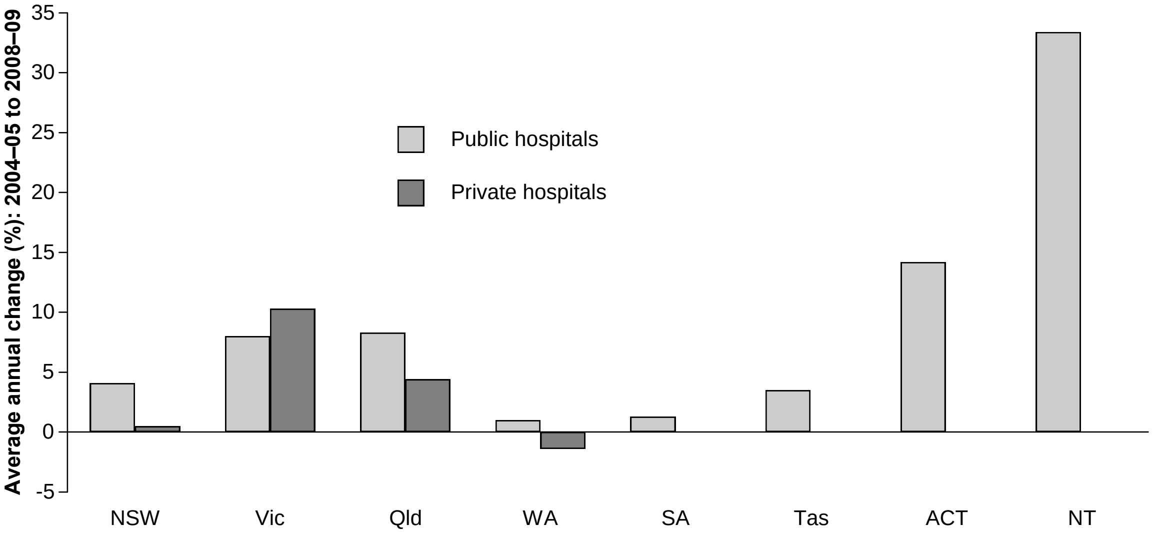
Table 5.3: Palliative care separations by states and territories, public and private hospitals, 2004–05 to 2008–09

	Separations (number)					Average annual change since 2004–05 (%)
	2004–05	2005–06	2006–07	2007–08	2008–09	
Public hospitals						
New South Wales	15,856	15,860	16,110	16,726	18,591	4.1
Victoria	9,832	10,033	11,454	12,198	13,362	8.0
Queensland	3,971	3,921	4,405	4,266	5,457	8.3
Western Australia	1,198	1,691	1,318	1,392	1,246	1.0
South Australia	3,220	3,359	3,088	3,383	3,389	1.3
Tasmania	799	860	844	850	916	3.5
Australian Capital Territory	411	503	539	649	699	14.2
Northern Territory	235	396	597	632	745	33.4
Total	*35,522*	*36,623*	*38,355*	*40,096*	*44,405*	*5.7*
Private hospitals[(a)]						
New South Wales	1,189	1,191	1,280	1,196	1,211	0.5
Victoria	950	1,145	1,211	1,280	1,408	10.3
Queensland	1,643	1,775	2,083	2,433	1,949	4.4
Western Australia	2,285	2,529	2,459	2,098	2,156	-1.4
South Australia	907	918	856	850	906	0.0
Total[(a)]	*7,100*	*8,511*	*9,117*	*8,535*	*7,942*	*2.8*
All hospitals[(a)]						
New South Wales	17,045	17,051	17,390	17,922	19,802	3.8
Victoria	10,782	11,178	12,665	13,478	14,770	8.2
Queensland	5,614	5,696	6,488	6,699	7,406	7.2
Western Australia	3,483	4,220	3,777	3,490	3,402	-0.6
South Australia	4,127	4,277	3,944	4,233	4,295	1.0
Total[(a)]	*42,622*	*45,134*	*47,472*	*48,631*	*52,347*	*5.3*

(a) To ensure confidentiality of information, data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory are not shown. 'Total' includes data for all jurisdictions.

Source: National Hospital Morbidity Database, AIHW.

Among private hospitals, Victoria had the highest average annual increase in the number of palliative care separations between 2004–05 and 2008–09 (10%), followed by Queensland (4%). Despite the overall increase in the number of palliative care separations in private hospitals in Queensland, there was a notable decrease in the number of such separations between 2007–08 and 2008–09 (from 2,433 to 1,949 palliative care separations).



Notes

1. To ensure confidentiality of information, data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory are not shown.
2. Data for this figure are shown in Table 5.3.

Source: National Hospital Morbidity Database, AIHW.

Figure 5.3: Palliative care separations by states and territories, public and private hospitals, average annual change between 2004–05 to 2008–2009

When the age distribution and population size are taken into account for each of the years considered, wide variation in palliative care separation rates by jurisdiction is also evident, particularly in public hospitals (Table 5.4). For instance, for some jurisdictions, such as Western Australia and South Australia, the age-standardised rate of palliative care separations in public hospitals tended to fluctuate over time, with no discernible trend. In contrast, in public hospitals in the Northern Territory, the palliative care separation rate increased fairly steadily from 23.4 per 10,000 persons in 2004–05 to 64.7 per 10,000 persons in 2008–09. Likewise, among public hospitals in the Australian Capital Territory, there was an increase in the age-standardised rate over time, starting from 15.7 palliative care separations per 10,000 persons in 2004–05 and increasing to 23.1 per 10,000 persons in 2008–09. Note, though, as indicated earlier, that a relatively small number of palliative care separations were recorded in the Australian Capital Territory and the Northern Territory.

In private hospitals, the age-standardised rate of palliative care separations remained fairly stable over the five years considered for a number of the jurisdictions, including New South Wales and South Australia. Meanwhile, for private hospitals in Queensland, the rate tended to increase over the first of the four years considered (from 4.2 palliative care separations per 10,000 persons in 2004–05 to 5.6 per 10,000 in 2007–08), but then fell back to 4.4 palliative care separations per 10,000 persons in 2008–09.

Table 5.4: Palliative care separations by states and territories, age-standardised rates, public and private hospitals, 2004–05 to 2008–09

	Age-standardised rates[(a)]				
	2004–05	**2005–06**	**2006–07**	**2007–08**	**2008–09**
Public hospitals					
New South Wales	22.1	21.5	21.4	21.6	23.4
Victoria	18.4	18.2	20.3	21.1	22.4
Queensland	10.2	9.7	10.6	10.0	12.4
Western Australia	6.3	8.6	6.5	6.6	5.7
South Australia	17.6	18.0	16.3	17.5	17.1
Tasmania	14.6	15.2	14.6	14.6	15.3
Australian Capital Territory	15.7	18.2	19.1	22.2	23.1
Northern Territory	23.4	41.8	56.5	57.6	64.7
Total	*16.9*	*16.9*	*17.3*	*17.5*	*18.9*
Private hospitals[(b)]					
New South Wales	1.6	1.6	1.7	1.5	1.5
Victoria	1.8	2.1	2.1	2.2	2.3
Queensland	4.2	4.4	5.0	5.6	4.4
Western Australia	11.9	12.9	12.1	9.9	9.9
South Australia	4.9	4.9	4.5	4.3	4.5
Total[(b)]	*3.4*	*3.9*	*4.1*	*3.7*	*3.4*
All hospitals[(b)]					
New South Wales	23.7	23.1	23.1	23.2	24.9
Victoria	20.2	20.3	22.5	23.2	24.7
Queensland	14.4	14.2	15.6	15.6	16.7
Western Australia	18.2	21.5	18.6	16.5	15.6
South Australia	22.5	22.9	20.8	21.8	21.5
Total[(b)]	*20.2*	*20.8*	*21.4*	*21.2*	*22.2*

(a) The rates were age standardised to the Australian population as at 30 June 2001 and are expressed per 10,000 persons (see Appendix D).

(b) To ensure confidentiality of information, data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory are not shown. 'Total' includes data for all jurisdictions.

Source: National Hospital Morbidity Database, AIHW.

Change over time in length of stay

The number of patient days for palliative care separations in admitted patient settings has increased over the years. In 1999–00, palliative care separations accounted for 418,270 patient days (Table 5.5). This number increased steadily over the years, reaching 653,468 patient days by 2008–09. This equates to a 56% increase in patient days for palliative care separations over the 10-year period.

The average length of palliative care separations remained steady over the 10-year period, at around 12.5 days to 13.0 days (Figure 5.4). This stability in the average length of stay suggests that the observed increase in patient days for palliative care over the years is not due to an increase in the average length of these separations but rather to an increase in the number of such separations (see Table 5.1).

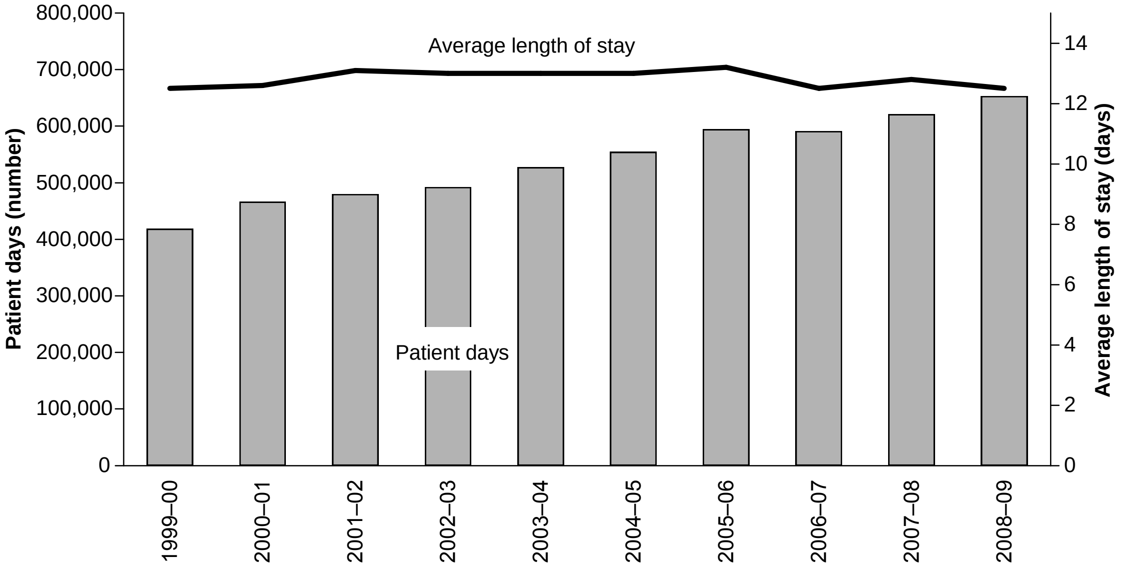
Table 5.5: Palliative care separations, patient days and average length of stay (ALOS), all hospitals, 1999–00 to 2008–2009

	Same-day separations[a]	Overnight separations		Total separations		% of separations that were overnight separations
	Patient days	Patient days	ALOS (days)	Patient days	ALOS (days)	
1999–00	3,685	414,585	13.9	418,270	12.5	89.0
2000–01	3,926	462,523	14.0	466,449	12.6	89.4
2001–02	3,200	476,683	14.2	479,883	13.1	91.3
2002–03	3,237	489,222	14.1	492,459	13.0	91.5
2003–04	3,337	523,982	14.1	527,319	13.0	91.7
2004–05	2,892	551,542	13.9	554,434	13.0	93.2
2005–06	3,364	591,014	14.1	594,378	13.2	92.5
2006–07	4,290	586,957	13.6	591,247	12.5	91.0
2007–08	3,304	617,695	13.6	620,999	12.8	93.2
2008–09	3,381	650,087	13.3	653,468	12.5	93.5

(a) By definition, the average length of stay (ALOS) for same-day separations equals 1 day.

Source: National Hospital Morbidity Database, AIHW.

Table 5.5 also presents information on the proportion of palliative care separations that involved an overnight stay. Over the 10-year period, the proportion of such separations increased somewhat, from 89% in 1999–00 to 94% in 2008–09. Indeed, despite the overall increase in the number of palliative care separations over the years, the number of same-day palliative care separations was actually higher in 1999–00 than in 2008–09 (3,685 and 3,381, respectively).



Note: Data for this figure are shown in Table 5.5.

Source: National Hospital Morbidity Database, AIHW.

Figure 5.4: Palliative care separations, patient days and average length of stay, all hospitals, 1999–00 to 2008–2009

6 Palliative care and deaths in hospital

So far in this report, the focus has been on all palliative care separations that occurred in admitted patient settings. In this chapter, the focus shifts to a subset of these palliative care separations: those that ended with the patient's death in the admitted patient setting.

First, in this chapter, data for 1999–00 to 2008–09 are presented on the proportion of all Australian deaths that occurred within the admitted patient setting. Second, details are provided on the number of people who were palliative care patients during the separation that ended with their death. Third, which patients were palliative care patients among those who died while in admitted patient care is examined, with a particular emphasis on cancer patients.

Note that there is one notable difference in this chapter compared with previous chapters. Elsewhere in this report, the data pertain solely to separations, not to patients, as any one patient may have had multiple separations in any particular time period. By contrast, since the focus in this chapter is on separations that ended with the patient's death (a one-time event), the number of separations equals the number of patients. Thus, in this chapter, reference can be made to either palliative care *patients* or palliative care *separations*, with the former used for readability purposes. Despite this change in wording for this chapter, the same criteria as were used throughout the earlier chapters of this report were used to identify palliative care patients (that is, those separations with a code of *Palliative care* for the 'Care type' and/or diagnosis data items) (see Appendix B).

Note also that admitted patients who died in hospital but were not identified as 'palliative care patients' may well have received some palliation during the separation that ended with their death. However, as elsewhere in this report, the focus is on those separations for which palliation was a substantial component of the care provided.

Ideally, in this chapter, a comparison would be made between those who were palliative care patients and those who could have benefited from being such a patient (that is, the potential palliative care population) during their final separation. However, there are no data in the NHMD that would allow one to ascertain the level of unmet demand for palliative care.

As discussed earlier in this report, the reasons why one individual (or group) is a palliative care patient and another is not is influenced by a complex range of factors including the patient's characteristics, the type and stage of the patient's disease (for example, active treatment may be considered more appropriate for one than another), availability and accessibility of palliative care, patient and family care preferences, and referral patterns to palliative care services.

Place of death

There is a large and growing body of research in the palliative care literature on the topic of place of palliative care and place of death (e.g. Agar et al. 2008; Costantini 2008; Gomes & Higginson 2006; Rosenwax et al. 2011; Stajduhar et al. 2008; Townsend et al. 1990). While data on the *number* of deaths in Australia are available from the ABS' Death Registrations collection (2009c), no data are included in that collection on the *place* of death. Furthermore, there is no single national collection that provides information on where people die in Australia. However, data from the NHMD can be used to examine what proportion of all deaths occurred within admitted patient settings.

In 2008–09, a total of 143,472 people died in Australia (Table 6.1). According to data from the NHMD, 74,380 of these died as an admitted patient in an Australian hospital.

As discussed in Chapter 2, most states and territories have hospital-in-the-home (HITH) programs under which admitted patients are provided with hospital care in their home as a substitute for hospital accommodation (AIHW 2010b). The place of death of these patients may not have been in hospital. After excluding the small number of HITH patients reported, the data indicate that 74,276 people died in admitted patient care in 2008–09. This equates to just over half (52%) of deaths in Australia having occurred in an admitted patient setting in an Australian hospital in 2008–09. Note that this proportion includes deaths that occurred in hospices that were affiliated with hospitals. However, data are not available in the NHMD on the number of deaths that occurred in a hospice rather than elsewhere in the hospital.

Table 6.1: Admitted patient deaths, all hospitals, and all deaths, 1999–00 to 2008–09

	Admitted patient deaths (number)			Total deaths in Australia[(b)] (number)	Admitted patient deaths (excl. HITH) as a % of all deaths in Australia
	Total admitted patient deaths	Deaths of HITH admitted patients[(a)]	Admitted patient deaths excluding HITH patients		
1999–00	67,740	. .	67,740	128,396	52.8
2000–01	69,161	. .	69,161	128,933	53.6
2001–02	70,671	114	70,557	130,280	54.2
2002–03	71,573	96	71,477	132,409	54.0
2003–04	71,932	106	71,826	133,280	53.9
2004–05	70,799	92	70,707	131,338	53.8
2005–06	71,122	92	71,030	134,025	53.0
2006–07	72,440	86	72,354	135,838	53.3
2007–08	74,365	106	74,259	140,650	52.8
2008–09	74,380	104	74,276	143,472	51.8

(a) Data are available from 2001–02 onwards for most states and territories on admitted patients who received hospital-in-the-home (HITH) care. These data are not complete; for example, for all of the years considered, New South Wales and Tasmania did not provide information on HITH activity.

(b) Deaths in Australia by date of occurrence.

Sources: ABS (2010a); National Hospital Morbidity Database, AIHW.

Data on deaths between 1999–00 and 2008–09 are also shown in Table 6.1. The proportion of deaths that occurred within the admitted patient setting rose slightly between 1999–00 and 2001–02 (from 53% to 54%) but then it tended to decrease somewhat each year to 2008–09, when it stood at 52%.

Palliative care patients

In the remainder of this chapter, the number and characteristics of those who were palliative care patients during the separation that ended with their death are examined. Note that the data pertain only to whether the person was a palliative care patient during the hospital separation that ended with their death, not to whether they were *ever* a palliative care patient within the admitted patient setting (or elsewhere).

In 1999–00, 1 in 5 (21%) admitted patients had been a palliative care patient during the separation that ended with their death (Figure 6.1). Over the following years, this proportion steadily increased such that by 2008–09, 1 in 3 (34%) people who died as an admitted patient had been a palliative care patient during their final hospitalisation.

Notes

1. Refers to patients for whom palliative care was the principal clinical intent during part or all of the separation that ended with their death.
2. Data for this figure are shown in Appendix Table A6.1.

Source: National Hospital Morbidity Database, AIHW.

Figure 6.1: Palliative care patients among those who died as an admitted patient, all hospitals, 1999–00 to 2008–2009

The proportion of those who were palliative care patients during the hospitalisation that ended with their death varied widely by disease (Table 6.2). Among those with cancer as a principal diagnosis who died, almost 7 out of 10 (69%) had been a palliative care patient during their final hospital separation. When both principal and additional diagnoses are considered, 60% of those with a cancer diagnosis had been a palliative care patient during the hospital separation that ended with their death.

Table 6.2 also presents data on those cancer sites for which there were 200 or more admitted patient deaths (based on the principal diagnosis) in 2008–09. Those patients with melanoma of the skin as a principal diagnosis were most likely (83%) to have been a palliative care patient during the hospital stay that ended with their death. This was followed by those with brain cancer as the principal diagnosis (77%), those with an unknown primary site cancer (76%) and those with prostate cancer or breast cancer as the principal diagnosis (both 75%). Conversely, of the cancer sites shown, those patients with a blood or lymphatic system cancer were least likely to have been a palliative care patient during the hospitalisation that ended with their death. Specifically, less than half (45%) of those with an acute myeloid leukaemia as the principal diagnosis were identified as palliative care patients, as were 52% of those with myeloma and 58% of those with Non-Hodgkin lymphoma.

Table 6.2: Palliative care patients among those who died as an admitted patient, by selected diseases, all hospitals, 2008–09

	Based on principal diagnosis			Based on principal and additional diagnoses		
Disease[a] (ICD-10-AM codes)	**Palliative care patient deaths[b]**	**Total admitted patient deaths**	**% palliative care patient deaths[b]**	**Palliative care patient deaths[b]**	**Total admitted patient deaths**	**% palliative care patient deaths[b]**
Cancer site[a]						
Melanoma of skin (C43)	264	319	82.8	636	917	69.4
Brain (C71)	519	674	77.0	575	797	72.1
Unknown primary site (C80)	275	363	75.8	1,235	2,061	59.9
Prostate (C61)	749	996	75.2	1,333	2,214	60.2
Breast (C50)	596	794	75.1	1,186	1,935	61.3
Kidney (C64)	265	357	74.2	434	675	64.3
Ovary (C56)	285	386	73.8	434	677	64.1
Pancreas (C25)	826	1,120	73.8	1,039	1,568	66.3
Mesothelioma (C45)	246	335	73.4	285	422	67.5
Stomach (C16)	469	640	73.3	621	919	67.6
Oesophagus (C15)	408	563	72.5	497	815	61.0
Bladder (C67)	307	425	72.2	483	807	59.9
Liver (C22)	425	592	71.8	555	854	65.0
Lung (C33-C34)	2,757	3,868	71.3	3,799	6,062	62.7
Bowel (C18-C20)	1,420	2,049	69.3	2,287	3,658	62.5
Secondary site (C77-C79)	3,245	4,947	65.6	12,744	19,356	65.8
Non-Hodgkin lymphoma (C82-C85)	411	714	57.6	541	1,188	45.5
Myeloma (C90)	200	382	52.4	274	678	40.4
Acute myeloid leukaemias (C92.0, C92.3–C92.5, C93.0, C94.0, C94.2, C94.4, C94.5)	230	516	44.6	273	713	38.3
All cancers (C00-C97, D45, D46, D47.1, D47.3, selected Z codes)	*15,579*	*22,507*	*69.2*	*18,260*	*30,679*	*59.5*
Diseases other than cancer[a]						
Heart failure (I50)	716	3,463	20.7	2,525	13,760	18.4
Chronic obstructive pulmonary disease (J40–J44)	490	2,448	20.0	1,776	7,842	22.6
Renal failure (N17–N19)	484	1,451	33.4	4,150	18,500	22.4
Motor neurone disease (G12.2)	119	205	58.0	156	382	40.8
Liver failure (K70.4, K71.1, K72)	218	680	32.1	698	2,459	28.4
Dementia and Alzheimer disease (F00 to F03, G30)	114	310	36.8	1,620	6,037	26.8

(continued)

Table 6.2 (continued): Palliative care patients among those who died as an admitted patient, by selected diseases, all hospitals, 2008–09

	Based on principal diagnosis			Based on principal and additional diagnoses		
Disease[a] (ICD-10-AM codes)	Palliative care patient deaths[b]	Total admitted patient deaths	% palliative care patient deaths[b]	Palliative care patient deaths[b]	Total admitted patient deaths	% palliative care patient deaths[b]
Parkinson disease (G20, G21, G22)	29	87	33.3	279	983	28.4
Huntington disease (G10, F02.2)	6	6	100.0	8	20	40.0
HIV/AIDS (B20–B24)	n.p.	9	n.p.	21	73	28.8

(a) Data for the cancer sites with the 200 or more admitted patient deaths (based on the principal diagnosis) are shown, as are data on selected other diseases. See Appendix D for details on the approach used to present disease-related information.

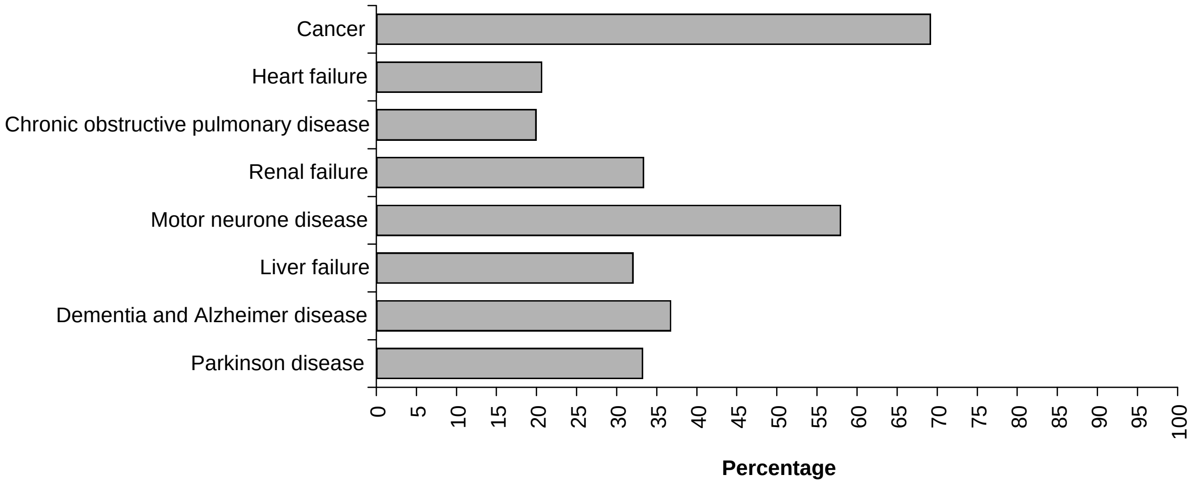
(b) Refers to patients for whom palliative care was the principal clinical intent during part or all of the separation that ended with their death.

Source: National Hospital Morbidity Database, AIHW.

Although the percentages are generally lower, the same patterns tended to hold when both the principal and additional diagnoses were considered. That is, a relatively lower proportion of those with a principal or an additional diagnosis of one of the three blood and lymphatic system cancers were palliative care patients during their final hospital stay (with the percentages ranging from 38% to 46%). Meanwhile, those patients with a principal or an additional diagnosis of melanoma of the skin or of brain cancer were substantially more likely to have been a palliative care patient during their last hospital separation (69% and 72%, respectively).

As discussed in Chapter 3, although palliative care is closely associated with cancer patients, other diseases are considered to be amendable to palliative care with nine such diseases considered in this report (Table 6.2 and Figure 6.2). Note, however, that owing to the small number of admitted patient deaths with a principal diagnosis of two of the nine non-cancer diseases—specifically, Huntington disease and HIV/AIDS—those data should be used with caution (and they are not shown in Figure 6.2).

Almost 6 in 10 (58%) admitted patients with motor neurone disease were palliative care patients during the hospitalisation that ended with their death. This contrasts with 20% of those with COPD as a principal diagnosis and 21% of those with heart failure as the principal diagnosis. One in 3 (33%) of those with a principal diagnosis of renal failure or Parkinson disease were palliative care patients during their final hospitalisation, as were 32% of those with liver failure as the principal diagnosis. More than 1 in 3 (37%) of those with a principal diagnosis of dementia or Alzheimer disease were palliative care patients during the hospitalisation that ended with their death.



Notes

1. Refers to patients for whom palliative care was the principal clinical intent during part or all of the separation that ended with their death.
2. Disease data are based on principal diagnosis. See Appendix D for details on the approach used to present disease-related information.
3. Data for this figure are shown in Table 6.2.

Source: National Hospital Morbidity Database, AIHW.

Figure 6.2: Palliative care patients among those who died as an admitted patient, patients with selected diseases, all hospitals, 2008–09

Palliative care cancer patients

In this section, further details are provided on palliative care patients with a principal diagnosis of cancer who died as an admitted patient. Differences are examined according to characteristics of the hospitals and of the patients.

Differences by hospital characteristics

A substantially higher proportion of public hospital than private hospital patients with cancer as the principal diagnosis were palliative care patients during their final hospital separation (74% and 57%, respectively) (Table 6.3).

In addition, there are marked differences by state and territory. For example, those patients with a principal diagnosis of cancer who died as an admitted patient in a public hospital in the Northern Territory, the Australian Capital Territory or Victoria were most likely to have been a palliative care patient during their last hospital stay (88%, 83% and 82%, respectively). Conversely, a relatively low proportion of those with a principal diagnosis of cancer who died in a Western Australian public hospital were palliative care patients (51%).

The picture for Western Australia is quite different, though, when data for private hospitals are considered. That is, a relatively high proportion of patients with a principal diagnosis of cancer who died in a private hospital in Western Australia were palliative care patients during their final hospitalisation (80%). This contrasts with less than half of those with cancer as a principal diagnosis who died while in admitted patient care in a private hospital in New South Wales or Victoria (44% and 48%, respectively).

Table 6.3: Palliative care patients among those who died as an admitted patient with cancer[a] as the principal diagnosis, by states and territories, public and private hospitals, 2008–09

	Palliative care patient deaths[b]	Total admitted patient deaths	% palliative care patient deaths[b]
Public hospitals			
New South Wales	4,869	6,490	75.0
Victoria	3,703	4,522	81.9
Queensland	1,775	2,686	66.1
Western Australia	433	855	50.6
South Australia	878	1,322	66.4
Tasmania	239	363	65.8
Australian Capital Territory	242	293	82.6
Northern Territory	133	152	87.5
Total	*12,272*	*16,683*	*73.6*
Private hospitals[c]			
New South Wales	385	883	43.6
Victoria	526	1,097	47.9
Queensland	973	1,946	50.0
Western Australia	916	1,146	79.9
South Australia	403	593	68.0
Total[c]	*3,307*	*5,824*	*56.8*
All hospitals[c]			
New South Wales	5,254	7,373	71.3
Victoria	4,229	5,619	75.3
Queensland	2,748	4,632	59.3
Western Australia	1,349	2,001	67.4
South Australia	1,281	1,915	66.9
Total[c]	*15,579*	*22,507*	*69.2*

(a) Cancer was defined in accordance with the approach used in *Cancer in Australia: an overview* (AIHW & AACR 2010) (see Appendix D).

(b) Refers to patients for whom palliative care was the principal clinical intent during part or all of the separation that ended with their death.

(c) To ensure confidentiality of information, data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory are not shown. 'Total' includes data for all jurisdictions.

Source: National Hospital Morbidity Database, AIHW.

Differences by patient characteristics

In this section, information is presented on differences in the proportion of palliative care patients with cancer who died during their final separation according to their demographic characteristics.

Differences by sex

A number of studies on the use of palliative care among cancer patients have found no significant difference by sex (Addington-Hall et al. 1998; Hunt et al. 2002; Rosenwax & McNamara 2006). Table 6.4 indicates that among those patients with a principal diagnosis of cancer who died while in admitted patient care during 2008–09, 71% of females were palliative care patients as were 68% of males.

Table 6.4: Palliative care patients among those who died as an admitted patient with cancer[(a)] as the principal diagnosis, by patient characteristics, all hospitals, 2008–09

	Palliative care patient deaths[(b)]	Total admitted patient deaths	% palliative care patient deaths[(b)]
Sex			
Males	8,835	12,941	68.3
Females	6,744	9,566	70.5
Age (years)			
0–14	11	32	34.4
15–24	26	53	49.1
25–34	106	158	67.1
35–44	392	552	71.0
45–54	1,247	1,784	69.9
55–64	2,817	4,054	69.5
65–74	4,063	5,874	69.2
75–84	4,843	6,966	69.5
85+	2,074	3,034	68.4
Indigenous status[(c)]			
Indigenous Australians	177	274	64.6
Other Australians[(d)]	14,817	21,418	69.2
Remoteness area of usual residence[(e)]			
Major cities	10,641	14,643	72.7
Inner regional	3,198	4,985	64.2
Outer regional	1,487	2,394	62.1
Remote and very remote	225	437	51.5
Socioeconomic status[(f)]			
1 (lowest)	3,399	5,069	67.1
2	3,263	5,087	64.1
3	3,136	4,426	70.9
4	2,806	3,961	70.8
5 (highest)	2,946	3,915	75.2
Total[(g)]	**15,579**	**22,507**	**69.2**

(a) Cancer was defined in accordance with the approach used in *Cancer in Australia: an overview* (AIHW & AACR 2010) (see Appendix D).

(b) Refers to patients for whom palliative care was the principal clinical intent during part or all of the separation that ended with their death.

(c) Data for Tasmania, the Australian Capital Territory and private hospitals in the Northern Territory are excluded for the Indigenous status analyses (see Appendix D).

(d) 'Other Australians' includes separations for non-Indigenous Australians and those for whom the Indigenous status was not reported.

(e) Remoteness area was measured using the Australian Standard Geographical Remoteness Area classification (see Appendix E).

(f) Socioeconomic status was measured using the ABS Socio-economic Index for Areas (SEIFA) Index of Relative Socio-economic Advantage and Disadvantage (see Appendix E).

(g) 'Total' includes all patients, including those for which some demographic information was not reported.

Source: National Hospital Morbidity Database, AIHW.

Differences by age

A number of studies have suggested that older cancer patients are less likely to receive palliative care than their younger counterparts (Addington-Hall et al. 1998; Grande et al. 2006; Hunt et al. 2002; Rosenwax & McNamara 2006). For example, a Western Australian study found that in the year before their death, cancer patients aged 85 years or older were less likely than their younger counterparts to have received specialist palliative care either in hospital or elsewhere (Rosenwax & McNamara 2006).

In contrast, data from the 2008–09 NHMD do not suggest that older cancer patients were less likely than their younger counterparts to have been palliative care patients during their final hospital separation (Table 6.4). That is, 68% of patients aged 85 years or over with a principal diagnosis of cancer were palliative care patients during the hospital separation that ended with their death. This is in line with the corresponding proportions of cancer patients in the age groups from 25 to 34 years through to 75 to 85 years. Two age groups did differ from the others, though: those aged 0 to 14 years and those aged 15 to 24 years. The data suggest that these younger cancer patients were less likely to have been a palliative care patient during the separation that ended with their death (34% and 49%, respectively). Note that since there was a relatively small number of patients in these two younger age groups, these data should be used with caution.

Differences by Indigenous status

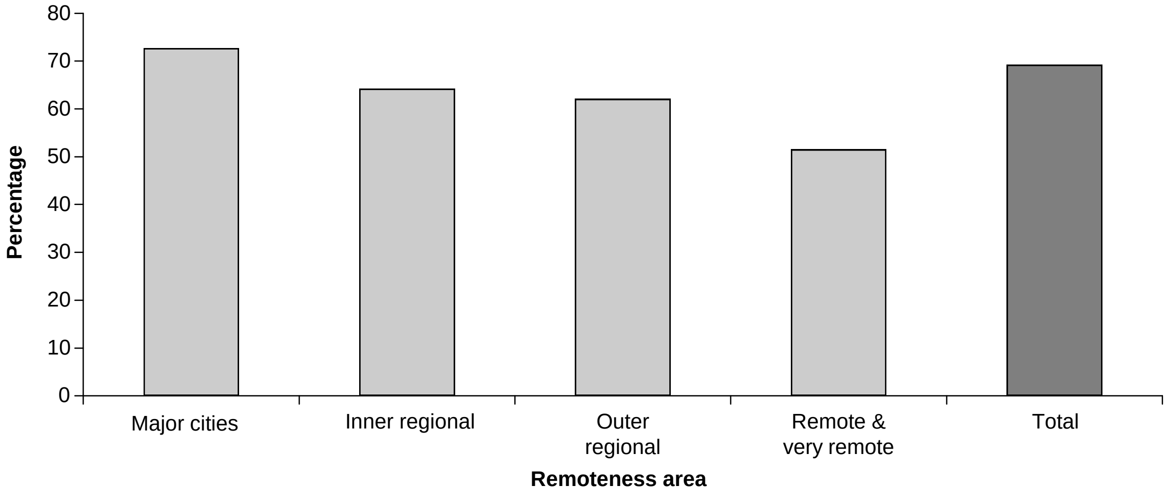
Although Indigenous Australians are less likely to be diagnosed with cancer than non-Indigenous Australians (AIHW & AACR 2010), it is often suggested that when Indigenous people are diagnosed, the cancer is likely to be at a more advanced stage and this may increase the need for palliative care services (Maddocks & Rayner 2003; WA Department of Health 2006). Nonetheless, there are indications that existing services are not culturally appropriate for Indigenous Australians and that this adversely impacts usage (Anderson & Devitt 2004; Maddocks & Rayner 2003; McGrath et al. 2007; WA Department of Health 2006; Yates 2006). While there is limited research on this topic, two existing studies suggest that there is no significant difference in the receipt of palliative care among Indigenous Australians and non-Indigenous Australians in the period leading up to death (e.g. Hunt et al. 2002; Rosenwax & McNamara 2006).

As noted in Chapter 3, the quality of Indigenous status data in the 2008–09 NHMD is considered acceptable for analysis purposes in six jurisdictions: New South Wales, Victoria, Queensland, Western Australia, South Australia and public hospitals in the Northern Territory (AIHW 2010c). Data from those jurisdictions indicate that 65% of Indigenous patients with cancer as a principal diagnosis were palliative care patients during the separation that ended with their death (Table 6.4). The corresponding proportion for other Australians was somewhat higher (69%). However, due to the small number of Indigenous Australians considered in these analyses, the difference is not considered to be substantial.

Differences by remoteness area

Access to palliative care can be influenced by the remoteness of the area in which a patient resides (e.g. Evans et al. 2003; White et al. 2004). Australian research suggests that cancer patients who lived in more regional and remote areas were less likely than their more urban counterparts to have accessed palliative care services (Hunt et al. 2002; Rosenwax & McNamara 2006).

This same finding is observed in the 2008–09 admitted patient data (Figure 6.3). That is, a substantially higher proportion (73%) of cancer patients who lived in a *Major city* were palliative care patients during the hospitalisation that ended with their death. In contrast, a markedly lower proportion (52%) of patients with a principal diagnosis of cancer whose usual residence was a *Remote or very remote* area were palliative care patients during their final hospital separation.



Notes

1. Refers to patients for whom palliative care was the principal clinical intent during part or all of the separation that ended with their death.
2. Cancer was defined in accordance with the approach used in *Cancer in Australia: an overview* (AIHW & AACR 2010) (see Appendix D).
3. Remoteness area was measured using the Australian Standard Geographical Remoteness Area classification (see Appendix E).
4. Data for this figure are shown in Table 6.4.

Source: National Hospital Morbidity Database, AIHW.

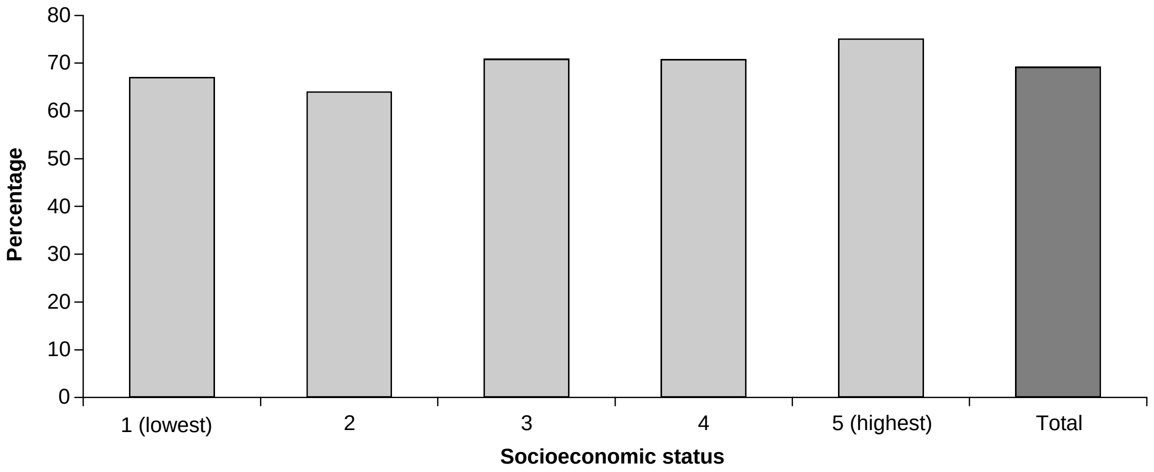
Figure 6.3: Palliative care patients among those who died as an admitted patient with cancer as the principal diagnosis, by remoteness area, all hospitals, 2008–09

Differences by socioeconomic status

Findings in Australian research on the association between accessing palliative care and socioeconomic status are inconsistent. For example, a study based on Western Australia cancer patients found no difference in the receipt of palliative care among cancer patients during their final year of life (Rosenwax & McNamara 2006). In contrast, a South Australian study suggests that patients with a lower income who had an 'expected death' were less likely than their more affluent counterparts to have used palliative care (Currow et al. 2008).

As noted in Chapter 3, the SEIFA Index of Relative Socio-economic Advantage and Disadvantage (IRAD) is used to indicate socioeconomic status in this report. The first socioeconomic status group (labelled '1') corresponds to geographical areas containing the 20% of the population with the lowest socioeconomic status and the fifth group corresponds to the 20% of the population with the highest socioeconomic status.

In 2008–09, among cancer patients who died in admitted patient care, there were marked differences according to socioeconomic status in the proportion of people who were palliative care patients during their final hospitalisation (Figure 6.4). Those cancer patients living in areas in the highest socioeconomic status group (labelled '5') were relatively more likely (75%) than those living in other areas to have been a palliative care patient during their final hospital stay. Conversely, those admitted patients with a principal diagnosis of cancer who lived in areas in the second lowest socioeconomic group (64%) and the lowest group (67%) were relatively less likely to have been a palliative care patient during the hospitalisation that ended with their death.



Notes

1. Refers to patients for whom palliative care was the principal clinical intent during part or all of the separation that ended with their death.
2. Cancer was defined in accordance with the approach used in *Cancer in Australia: an overview* (AIHW & AACR 2010) (see Appendix D).
3. Socioeconomic status was measured using the ABS Socio-economic Index for Areas (SEIFA) Index of Relative Socio-economic Advantage and Disadvantage (see Appendix E).
4. Data for this figure are shown in Table 6.4.

Source: National Hospital Morbidity Database, AIHW.

Figure 6.4: Palliative care patients among those who died as an admitted patient with cancer as the principal diagnosis, by socioeconomic status, all hospitals, 2008–09

Appendix A: Additional tables

Table A1.1: Deaths and proportion of population aged 65 years and over, observed (1986 to 2009) and projected (2016 to 2056)

	Deaths (number)				Population aged 65 years and over (percentage)			
		Projections(a)				Projections(a)		
	Observed(b)	Series A	Series B	Series C	Observed	Series A	Series B	Series C
1986	114,981	. .	. .	. .	10.5	. .	. .	. .
1991	119,146	. .	. .	. .	11.3	. .	. .	. .
1996	128,719	. .	. .	. .	12.0	. .	. .	. .
2001	128,544	. .	. .	. .	12.5	. .	. .	. .
2006	133,739	. .	. .	. .	13.0	. .	. .	. .
2007	137,854	. .	. .	. .	13.2	. .	. .	. .
2008	143,946	. .	. .	. .	13.2	. .	. .	. .
2009	140,760	. .	. .	. .	13.3	. .	. .	. .
2016	. .	145,820	151,675	151,296	. .	15.4	15.6	15.9
2026	. .	158,018	184,955	183,932	. .	18.3	18.7	19.5
2036	. .	183,931	239,260	237,153	. .	20.8	20.8	22.3
2046	. .	215,995	288,474	284,343	. .	22.5	21.7	23.6
2056	. .	242,958	320,635	312,674	. .	24.4	22.9	25.3

(a) See the ABS report on population projections for details on the assumptions that underlie the three projection series shown (ABS 2008b).

(b) Number of registered deaths per specified calendar year.

Sources: ABS 2008a, 2008b, 2010a, 2010b.

Table A1.2: Palliative care separations by state or territory of usual residence and state and territory of hospitalisation, public and private hospitals, 2008–09

State or territory of usual residence	State or territory of hospitalisation									Age-standardised rate(b)
	NSW	Vic	Qld	WA	SA	Tas(a)	ACT(a)	NT(a)	Total(a)	
Public hospitals										
New South Wales	18,354	85	43	n.p.	9	n.p.	113	0	18,606	23.4
Victoria	50	13,243	6	0	13	n.p.	n.p.	0	13,313	22.3
Queensland	70	6	5,390	n.p.	0	0	n.p.	n.p.	5,469	12.4
Western Australia	n.p.	n.p.	n.p.	1,243	n.p.	0	0	n.p.	1,254	5.8
South Australia	n.p.	7	n.p.	n.p.	3,345	0	0	8	3,365	16.9
Tasmania	n.p.	n.p.	n.p.	0	0	915	0	0	920	15.4
Australian Capital Territory	8	0	n.p.	0	0	n.p.	585	0	595	19.6
Northern Territory	n.p.	n.p.	n.p.	0	16	0	0	727	753	65.3
Other(c)	100	13	8	0	n.p.	0	0	n.p.	126	n.p.
Total(d)	*18,591*	*13,362*	*5,457*	*1,246*	*3,389*	*916*	*699*	*745*	*44,405*	18.9
Private hospitals										
New South Wales	1,210	5	129	n.p.	n.p.	n.p.	n.p.	n.p.	1,347	1.7
Victoria	n.p.	1,400	n.p.	0	0	n.p.	n.p.	n.p.	1,402	2.3
Queensland	0	0	1,817	0	0	n.p.	n.p.	n.p.	1,817	4.1
Western Australia	0	n.p.	0	2,154	0	n.p.	n.p.	n.p.	2,155	9.9
South Australia	n.p.	0	0	0	904	n.p.	n.p.	n.p.	905	4.5
Tasmania	0	n.p.	0	0	0	n.p.	n.p.	n.p.	305	4.9
Australian Capital Territory	0	0	0	0	0	n.p.	n.p.	n.p.	6	n.p.
Northern Territory	0	0	0	0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Other(c)	0	n.p.	n.p.	n.p.	0	n.p.	n.p.	n.p.	n.p.	n.p.
Total(d)	*1,211*	*1,408*	*1,949*	*2,156*	*906*	*n.p.*	*n.p.*	*n.p.*	*7,942*	3.4

(a) To ensure confidentiality of information, data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory are not shown. 'Total' includes data for all jurisdictions.

(b) The rates were age standardised to the Australian population as at 30 June 2001 and are expressed per 10,000 persons (see Appendix D).

(c) 'Other' includes those whose usual residence is in the Cocos (Keeling) Islands, Christmas Island and the Jervis Bay Territory, and those whose usual residence is overseas, at sea and 'no fixed address'.

(d) 'Total' includes cases for which state of usual residence was not provided.

Source: National Hospital Morbidity Database, AIHW.

Table A2.1: Palliative care separations by age and sex, all hospitals, 2008–09

Age (years)	Number of separations: Males	Females	Total	Age-specific rate[(a)]: Males	Females	Total
0–4	41	37	78	0.6	0.5	0.6
5–9	6	4	10	0.1	0.1	0.1
10–14	12	14	26	0.2	0.2	0.2
15–19	35	35	70	0.5	0.5	0.5
20–24	55	55	110	0.7	0.7	0.7
25–29	53	106	159	0.7	1.4	1.0
30–34	112	144	256	1.5	1.9	1.7
35–39	237	280	517	3.0	3.5	3.2
40–44	398	537	935	5.3	7.0	6.1
45–49	785	901	1,686	10.2	11.4	10.8
50–54	1,294	1,259	2,553	18.3	17.5	17.9
55–59	1,766	1,810	3,576	27.5	27.7	27.6
60–64	2,781	2,055	4,836	48.4	35.8	42.1
65–69	3,128	2,322	5,450	74.3	54.1	64.1
70–74	3,910	2,551	6,461	120.3	73.0	95.8
75–79	4,535	3,151	7,686	178.9	106.7	140.1
80–84	4,665	3,750	8,415	258.1	152.6	197.3
85+	4,124	5,399	9,523	325.1	219.6	255.5
Total[(a)]	**27,937**	**24,410**	**52,347**	**26.5**	**18.9**	**22.2**

(a) Age-specific rates show the number of palliative care separations per 10,000 persons in that age group at 31 December 2008. Rates shown in the 'Total' row are age standardised to the Australian population as at 30 June 2001 (see Appendix D).

Source: National Hospital Morbidity Database, AIHW.

Table A6.1: Palliative care patients among those who died as an admitted patient, all hospitals, 1999–00 to 2008–09

	Admitted patient deaths (number): Palliative care patients[(a)]	Total admitted patient deaths	% palliative care patients[(a)]
1999–00	14,129	67,740	20.9
2000–01	16,096	69,161	23.3
2001–02	16,792	70,671	23.8
2002–03	17,552	71,573	24.5
2003–04	18,587	71,932	25.8
2004–05	20,625	70,799	29.1
2005–06	21,649	71,122	30.4
2006–07	22,672	72,440	31.3
2007–08	24,012	74,365	32.3
2008–09	25,552	74,380	34.4

(a) Refers to patients for whom palliative care was the principal clinical intent during part or all of the separation that ended with their death.

Source: National Hospital Morbidity Database, AIHW.

Appendix B: Identifying palliative care separations

The aim of this report is to quantify and describe separations in admitted patient settings for which palliation was a substantial component of the care provided. Two NHMD data items—'Care type' and 'diagnosis'—capture information on palliative care. The question is whether the information on palliative care captured by either or both of these data items meets the stated aim of this report and thus should be used to identify palliative care separations. Before beginning work on this report, the AIHW explored this question in some detail; the findings were released in a technical paper (AIHW 2011b). A summary of the key findings from that technical paper follows.

'Care type' data item

A 'Care type' is assigned for each admitted patient separation, with any one separation equal to either a total hospital stay (from admission to discharge, transfer or death) or to a portion of a hospital stay beginning or ending in a change of care type (for example, from a 'Care type' of *Acute care* to a 'Care type' of *Palliative care*). Such a change in 'Care type' leads to a statistical discharge (for the stated example, this would result in the end of the *Acute care* separation) and a corresponding statistical admission (for example, the start of the *Palliative care* separation).

One of the response options in the NHMD 'Care type' data item is *Palliative care*, with *Palliative care* defined as follows (AIHW 2010b):

> Palliative care is care in which the clinical intent or treatment goal is primarily quality of life for a patient with an active, progressive disease with little or no prospect of cure. It is usually evidenced by an interdisciplinary assessment and/or management of the physical, psychological, emotional and spiritual needs of the patient; and a grief and bereavement support service for the patient and their carers/family. It includes care provided:
>
> - in a palliative care unit
> - in a designated palliative care program, or
> - under the principal clinical management of a palliative care physician or, in the opinion of the treating doctor, when the principal clinical intent of care is palliation.

Diagnosis data items

In addition to the information on the provision of palliative care collected via the 'Care type' data item, information on palliative care is also recorded in the NHMD under the diagnosis data items. In Australian hospitals, a principal diagnosis is assigned during each admitted patient separation; furthermore, one or more additional diagnoses may also be assigned. The principal diagnosis is 'the diagnosis established after study to be chiefly responsible for occasioning an episode of admitted patient care' (AIHW 2010b; NCCH 2010a). Additional diagnoses are 'conditions or complaints either coexisting with the principal diagnosis or arising during the episode of admitted patient care'; such diagnoses give information on the 'conditions that were significant in terms of treatment required, investigations needed and resources used during the episode of care' (AIHW 2010b; NCCH 2010a).

The classification that has been used nationally to assign diagnosis codes since 1999–00 is the ICD-10-AM (see Appendix E); one of the codes in that classification—namely Z51.5—is *Palliative care*. While diagnosis codes usually describe a disease, injury or poisoning, they can also be used in certain instances to indicate the specific care or service provided for a current condition or other reasons for hospitalisation (AIHW 2009). This is the case when *Palliative care* is recorded as a diagnosis code.

A specific ICD-10-AM coding standard—namely standard '0224'—applies to the recording of *Palliative care* as a diagnosis (NCCH 2008a). This coding standard has two parts: a definition of palliative care and classification rules. The definition of *Palliative care* in the coding standard, and thus the one used to assign *Palliative care* as a diagnosis, is the same as the definition used for the 'Care type' data item. That is, as for 'Care type', *Palliative care* as a diagnosis is defined to include care provided: in a palliative care unit; in a designated palliative care program; or under the principal clinical management of a palliative care physician or, in the option of the treating doctor, when the principal clinical intent of care is palliation. The classification rules in the coding standard provide an additional instruction (which does not apply when assigning *Palliative care* as the 'Care type') on when palliative care should be assigned as a diagnosis code as follows (NCCH 2008a):

> Palliative care should be assigned (as an additional diagnosis code) when the intent of care at admission is 'for palliation' *or if at any time during the admission* the intent of care becomes 'for palliation' and the care provided to the patient meets the definition above. *[emphasis added]*

Thus, while the clinical intent of the entire separation is considered to be palliation when *Palliative care* is assigned as a 'Care type', when a diagnosis code of *Palliative care* is assigned, palliation may have been the clinical intent during either *part* or all of the separation.

Note that, based on the collection and coding rules, it could be argued that there should not be any separations in which palliation was the clinical intent of care for just *part* of the separation. That is, since the 'Care type' data item is meant to describe the clinical intent of the entire separation, when the clinical intent of a separation changes to become palliation (and thus a diagnosis code of *Palliative care* is assigned), a statistical discharge from the original care type should occur, along with a corresponding statistical admission with a 'Care type' of *Palliative care*. Thus, for every separation in which a diagnosis of *Palliative care* is recorded, one might also expect a corresponding 'Care type' of *Palliative care*.

Data from the NHMD indicate that such a one-to-one correspondence is not observed in Australian admitted patient data. For example, in 2008–09, while there were 28,191 admitted patient separations for which 'Care type' and diagnosis were both coded as *Palliative care* (54% of palliative care separations), there were 22,804 other separations that had only a diagnosis of *Palliative care* and a further 1,352 separations that had only a 'Care type' of palliative care (Table B.1).

Nonetheless, the data do indicate that there is a one-to-one correspondence (or close to it) in some states and territories. Specifically, in Queensland and Western Australia, virtually all separations that had a diagnosis of *Palliative care* also had such a 'Care type' (99.9% and 100%, respectively). Data for public hospitals in the Australian Capital Territory also show a high level of congruence between the coding of *Palliative care* in the 'Care type' and diagnosis data (85%). In contrast, in the remaining jurisdictions, less than half of the palliative care separations had both a 'Care type' and a diagnosis code of *Palliative care*. Thus, there are clear differences between jurisdictions in the level of congruence of a code of *Palliative care* for the 'Care type' and diagnosis data items which, in turn, reflect differences by jurisdiction in approaches to care typing and coding of *Palliative care*.

Table B.1: Palliative care separations according to 'Care type' and diagnosis data items, public and private hospitals, 2008–09

	Palliative care recorded as:			Total number of palliative care separations[(a)]	% with *Palliative care* recorded as 'Care type' and diagnosis
	'Care type' and diagnosis	'Care type' but not diagnosis	Diagnosis but not 'Care type'		
Public hospitals					
New South Wales	8,588	757	9,246	18,591	46.2
Victoria	5,652	0	7,710	13,362	42.3
Queensland	5,452	n.p.	n.p.	5,457	99.9
Western Australia	1,245	n.p.	n.p.	1,246	99.9
South Australia	888	410	2,091	3,389	26.2
Tasmania	271	33	612	916	29.6
Australian Capital Territory	592	17	90	699	84.7
Northern Territory	326	26	393	745	43.8
Total	*23,014*	*1,248*	*20,143*	*44,405*	*51.8*
Private hospitals[(b)]					
New South Wales	368	66	777	1,211	30.4
Victoria	506	0	902	1,408	35.9
Queensland	1,949	0	0	1,949	100.0
Western Australia	2,156	0	0	2,156	100.0
South Australia	190	31	685	906	21.0
Total[(b)]	*5,177*	*104*	*2,661*	*7,942*	*65.2*
All hospitals[(b)]					
New South Wales	8,956	823	10,023	19,802	45.2
Victoria	6,158	0	8,612	14,770	41.7
Queensland	7,401	n.p.	n.p.	7,406	99.9
Western Australia	3,401	n.p.	n.p.	3,402	100.0
South Australia	1,078	441	2,776	4,295	25.1
Total[(b)]	*28,191*	*1,352*	*22,804*	*52,347*	*53.9*

(a) Refers to the total number of separations for which *Palliative care* was recorded as the 'Care type' and/or a diagnosis.

(b) To ensure confidentiality of information, data for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory are not shown. 'Total' includes data for all jurisdictions.

Source: National Hospital Morbidity Database, AIHW.

Identifying palliative care separations

To date, the identification of admitted patient palliative care separations in Australian hospitals has been based solely on information from the 'Care type' data item in the NHMD. As noted above, diagnosis data also provide information on the provision of palliative care in admitted patient settings. While in Queensland, Western Australia and the Australian Capital Territory, the use of diagnosis data is basically redundant since nearly all of the separations with a diagnosis of *Palliative care* in these jurisdictions also have a 'Care type' of *Palliative care*, this is not the case for the remaining five jurisdictions.

For the purposes of this report, palliative care separations are identified using both 'Care type' and diagnosis information such that if either (or both) has a code of *Palliative care*, that separation is included (see AIHW 2011b for further information). This approach allows one to identify those separations in admitted patient settings for which a substantial component of the care was palliation. To make it clear that for some of these separations, palliative care may have been the clinical intent for *part* (not all) of the separation, a palliative care separation is described in this report as 'a separation for which the principal clinical intent of the care was palliation during part or all of that separation'.

Note that, at its March 2011 meeting, the Palliative Care Working Group endorsed the use of both 'Care type' and diagnosis information to identify those separations in admitted patient settings for which palliative care was a substantial component of the care provided.

Appendix C: Data sources

The data sources used to complete the analyses detailed in this report are described in this section.

National Hospital Morbidity Database

The main data source for this report was the National Hospital Morbidity Database (NHMD). These data pertain to admitted patients in public and private hospitals in Australia. Some of these hospitals have hospices affiliated with them.

The NHMD includes administrative data, demographic information on patients, and clinical information including diagnoses and procedures performed. This annual collection is compiled and maintained by the AIHW, using data supplied by state and territory health authorities. Information from almost all hospitals in Australia is included in the database: from public acute and public psychiatric hospitals, private acute and psychiatric hospitals, and from private free-standing day hospital facilities (AIHW 2010a).

At the time that the analyses were completed for this report, the NHMD contained data for the years from 1993–94 to 2008–09. Around 1998–99, hospitals across Australia began to implement a change in the classification system used to code diagnoses (i.e. from ICD-9-AM to ICD-10-AM). The first full year for which national data are available using ICD-10-AM is 1999–00.

Episode-based data

The NHMD is episode based, with the term 'separation' used to refer to an episode of admitted patient care. Each record in the NHMD is based on a single phase of treatment for an admitted patient, with such phases classified in the 'Care type' data item as *Acute care*, *Palliative care*, *Rehabilitation care, Newborn* and other types of care (see Glossary). When a patient receives only one type of care during a hospital stay (such as only acute care or only palliative care), the length of stay for that separation is equal to the total length of time they spent in hospital during that stay. However, where patients receive different types of care during one hospital stay (for example, a person may be admitted for active cancer treatment but then later reclassified as a palliative care patient), the patient may be statistically discharged from the hospital after the first type of care and then statistically admitted into a second phase of care. Thus, patients may have two or more separations during any one hospital stay. Since each record within the NHMD is based on an episode of care, the separation count is a count of episodes, not persons.

Coverage

For each of the years considered in this report, the coverage of the NHMD has been very good. For 2008–09, coverage for the NHMD was essentially complete: data from all public hospitals were included except for a small mothercraft hospital in the Australian Capital Territory. As well, the great majority of private hospitals were also included. Most of the private facilities that did not report to the NHMD were free-standing day hospital facilities.

For 2008–09, complete data were not provided for private hospitals in the Australian Capital Territory, the Northern Territory and Tasmania.

Due to the lack of complete private hospital data, the counts of the total number of private sector separations shown in this report are slight underestimates of the actual counts. For instance, in 2008–09, the NHMD reported 3.3% fewer separations than the Australian Bureau of Statistics' national census of private hospitals which has wider coverage than the NHMD (ABS 2010c).

For further details on coverage of the NHMD collection in 2008–09 and earlier, see the annual *Australian Hospital Statistics* reports (e.g. AIHW 2009, 2010a).

Hospitals may be re-categorised as public or private between or within years (see AIHW 2010a for further information). This should be taken into account when comparing data by sector over time.

Standard admitted patient care data exclusions

As per the standard practice when analysing admitted patient data in the NHMD, the data presented in this report exclude those records for which the 'Care type' data item was reported as *Newborn (unqualified days only)*, *Hospital boarder* or *Posthumous organ procurement*.

Further information

Comprehensive hospital statistics from the NHMD are released by the AIHW on an annual basis (e.g. AIHW 2009, 2010a, 2011) and further information about the NHMD can be obtained from those publications. Note that, in those reports, information from the 'Care type' data item only (and not diagnosis information) have been used to identify palliative care separations. Thus, the information on palliative care separations presented there will not match the information presented in this report (see Appendix B for additional information on the identification of palliative care separations).

National Public Hospital Establishments Database

The National Public Hospital Establishments Database (NPHED) holds establishment-level data for each public hospital in Australia, including public acute hospitals, psychiatric hospitals, drug and alcohol hospitals, and dental hospitals in all states and territories. The collection covers hospitals within the jurisdiction of the state and territory health authorities only. Hence, public hospitals not administered by the state and territory health authorities (hospitals operated by the DoHA, Department of Defence or correctional authorities, for example, and hospitals located in offshore territories) are not included.

The collection is based on the NMDS for Public hospital establishments. Information is included on the hospital's resources, expenditure, average available bed numbers, peer group, and the statistical local area and remoteness area of its location. Essentially all public hospitals were included for 2008–09.

Information on the hospital's type (i.e. peer group), as reported in Chapter 2 of this report, was sourced from this data collection. Details on how public hospitals are categorised by the AIHW into peer groups are available in *Australian hospital statistics 2008–09* (AIHW 2010a).

Population data

Throughout this report, estimated resident population data were used to derive age-standardised rates. The population data were sourced from the ABS, and the most up-to-date estimates available at the time of analysis were used.

To derive estimates of the resident population, the ABS uses the five-yearly Census of Population and Housing data as follows:

- All respondents to the Census are coded in relation to their state or territory, statistical local area and postcode of usual residence; overseas visitors are excluded.
- An adjustment is made for persons missed in the Census (approximately 2%).
- Australians temporarily overseas on Census night are added to the usual residence Census count.

The resulting numbers provide an estimate of the resident population in the Census year. In the following years, the Census numbers are adjusted by taking into account indicators of population change, such as births, deaths and net migration. More information on the process used to derive population estimates is available from the ABS website <www.abs.gov.au>.

For the Indigenous rates presented in this report, 'Series B' of the projected Indigenous experimental resident population estimates for 30 June 2008, as released by the ABS, was used (ABS 2009b).

Mortality data

The registration of deaths has been compulsory in Australia since the mid-1850s and this information is registered with the relevant state and territory Registrar of Births, Deaths and Marriages. Since 1906, the Commonwealth Statistician has both compiled the information collected by the Registrars and published national death information. The information on deaths from the Registrars is coded nationally by the ABS according to rules set forward in various versions of the International Statistical Classification of Diseases (ICD). In the ABS deaths data, information is available in terms of the year in which a person *died* and the year in which the death was *registered*.

Data from the ABS Deaths collection were used in Chapter 1 to describe the number of deaths which occurred in selected years. Those mortality data were based on *registered* deaths. In Chapter 6, ABS deaths data on the total number of Australian deaths that occurred during the specified financial years are shown (ABS 2010a). These mortality data were based on the year of *death* as this aligns with the information on deaths of admitted patients as recorded in the NHMD.

Appendix D: Technical notes

Age-specific rates

Age-specific rates provide information on the incidence of a particular event in a specified age group relative to the total number of people 'at risk' of that event in the same age group. It is calculated by dividing the number of events occurring in each specified age group by the corresponding population in the same group, and then multiplying the result by a constant (e.g. 10,000) to derive the rate.

In this report, age-specific rates are reported in Chapter 2; they are expressed per 10,000 persons and were based on ABS population estimates at 31 December 2008.

Age-standardised rates

A crude rate provides information on the number of events (for example, palliative care separations) relative to the population 'at risk' (for example, the entire population) in a specified period. No age adjustments are made when calculating such a rate. Since the likelihood of a palliative care separation is associated with age, crude rates are not suitable for making comparisons across time or groups when differences by age structure exist. More meaningful comparisons can be made by using age-standardised rates, with such rates adjusted for age in order to facilitate comparisons between populations that have different age structures.

There are two standardisation methods commonly used to adjust for age: direct and indirect. The direct standardisation approach is used in this report. To calculate age-standardised rates, age-specific rates (grouped in five-year intervals) were multiplied against a constant population (namely, the Australian population as at 30 June 2001). This effectively removes the influence of age structure on the rate and it is described as the age-standardised rate.

For analyses of the 2008–09 data, the ABS population estimates for 31 December 2008 (the mid-point of the financial year of 2008–09) were used to indicate the size of the population 'at risk'. However, in some instances, estimates for December were not available according to a particular characteristic (such as Indigenous status). In such instances, as shown in Table D.1, population estimates for 30 June 2008 were used.

Table D.1: Summary of approaches used to calculate age-standardised rates[(a)]

Characteristic	Applicable date for population estimates	Highest age group
Sector of hospital (public or private) Sex State or territory of hospitalisation State or territory of usual residence	31 December 2008	85 years and over
Indigenous status	30 June 2008	75 years and over
Remoteness area Socioeconomic status	30 June 2008	85 years and over

(a) All of the age-standardised rates were calculated using the direct standardisation method and 5-year age groups. The rates were age standardised to the Australian population as at 30 June 2001 and expressed per 10,000 persons.

For most of the ABS population estimate series, the highest age group for which data are available is '85 years and over'. However, for some estimates—including the projected Indigenous population—the highest age group for which data are made available is '75 years and over' (see Table D.1).

Note that owing to the differences in approaches used to calculate the age-standardised rate for different analyses, the rates shown throughout this report for Australia (labelled as the 'Total') may differ slightly from one analysis to another.

Descriptive analyses

The details provided in this report are based on descriptive analyses, not multivariate analyses. Because of this, the results that are presented may be influenced by factors not considered in that particular analysis. This should be considered when examining the results. While undertaking multivariate analyses would be a useful extension of some of the analyses presented in this report, completing such analyses goes beyond the scope of this report.

Disease-related information

Information on the number of separations by particular diseases is presented in two ways in this report. The first is based only on the principal diagnosis such that the number of separations for which a certain disease was coded as the principal diagnosis are counted. The second is based on the principal diagnosis and any additional diagnoses such that the number of separations for which a certain disease was coded as either the principal diagnosis or an additional diagnosis are counted. While only one principal diagnosis can be assigned for any one separation, one or more additional diagnoses may also be assigned.

In this report, disease information is presented at two levels: a broad level and a specific disease level, as described below.

Disease information at the broad level

In this report, information is shown in Table 3.7 on the number of palliative care separations by disease at the chapter level of ICD-10-AM—examples are 'Cardiovascular diseases' (ICD-10-AM codes I00 to I99) and 'Respiratory system diseases' (ICD-10-AM codes J00 to J99). The one exception is cancer; for this disease, information is not presented at the chapter level for the following reason. At the ICD-10-AM chapter level, cancers (that is, invasive neoplasms) are grouped together with non-invasive and benign neoplasms (that is, C00 to D48). Given the close association between palliative care and cancer, information is shown separately for cancers, and for non-invasive and benign neoplasms.

Furthermore, the specific ICD-10-AM diagnosis codes used to identify cancer patients mirrors the approach used in *Cancer in Australia: an overview* (see Appendix I in AIHW & AACR 2010). This approach takes into account that for some cancer-related separations, the treatment relating to their cancer (such as chemotherapy or the insertion of a drug delivery device) are recorded as the principal diagnosis, rather than the specific form of cancer the person had, as per ICD-10-AM coding standards (NCCH 2008a). Thus, in this report, three different criteria are used to identify those separations with a principal diagnosis of cancer; these are summarised in Box D.1.

Box D.1: Approach used to identify separations with a principal diagnosis of cancer

In this report, separations that met one of the following three criteria were considered to have a principal diagnosis of cancer.

(i) Those with a *principal* diagnosis code of C00–C97, D45, D46, D47.1 or D47.3 from the 'Neoplasms' chapter of ICD-10-AM.

Note that some ICD-10-AM 'D' codes are included in this list of invasive neoplasms (that is, cancers) since the related diseases—such as polycythaemia vera (D45)—were not considered to be invasive at the time of the publication of ICD-10 (WHO 1992), but they were reclassified as invasive with the publication of the ICD classification that dealt specifically with neoplasms (WHO 2000).

(ii) Those with a *principal* diagnosis from Chapter 21 of ICD-10-AM (that is, ICD-10-AM 'Z' codes) that was *directly* related to receiving health services or treatment for cancer as follows:

- Observation for suspected malignant neoplasm (Z03.1)
- Follow-up examination after treatment for malignant neoplasms (Z08)
- Special screening examination for neoplasm (Z12)
- Prophylactic surgery (Z40)
- Radiotherapy session (Z51.0)
- Pharmacotherapy session for neoplasm (Z51.1)
- Convalescence following radiotherapy (Z54.1)
- Convalescence following chemotherapy (Z54.2)
- Family history of malignant neoplasm (Z80)
- Personal history of malignant neoplasm (Z85).

(iii) Those with a *principal* diagnosis from Chapter 21 of ICD-10-AM (that is, ICD-10-AM 'Z' codes) that *could* be related to the receipt of health services or treatment for cancer as follows:

- Prophylactic immunotherapy (Z29.1)
- Other prophylactic chemotherapy (Z29.2)
- Follow-up care involving plastic surgery of head and neck (Z42.0)
- Follow-up care involving plastic surgery of breast (Z42.1)
- Adjustment and management of drug delivery or implanted device (Z45.1)
- Adjustment and management of vascular access device (Z45.2).

and

an *additional* diagnosis code of C00–C97, D45, D46, D47.1 or D47.3 from the 'Neoplasms' chapter of ICD-10-AM.

Source: AIHW & AACR 2010.

The same approach as outlined in Box D.1 was used to identify those separations that had a principal or an additional diagnosis code of cancer. However, for those analyses, only the first two criteria are needed to identify those with cancer since the third one is redundant (that is, the relevant separations would already have been captured via the first criterion).

Thus, separations that met one of the following two criteria were considered to have a principal or additional diagnosis of cancer:

- a principal or additional diagnosis code of C00–C97, D45, D46, D47.1 or D47.3 from the 'Neoplasms' chapter of ICD-10-AM
- a principal or additional diagnosis from Chapter 21 of ICD-10-AM that was *directly* related to receiving health services or treatment for cancer as follows: Z03.1, Z08, Z12, Z40, Z51.0, Z51.1, Z54.1, Z54.2, Z80 or Z85.

As shown in Table D.2, in 2008–09, a total of 31,450 palliative care separations were identified as having a principal diagnosis of cancer (using the criteria detailed in Box D.1). The majority (99%) of these separations met the first of the three criteria (that is, had a principal diagnosis code of C00–C97, D45, D46, D47.1 or D47.3) while an additional 339 separations were identified as having a principal diagnosis of cancer by considering the other two criteria.

When both principal and additional diagnoses were considered, 40,273 separations were identified as having a diagnosis of cancer. Again, the majority of these separations had a principal diagnosis code of C00–C97, D45, D46, D47.1 or D47.3 from the 'Neoplasms' chapter of ICD-10-AM.

Table D.2: Palliative care separations with cancer as a diagnosis, all hospitals, 2008–09

Diagnosis (ICD-10-AM codes)	Number	%
Based on principal diagnosis		
(i) Principal diagnosis code of C00–C97, D45, D46, D47.1 or D47.3	31,111	98.9
(ii) Principal diagnosis that was directly related to health services or treatment for cancer: Z03.1, Z08, Z12, Z40, Z51.0, Z51.1, Z54.1, Z54.2, Z80 or Z85	320	1.0
(iii) Principal diagnosis that could be related to the receipt of health services or treatment for cancer: Z29.1, Z29.2, Z42.0, Z42.1, Z45.1 or Z45.2 **and** an additional diagnosis code of C00–C97, D45, D46, D47.1 or D47.3	19	0.1
Total separations with cancer based on principal diagnosis	*31,450*	*100.0*
Based on principal and additional diagnoses[(a)]		
(i) Principal or additional diagnosis code of C00–C97, D45, D46, D47.1 or D47.3	39,987	99.3
(ii) Principal or additional diagnosis that was directly related to health services or treatment for cancer: Z03.1, Z08, Z12, Z40, Z51.0, Z51.1, Z54.1, Z54.2, Z80 or Z85	1,431	3.6
Total separations with cancer based on principal and additional diagnoses	*40,273*	*100.0*

(a) When principal and additional diagnoses are considered, the sum of the separations for the two criteria exceeds the total number (and percentage) of palliative care separations since some patients met both criteria during the one separation.

Source: National Hospital Morbidity Database, AIHW.

Disease information at the specific level

In addition to providing disease information at the broad chapter level, some diseases suffered by the palliative care patients are also shown at a specific disease level in this report (for example, Table 3.8 and 6.2). The best way to group ICD-10-AM codes to identify some diseases (such as bowel cancer, dementia and chronic obstructive pulmonary disease) is not always straightforward, as different approaches are used in the literature. Regarding the cancer site groupings, the process used in the 2010 *Cancer in Australia: an overview* report (AIHW & AACR 2010) is mirrored in this report. For the non-cancer diseases, the

ICD-10-AM codes used to identify the relevant palliative care patients are shown in Table D.3; the source of information for the code specification used is also shown in that table.

Table D.3: Diagnosis codes used to identify specific diseases other than cancer[(a)]

Specific disease	Diagnosis codes (ICD-10-AM)	Source for code specification
Chronic obstructive pulmonary disease (COPD)	J40–J44	WHO 2008
Dementia and Alzheimer disease	F00–F03, G30	AIHW 2010d
Heart failure	I50	AIHW 2010d
HIV/AIDS	B20–B24	Becker et al. 2006, WHO 2008
Huntington disease	G10, F02.2	Begg et al. 2007
Liver failure	K70.4, K71.1, K72	—
Motor neurone disease	G12.2	AIHW 2010d, Begg et al. 2007
Multiple sclerosis	G35	AIHW 2010d, Begg et al. 2007
Muscular dystrophy	G71.0	Begg et al. 2007
Parkinson disease	G20, G21, G22	AIHW 2010d
Renal failure	N17–N19	AIHW 2010d

(a) The diagnosis codes used to identify specific cancer sites are based on the approach used in *Cancer in Australia: an overview* (AIHW & AACR 2010).

A principal diagnosis of *Palliative care*

In the 2008–09 NHMD, there was one separation for which the principal (rather than an additional) diagnosis was recorded to be *Palliative care* (ICD-10-AM code of Z51.5). For that one separation, the first additional diagnosis was used in place of the *Palliative care* code when reporting the principal diagnosis.

Patient day statistics

Patient day statistics can be used to provide information on hospital activity that, unlike separation statistics, accounts for differences in length of stay. As the NHMD contains records for patients separating from hospital during a specific reporting period (such as 1 July 2008 to 30 June 2009), this means that all patients that *separated* during the reporting period are included, regardless of whether or not they were *admitted* during that period. Thus, not all patient days reported will have occurred during the reporting period. However, it is expected that, in general, patient days for patients who separated in 2008–09, but who were admitted before 1 July 2008, will be generally counterbalanced by the patient days for patients still in hospital on 30 June 2009 who will separate in future reporting periods.

Public hospital peer groups

The public hospital peer group classification was developed for use in comparing data on costs per separation in a more meaningful way than would be possible with just a comparison at the jurisdictional level. The peer group classification divides hospitals into broadly similar groups in terms of their geographical location and the type and volume of their admitted patient activity. Although not specifically designed for purposes other than cost comparisons, the peer group classification is recognised as a useful way to also categorise hospitals for a range of non-cost-related purposes. This classification is currently under review. For further information about public hospital peer groups, see AIHW (2010a).

The categories of the peer group classification, as used in this report, are described in Table D.4. Due to the small number of palliative care separations in *Specialist women's and children's hospitals* and *Psychiatric hospitals*, these two peer groups were grouped together with *Unpeered and other hospitals* for the purposes of this report.

Table D.4: Description of public hospital peer groups

Hospital type / peer group	Description
Principal referral hospitals	Major city hospitals with >20,000 acute weighted separations and Regional hospitals with >16,000 acute weighted separations per annum
Large hospitals	Includes: • Major city acute hospitals treating more than 10,000 acute weighted separations per annum • Regional acute hospitals treating >8,000 acute weighted separations per annum, and remote hospitals with >5,000 weighted separations
Medium hospitals	Includes: • Medium acute hospitals in Regional and Major city areas treating between 5,000 and 10,000 acute weighted separations per annum • Medium acute hospitals in Regional and Major city areas treating between 2,000 and 5,000 acute weighted separations per annum, and acute hospitals treating <2,000 weighted separations per annum but with >2,000 separations per annum
Small acute hospitals	Includes: • Small Regional acute hospitals (mainly small country town hospitals), acute hospitals treating <2,000 separations per annum, and with less than 40% non-acute and outlier patient days of total patient days • Small remote hospitals (<5,000 acute weighted separations but not 'Multi-purpose services' and not 'Small non-acute'). Most are <2,000 separations
Sub-acute and non-acute hospitals	Includes: • Small non-acute hospitals, treating <2,000 separations per annum, and with more than 40% non-acute and outlier patient days of total patient days • Multi-purpose services • Hospices • Rehabilitation • Mothercraft • Other non-acute (for example, geriatric treatment centres combining rehabilitation and palliative care with a small number of acute patients)
Other	Includes: • Specialist acute women's and children's hospitals with >10,000 acute weighted separations per annum • Psychiatric hospitals • Unpeered and other hospitals

Source: AIHW 2005.

Note that in this report, for ease of understanding, the term 'hospital type' is used interchangeably with 'hospital peer group'.

Quality of Indigenous status data

The AIHW report entitled *Indigenous identification in hospital separations data: quality report* (2010c) presented the latest findings on the quality of Indigenous identification in Australian hospital separations data, based on studies of Indigenous identification in public hospitals conducted during 2007 and 2008. The results of the studies indicated that, overall, the quality of Indigenous identification in hospital separations data had improved over time but that the quality of Indigenous identification still varied substantially between jurisdictions. Since levels of Indigenous identification were estimated to be 80% or higher for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only), the report recommended that hospitals data from those jurisdictions were of sufficient quality for analysis for the reporting periods from 2004–05 onwards. This recommendation—which was endorsed by the National Health Information Standards and Statistics Committee (NHISSC) and the National Advisory Group on Aboriginal and Torres Strait Islander Health Information and Data (NAGATSIHID)—was used in this report when examining differences by Indigenous status. Thus, the conclusions drawn from the comparisons by Indigenous status are relevant to the jurisdictions considered, and may not necessarily be representative of the two excluded jurisdictions (namely, Tasmania and the Australian Capital Territory).

State and territory data

With one exception, all of the tables by state and territory in this report refer to the location of the hospital, not the state or territory of usual residence of the patient. The one exception is Appendix Table A1.2 which compares palliative care separations by state and territory of usual residence with state and territory of hospitalisation.

Appendix E: Classifications

This section describes the classification systems referred to in this report.

Australian Classification of Health Interventions (ACHI)

The Australian Classification of Health Interventions (ACHI) is the Australian national standard for the coding of procedures and interventions in Australian hospitals, with the 6th edition used to code the 2008–09 procedures data (NCCH 2008b).

The National Centre for Classification in Health (NCCH) developed the ACHI based on the Medicare Benefits Schedule (MBS). The MBS is a fee schedule for Medicare services including general practice consultations, specialist consultations, operations and other medical services, such as diagnostic investigations and optometric services. The Department of Health and Ageing (DoHA) updates the MBS at least twice each year; either these updates are incorporated into the ACHI, or the revised MBS codes are mapped to existing ACHI codes. The NCCH also developed the related coding standards for ACHI (NCCH 2010a).

The structure of the procedure classification is based on anatomy rather than surgical specialty. The procedure classification is divided into chapters by anatomical site and within each chapter by a 'superior' to 'inferior' (head to toe) approach. These subchapters are further divided into more specific procedure blocks, beginning with the least invasive procedure through to the most invasive. The blocks, which are numbered sequentially, group the very specific procedure codes. To maintain parity with the corresponding disease classification, the chapters of ACHI closely follow the chapter headings of ICD-10.

Australian Refined Diagnosis Related Group (AR-DRG) classification

The Australian Refined Diagnosis Related Group (AR-DRG) classification is an Australian admitted patient classification which provides a clinically meaningful way of relating the number and type of patients treated in a hospital (that is, its casemix) to the resources expected to be used by the hospital. This system categorises admitted patient episodes of care into groups with similar conditions and similar expected use of hospital resources, based on information in the hospital morbidity record such as the diagnoses, procedures and patient's demographic characteristics. The AR-DRG system is partly hierarchical, with 23 Major Diagnosis Categories, divided into *Surgical, Medical* and *Other* DRG partitions, and then into 665 individual DRGs.

For the data shown in this report, AR-DRG version 5.2 (DoHA 2006) was used to classify separations. Further information about this classification can be found in *Australian hospital statistics* (AIHW 2010a).

Australian Standard Geographical Classification Remoteness Areas

The Australian Standard Geographical Classification (ASGC) was developed by the ABS for the collection and dissemination of geographically classified statistics.

In this report, the ASGC Remoteness Areas were used to assign areas across Australia to a remoteness category (ABS 2007). This classification divides all areas of Australia into five categories—namely, *Major cities*, *Inner regional*, *Outer regional*, *Remote* and *Very remote* (AIHW 2004b). For the purposes of this report, the categories of *Remote* and *Very remote* were collapsed owing to the small number of separations in those two categories.

Information on the quality of the data in the NHMD on the usual residence of the patient can be found in Appendix A of *Australian hospital statistics 2008–09* (AIHW 2010a).

Index of Relative Socio-economic Advantage and Disadvantage

The Index of Relative Socio-economic Advantage and Disadvantage (IRAD) is one of four Socio-Economic Indexes for Areas (SEIFAs) developed by the Australian Bureau of Statistics (ABS 2008c). It is based on factors such as average household income, education levels, unemployment rates, occupation and housing characteristics. The IRAD is an area-based (not a person-based) measure of socioeconomic status in which small areas of Australia are classified on a continuum from disadvantaged to affluent. This information is used as a proxy for the socioeconomic status of people living in those areas and may not be correct for each person living in that area. In this report, the first socioeconomic status group (labelled '1') corresponds to geographical areas containing the 20% of the population with the lowest socioeconomic status according to the IRAD and the fifth group (labelled '5') corresponds to the 20% of the population with the highest socioeconomic status.

International Statistical Classification of Diseases and Related Health Problems (ICD)

The International Statistical Classification of Diseases and Related Health Problems (ICD), which was developed by the World Health Organization (WHO), is the international standard for coding morbidity and mortality statistics. It was designed to promote international comparability in the collection, processing, classification and presentation of these statistics. The ICD is periodically reviewed to reflect changes in clinical and research settings (WHO 2009).

The version currently in use in Australia for the coding of causes of death, ICD-10 (WHO 1992), was endorsed in May 1990 and officially came into use in WHO member states from 1994. Further information on the ICD is available from the WHO website at <http://www.who.int/classifications/icd/en/>.

ICD-10-AM

The Australian Modification of ICD-10, which is referred to as the ICD-10-AM (NCCH 2008c), is based on ICD-10. ICD-10 was modified for the Australian setting by the NCCH to make it more relevant to Australian clinical practice. Compatibility with ICD-10 at the higher levels (that is, up to 4 character codes) of the classification has been maintained. ICD-10-AM has been used for classifying diagnoses in hospital records in all Australian states and territories since 1999–00 (AIHW 2000).

The ICD-10-AM disease classification is hierarchical, with a small number of summary disease chapters that are divided into a large number of more specific disease groupings (represented by 3-character codes). Most of the 3-character disease groupings can be divided into an even larger number of very specific disease categories represented by 4- and 5-character codes.

Glossary

This section provides a general description of the terms used in this report. The terms have been defined in the context of this report; some terms may have other meanings in other contexts. Where applicable, the identification number from the Metadata Online Registry (METeOR) is shown after the definition of the term. METeOR is Australia's central repository for health, community services and housing assistance metadata. METeOR can be viewed on the AIHW website at <www.aihw.gov.au>.

Additional diagnosis: a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. (METeOR identifier 333832)

Administrative database: observations about events that are routinely recorded or required by law to be recorded. Such events include births, deaths, hospital separations and cancer incidence. The National Hospital Morbidity Database is an example of an administrative database.

Admitted patient: a person who undergoes a hospital's formal admission process to receive treatment and/or care. Such treatment or care is provided over a period of time and can occur in hospital and/or in the person's home (as a 'hospital-in-the-home' patient). (METeOR identifier 268957)

Average length of stay: the average number of patient days for admitted patient episodes. Patients admitted and separated on the same day are allocated a length of stay of 1 day.

Care type: the overall nature of a clinical service provided to an admitted patient during an episode of care. The 'Care type' categories applicable for admitted patient care are listed below. (METeOR identifier 270174)

- acute care
- rehabilitation care
- palliative care
- geriatric evaluation and management
- psychogeriatric care
- maintenance care
- newborn care
- other admitted patient care.

Episode of care: the period of admitted patient care between a formal or statistical admission and a formal or statistical discharge, characterised by only one care type. (METeOR identifier 268956 *Episode of admitted patient care*) (Also see *Care type*, *Separation* and *Statistical discharge*.)

Establishment type: type of establishment (defined in terms of legislative approval, service provided and patients treated) for each separately administered establishment. Establishment types include acute care hospitals, psychiatric hospitals, alcohol and drug treatment centres and hospices. (METeOR identifier: 269971)

Funding source for hospital patient: expected principal source of funds for an admitted patient episode or non-admitted patient service event. (METeOR identifier: 339080)

Hospital: a health-care facility established under Commonwealth, state or territory legislation as a hospital or a free-standing day procedure unit and authorised to provide treatment and/or care to patients. (METeOR identifier: 268971)

Hospital-in-the-home care: provision of care to hospital admitted patients in their place of residence as a substitute for hospital accommodation. Place of residence may be permanent or temporary. (METeOR identifier: 270305)

Indigenous status: A measure of whether a person identifies as being of Aboriginal or Torres Strait Islander origin. (METeOR identifier: 291036)

International Statistical Classification of Diseases and Related Health Problems (ICD): the World Health Organization's internationally accepted classification of diseases and related health conditions. The tenth revision of the Australian Modification of ICD (namely, ICD-10-AM) has been used in all Australian jurisdictions for the coding of admitted patient data since 1999–00. (See Appendix E)

Length of stay: the length of stay of an overnight patient is calculated by subtracting the date the patient is admitted from the date of separation and deducting days the patient was on leave. A same-day patient is allocated a length of stay of 1 day. (METeOR identifier: 269982)

Mode of admission: the mechanism by which a person begins an episode of admitted patient care. (METeOR identifier: 269976)

Mode of separation: status at separation of person (discharge, transfer or death) and place to which person is released (where applicable). (METeOR identifier: 270094)

Overnight-stay patient: a patient who, following a clinical decision, receives hospital treatment for a minimum of 1 night (that is, who is admitted to and separated from the hospital on different dates).

Palliative care: care in which the clinical intent or treatment goal is primarily quality of life for a patient with an active, progressive disease with little or no prospect of cure. It is usually evidenced by an interdisciplinary assessment and/or management of the physical, psychological, emotional and spiritual needs of the patient; and a grief and bereavement support service for the patient and their carers/family. It includes care provided: in a palliative care unit; in a designated palliative care program; and under the principal clinical management of a palliative care physician or, in the opinion of the treating doctor, when the principal clinical intent of care is palliation. (Also see *Care type*.)

Palliative care separation: a separation for which the principal clinical intent of the care was palliation during all or some of that separation. (Also see *Palliative care* and *Separation.*)

Patient days: the total number of days for patients who were admitted for an episode of care and who separated during a specified reference period. A patient who is admitted and separated on the same day is allocated 1 patient day. (METeOR identifier: 270045)

Principal diagnosis: the diagnosis established after study to be chiefly responsible for occasioning an episode of admitted patient care. (METeOR identifier 333838)

Private hospital: a privately owned and operated institution, catering for patients who are treated by a doctor of their own choice. Patients are charged fees for accommodation and other services provided by the hospital and relevant medical and paramedical practitioners. Acute care and psychiatric hospitals are included, as are private free-standing day hospital facilities. (Also see *Establishment type*.)

Procedure: a clinical intervention that is surgical in nature, carries a procedural risk, carries an anaesthetic risk, requires specialised training and/or requires special facilities or equipment available only in the acute care setting. (METeOR identifier: 361687)

Public hospital: a hospital controlled by a state or territory health authority. Public hospitals offer free diagnostic services, treatment, care and accommodation to all eligible patients. (Also see *Establishment type.)*

Same-day: an admitted patient who is admitted and separates on the same date. Such patients are allocated a length of stay of 1 day.

Separation: an episode of care for an admitted patient which may include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute care to palliative care). 'Separation' can also refer to the process by which an admitted patient completes an episode of care such as by being discharged, dying, transferring to another hospital or changing type of care.

Statistical admission: an administrative process that begins an admitted patient episode of care when there was a change in the clinical intent of treatment (for example, from acute care to palliative care). (Also see *Care type, Episode of care*, *Separation* and *Statistical discharge*.)

Statistical discharge: an administrative process that completes an admitted patient episode of care when there is a change in the clinical intent of treatment (for example, from acute care to palliative care). For each statistical discharge, there should be a corresponding statistical admission—that is, a new episode of care with a different care type is created. (Also see *Care type, Episode of care* and *Separation*.)

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