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Older Australians in hospital

Summary

The proportion of the population aged over 65 is projected to increase from 13% in 2004 to 20% by 2024. As hospital use increases with age (after the age of 50), this ageing of the Australian population can be expected to affect both the demand for and provision of hospital services. In addition, there is evidence that a period in hospital can have an adverse effect on the health of frail older people or people with dementia. Because of their high use of hospital services, and the consequent impact on personal wellbeing and service provision, it is important to understand why older people enter hospital and the characteristics of their stays. This bulletin examines these questions using data for 2004–05. In summary:

- Older people are bigger users of hospitals than their younger counterparts, with 53% (29,000) of people in hospital on the night of 30 June 2004 being aged 65 years and over. Throughout 2004–05, 37% of episodes lasting at least one night (or 'overnight' episodes) were for older people.
- At all ages, older men have higher rates of hospital use than older women, and during 2004–05 there were 474.5 overnight hospital episodes per 1,000 older men compared with 414.0 for older women. However, as older women make up a larger proportion of the older population, more overnight hospital episodes (52% in 2004–05) are for women than for men.
- People may receive different types of care while in hospital. The proportion of episodes that are for rehabilitation, geriatric evaluation and management, and maintenance care all increase with age. Consequently, the relative use of acute care decreases with increasing age, going from 94% of hospital episodes for people aged 65–69 down to 85% among very old patients in 2004–05.

Contents

- On average, older people have longer hospital episodes than younger people, the result of a combination of longer stays in acute care and a higher proportion using non-acute care.
- For acute-care episodes, the length of stay increases steadily with age; however, there is no such relationship for other care types.
- In 2004–05, one-fifth of hospitalisations for both older men and women were due to diseases of the circulatory system. Cancers and tumours were the next most common cause (11%). However, the prominence of particular diseases changes with age and sex.
- In many cases, injuries and poisonings resulting in hospitalisation are avoidable. For older people, falls are the most common cause of such injuries. Hospitalisation due to a fall increases with age—from 7.2 overnight hospitalisations per 1,000 people aged 65–74 to 63.5 per 1,000 people aged 85 and over in 2004–05. Older patients in hospital due to injury have relatively long stays.
- On discharge, older patients are less likely to return to their usual residence, and more likely than younger patients to go into residential care or to have died. A relatively high proportion of injury-related hospital episodes result in discharge to residential aged care or to another health facility.

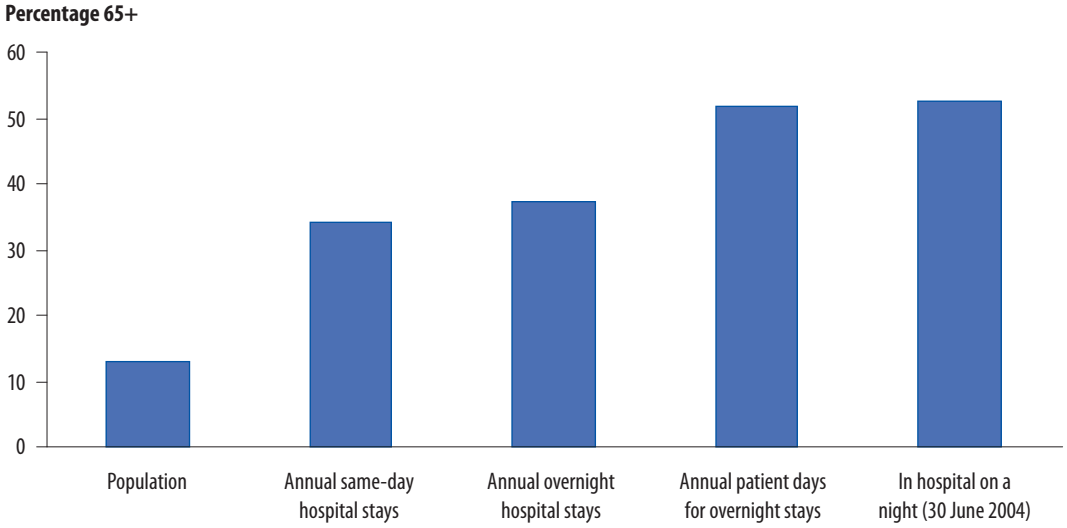
Introduction

While overall rates of hospital bed usage (in relation to population) have remained fairly stable among younger people since the early 1990s, usage rates have declined among the older population; that is, among those aged 65 and over (Gray 2004). As a consequence, the share of hospital patient days occupied by older patients has remained stable, rather than growing in line with the increasing proportion of the Australian population aged 65 and over. Even so, older people are still considerably higher users of hospitals than their younger counterparts. On 30 June 2004, 13% of the Australian population were aged 65 and over (2.6 million people) (Table A2, Figure 1). On that same night, around 55,200 people spent the night in hospital, with 53% (29,000) of these patients being aged at least 65 years. Over the year 2004–05, 34% of same-day hospital episodes and 37% of episodes lasting at least overnight were for older Australians, as were 52% of the total number of nights in hospital.

There is compelling evidence that 'hospitals can be dangerous and unfriendly places for frail older people or people with dementia' (Kurrle 2006), with hazards ranging from poly-pharmacy and under-nutrition to falls and deconditioning (Torian et al. 1992; Creditor 1993; Foreman & Gardner 2005). In particular, the likelihood of adverse events associated with elective surgery increases with age (Moje et al. 2006). Before even considering the personal cost to patients, the financial cost of such adverse events is considerable, and has been estimated in one study at $460.3 million in 2003–04 for Victoria alone (Ehsani et al. 2006).

The importance of improving hospital outcomes for older people has been recognised in a number of recent government initiatives. The Transition Care Program, announced in the 2004–05 Budget, has recently become operational. The purpose of this program is to assist 'older people with time-limited support and therapy-focused care, after their completing of a hospital stay' (DoHA 2006b:18). Furthermore, in May 2006 the Council of Australian Governments announced additional funding to improve the care of older people in public hospitals (Santoro 2006).

Because of their high use of hospital services, and the consequent impact on both personal wellbeing and service provision, it is important to understand both the reason older people enter hospital and the characteristics of their stays. This bulletin examines hospital use by older people during 2004–05, focusing on episodes lasting at least one night. The questions examined include why people enter hospital, the type of care they receive, how long they stay, and where they go afterwards. Previous analysis has shown that, even after the child-bearing years for women, hospital use is different for men and women, and varies for the young old compared with the very old, both in terms of admissions and length of stay (see AIHW 2006:xii–xiii). Differences in patterns of use are therefore investigated by both age and sex.



Sources: Tables A1, A2, A8, A13 and A14.

Figure 1: Population and hospital use: people aged 65 and over as per cent of total, 2004–05

The analysis presented in this report uses data on episodes of hospital care from the National Hospital Morbidity Database (NHMD) on admitted patients. If a patient transfers between hospitals or receives more than one care type while they are in hospital, then their period of hospitalisation will be made up of a number of contiguous episodes of care. Using the NHMD, it is possible to examine both the characteristics of people in hospital on a particular day and the characteristics of episodes of care that end over a selected period. The data presented in this bulletin relate to episodes of care ending in 2004–05. Explanations of key terms used in the bulletin are given in Box 1.

Who goes to hospital

On the night of 30 June 2004, 29,000 people aged 65 and over were in hospital (Table A1). Over half (55%) of these people were women, with this proportion increasing substantially with age, from 45% among those aged 65–69 up to 70% among patients aged 90 and over. To a large extent, this increase reflects the population's sex profile (see Table A2), so that, overall, older men and women have similar proportions in hospital—11.2 men per 1,000 aged 65 and over being in hospital overnight on 30 June 2004 compared with 11.1 women. Nevertheless, there are some consistent differences between the sexes, with men slightly more likely to be in hospital within all the older age groups examined (Figure 2). In addition, the gap between men and women is larger for those aged 80 and over than for younger age groups.

For both men and women, the likelihood of being in hospital on a particular night, or of using hospital during the year, increases with age (Figure 2). Annually, at all ages, older men have higher rates of hospital use than older women, and overall during 2004–05 hospital use rates were 474.5 overnight hospital episodes per 1,000 older men compared with 414.0 for women (see Table 1).

During 2004–05, there were nearly 2.5 million hospital separations for older Australians (Table A3). Of these, just under half (47%, or 1.16 million) involved at least one night in

Box 1: Key terms

*An **episode of care** for an admitted patient (or inpatient) can be either a total hospital stay—from admission into hospital to discharge from hospital or death—or a portion of a hospital stay beginning and/or ending in a transfer from/to another hospital or in a change of type of care (for example, from acute care to rehabilitation). An episode of care ends with a **separation**. Consequently, the terms episodes of care and separations are used interchangeably.*

*An episode of care starting and ending on the same day is called a **same-day** episode/separation. All other episodes of care are called **overnight** episodes/separations.*

***Length of stay** is derived for episodes of care. The length of stay of an overnight episode 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 episode is allocated a length of stay of 1 day.*

*A **hospitalisation** is an episode of care that starts with an admission into the hospital system; episodes of care resulting from either transfer between hospitals or change of care type within a hospital are therefore not included.*

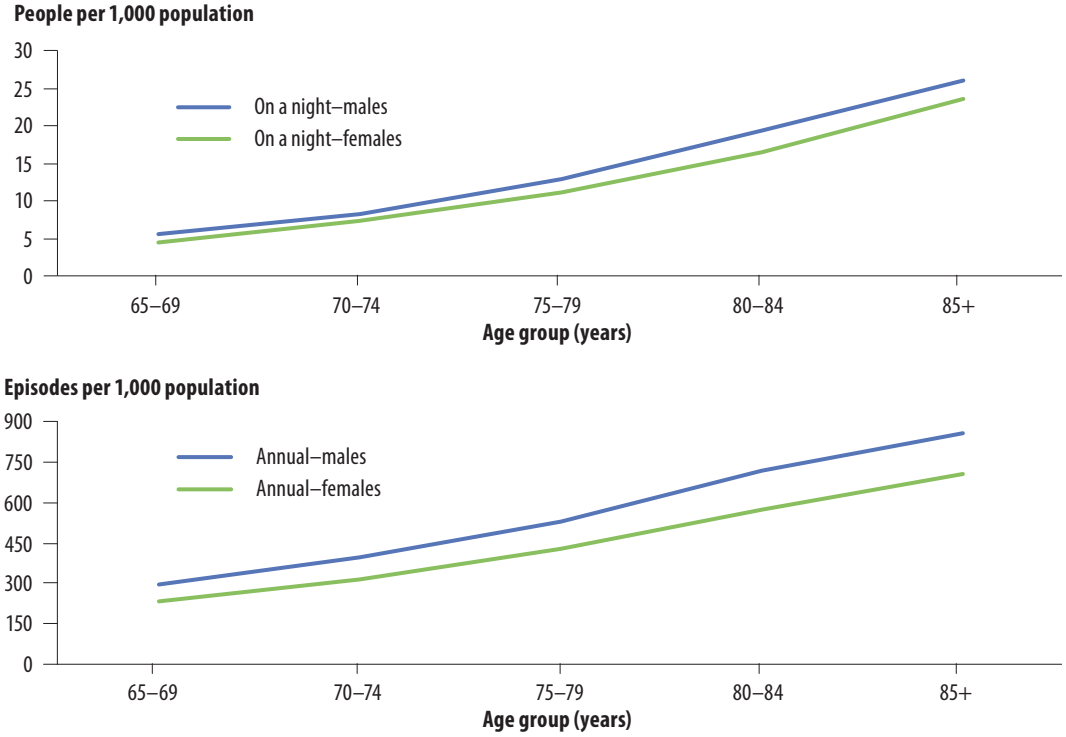
*The **care type** of an episode of care defines the overall nature of a clinical service provided to an admitted patient during an episode of care (see Box 3 for details).*

*Both a **principal diagnosis** and **additional diagnoses** are assigned for each episode of care. The principal diagnosis is that diagnosis established after study to be chiefly responsible for occasioning the episode of admitted patient care. Other conditions that contribute to the complexity and cost of patient treatment are recorded in the NHMD as additional diagnoses; additional diagnoses may therefore not be inclusive of all comorbid conditions experienced by the patient.*

*A **condition group** is a set of related ICD-10-AM diagnosis codes; specifically, chapters in the ICD-10-AM diagnosis classification.*

Source: *AIHW 2006, except for the terms 'hospitalisation' and 'condition group'.*

hospital. The propensity for hospital episodes for older Australian to be more than just a day visit increases with age: for 2004–05 the proportion of separations that were overnight stays was 39% among 65–74 year olds compared with 70% for those aged 85 and over. This pattern among older patients is in part due to the increasing likelihood of comorbidities, which add medical complexity to the patient's treatment. This possible cause can be seen using the reported Patient Clinical Complexity Level, which takes into account the added effect of a patient's additional diagnoses contributing to the patient's overall clinical presentation due to comorbid conditions (Box 2). In 2004–05, the prevalence of moderate or severe clinical complexity increased with age, from 33% of overnight hospital episodes for 65–74 year olds to 51% for patients aged 85 and older (Table A4).



Source: Tables 1 and A1.

Figure 2: Older people in hospital on the night of 30 June 2004 and hospital use (excluding same-day episodes) throughout 2004–05 (per 1,000 population)

Box 2: Patient Clinical Complexity Level

Both principal and additional diagnoses are recorded for an episode of care (see Box 1). The Patient Clinical Complexity Level indicates the degree to which additional comorbid conditions combine to affect the clinical complexity in addition to the level associated with the principal diagnosis. For this publication, four levels are used:

- *None (level = 0, 1)*
- *Mild (level = 2)*
- *Moderate (level =3)*
- *Severe (level = 4)*

Source: *DoHA 2002:7–8; AIHW 2006:glossary.*

Table 1: Hospital separations (excluding same-day episodes), by care type by age at admission and sex, 2004–05 (per cent)

Care type	Age								All 65+	All ages
	0–59	60–64	65–69	70–74	75–79	80–84	85–89	90+		
Males										
Acute	98.1	95.9	94.7	93.0	91.4	89.6	87.5	86.0	91.4	95.2
Rehabilitation	1.1	2.0	2.6	3.4	4.3	5.3	6.0	5.9	4.2	2.4
Palliative	0.3	1.2	1.4	1.6	1.7	1.6	1.7	1.6	1.6	0.9
GEM	0.1	0.2	0.3	0.6	0.8	1.0	1.6	2.1	0.8	0.4
Psychogeriatric	—	0.1	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.1
Maintenance	0.2	0.4	0.6	0.8	1.3	1.9	2.7	4.0	1.4	0.7
Other	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Row %	*52.6*	*7.5*	*7.9*	*8.5*	*9.4*	*8.1*	*4.2*	*1.8*	*39.9*	*100.0*
Total ('000s)	*737.7*	*105.0*	*111.4*	*119.3*	*132.5*	*113.4*	*58.4*	*25.3*	*560.4*	*1,403.0*
Number per 1,000	*87.8*	*224.8*	*296.9*	*397.0*	*531.5*	*716.0*	*[(a)]859.0*		*474.5*	*139.6*
Females										
Acute	98.8	95.5	93.5	91.4	89.1	86.9	85.3	83.9	88.6	95.0
Rehabilitation	0.6	2.7	3.5	5.0	6.7	7.7	8.2	8.0	6.5	2.8
Palliative	0.2	1.0	1.2	1.2	1.1	1.1	1.1	1.1	1.1	0.6
GEM	0.1	0.2	0.4	0.7	1.0	1.5	2.0	2.6	1.2	0.5
Psychogeriatric	—	0.1	0.6	0.6	0.6	0.5	0.3	0.2	0.5	0.2
Maintenance	0.1	0.3	0.5	0.8	1.3	2.0	2.9	4.1	1.8	0.7
Other	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Row %	*60.0*	*5.0*	*5.3*	*6.0*	*7.5*	*7.8*	*5.2*	*3.2*	*35.0*	*100.0*
Total ('000s)	*1,030.6*	*85.5*	*90.3*	*102.5*	*129.5*	*133.5*	*90.0*	*55.8*	*601.6*	*1,717.7*
Number per 1,000	*124.9*	*186.5*	*235.3*	*313.5*	*429.5*	*570.7*	*[(a)]704.1*		*414.0*	*169.1*
Persons										
Acute	98.5	95.7	94.2	92.3	90.3	88.1	86.2	84.5	90.0	95.1
Rehabilitation	0.8	2.3	3.0	4.1	5.5	6.6	7.4	7.3	5.4	2.6
Palliative	0.3	1.1	1.3	1.5	1.4	1.3	1.3	1.3	1.4	0.7
GEM	0.1	0.2	0.4	0.6	0.9	1.3	1.8	2.5	1.1	0.4
Psychogeriatric	—	0.1	0.5	0.5	0.5	0.4	0.3	0.2	0.4	0.2
Maintenance	0.1	0.3	0.5	0.8	1.3	2.0	2.8	4.1	1.6	0.7
Other	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Row %	**56.7**	**6.1**	**6.5**	**7.1**	**8.4**	**7.9**	**4.8**	**2.6**	**37.2**	**100.0**
Total ('000s)	**1,768.3**	**190.4**	**201.7**	**221.7**	**262.0**	**247.0**	**148.4**	**81.1**	**1,161.9**	**3,120.6**
Number per 1,000	**106.2**	**205.8**	**265.8**	**353.5**	**475.7**	**629.4**	**[(a)]753.7**		**441.1**	**154.4**

(a) People aged 85 and over.

Note: Table excludes same-day hospital episodes. Number per 1,000 population uses estimated resident population for 31 December 2004.

Sources: AIHW analysis of NHMD; ABS 2005.

Why people go into hospital

As stated previously, a period in hospital for a patient may involve moving between hospitals, or may include a number of episodes of different care types within the one hospital; thus, not all episodes begin with entry into hospital. While the vast majority of same-day episodes start with the patient entering and leaving hospital on the same day, many overnight episodes either start or end with the patient transferring within the system. In 2004–05, 96% of same-day episodes began with the patient entering hospital and ended with the patient leaving hospital, compared with 15% of overnight episodes starting with the patient already in hospital and 14% ending with either a transfer between hospitals (9%) or a change in care type (4%).

During a hospital episode, information about the health conditions that cause or contribute to admission, or which influence treatment, is recorded on the patient record. Of all the diagnoses recorded, the principal diagnosis is defined as that found to be chiefly responsible for the episode of care. However, where multiple complex health conditions are present, it may be difficult to identify one single condition that caused admission to hospital, and the interaction of multiple health conditions, medication use, and social factors can contribute significantly to the need for hospitalisation among older people and to the complexity and cost of treatment. Noting this limitation, in the following discussion the principal diagnoses for older patients are examined, with diagnoses combined into 18 groups corresponding to diagnosis chapters, or condition groups, in the International Classification of Diseases 10th revision Australian Modification (ICD-10-AM). In the following analysis, groups of conditions are referred to using abbreviated names to aid the flow of discussion; names showing more fully the conditions included in the group are used in the tables (see, for example, Table A6).

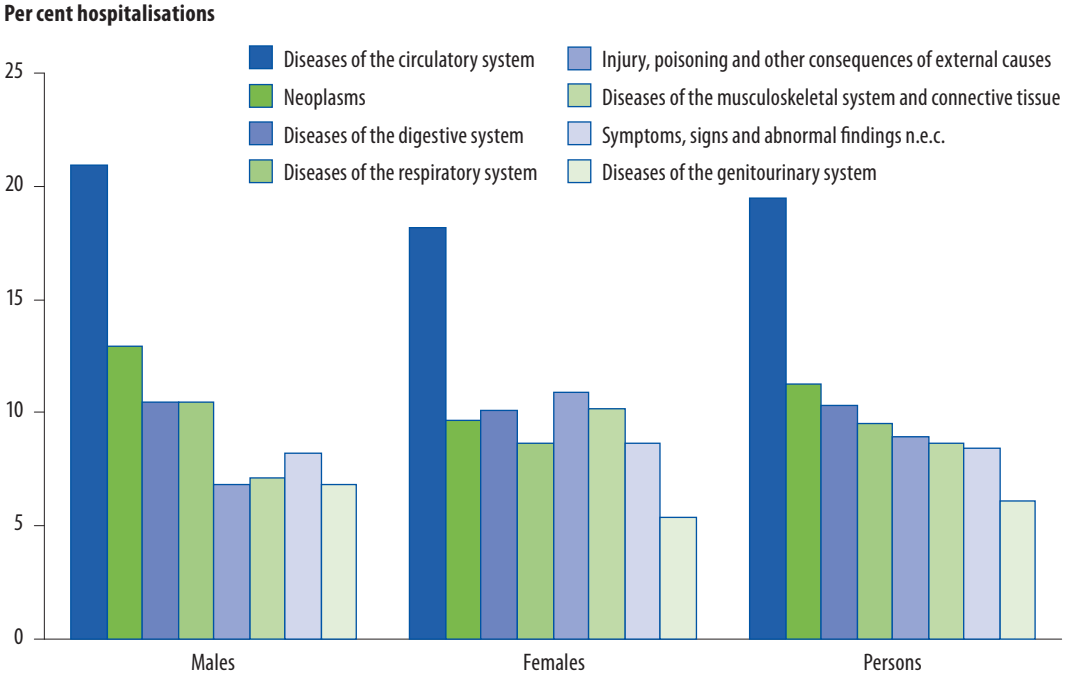
Hospitalisation

Overnight stays starting with admission into the hospital system (that is, excluding within-system transfers) can be used to investigate why people are entering hospitals. In 2004–05, out of 1.16 million episodes of overnight care there were 984,000 such hospitalisations (Table A5).

Among hospitalisations, diseases of the circulatory system were the most common principal diagnoses for older people in 2004–05, accounting for one-fifth of overnight hospitalisations for both men and women, and being almost twice as common as neoplasms (that is, cancers and tumours, 11%)—the second most frequent group of conditions (Figure 3, Table A5). Five other groups of conditions were present as the principal diagnosis for over 8% of hospitalisations: respiratory and digestive diseases (both around 10%), injury or poisoning (8.9%), musculoskeletal diseases (8.7%) and diagnoses included under the heading 'Symptoms, signs and abnormal findings not elsewhere classified' (8.5%).

There are some differences between men and women in terms of principal diagnoses associated with overnight hospitalisation (Figure 3). For example, in 2004–05, the second most common group of conditions causing hospitalisation for older men was cancers and tumours (that is, benign or malignant neoplasms; 13%), but for women the second most common group was injury or poisoning (11% of hospitalisations for older women). Similarly, musculoskeletal disease was a more prominent reason for hospitalisation among female than male patients (10% versus 7%).

The patterns of prominence for some diseases differ with age for males and females (Table A5). Thus, while circulatory system problems accounted for around 20% of overnight hospitalisations for men in all three age groups examined, for women the prominence of this group of diseases grew with age, increasing from 15% of hospitalisations for those aged 65–74 to 21% for women aged 85 and over. As another example, tumours and cancers were less common as the principal diagnosis among the older than younger age groups, but the age trend was more prominent for women than for men. For both men and women, principal diagnoses related to injury or poisoning were more likely to be recorded for older than younger patients, but they were generally more common among women; for example, among the oldest age group, this cause was reported for 10% of overnight hospitalisations for men, compared with nearly 16% for women.



Source: Table A5.

Figure 3: Top eight principal condition groups for overnight hospitalisations, 2004–05 (people aged 65+)

All episodes in hospital

While the relative importance of groups of conditions was similar among hospitalisations and all episodes, there was one notable difference: principal diagnoses grouped under the umbrella of 'Factors influencing health status and contact with health services' were reported for nearly 10% of all overnight hospital episodes, but accounted for just under 3% of the initial overnight hospitalisations, suggesting that many of the episodes of care within this group occur later in the hospital stay. In addition, this set of diagnoses accounted for 22% of patient days for overnight episodes—the highest proportion of any condition (Table A5, Table A6). Factors influencing health status cover the need for specific types of medical examination and investigation, care involving dialysis, care involving rehabilitation procedures, attention to

artificial openings and prosthetic devices, and presentation of potential health hazards related to socioeconomic, psychosocial, personal and family circumstances.

The prevalence of various principal diagnoses is quite different for same-day and overnight hospital episodes. In particular, for 2004–05, factors influencing health status (including contact with health services) accounted for nearly half (48%) of same-day episodes for older people compared with just under 10% of overnight stays, as stated above (Table A6). Examination of individual diagnoses showed that, in 2004–05, nearly two-thirds (63%) of same-day episodes for this set of diagnoses related to dialysis. In contrast, two other diagnoses were foremost among overnight episodes: care involving the use of rehabilitation procedures (60% of overnight episodes associated with factors influencing health status) and problems related to medical facilities and other health care (16%). Between them, these two diagnoses accounted for 70% of all older patient days for this set of diagnoses. In addition, within this group of conditions, over two-thirds of days for episodes with a principal diagnosis of problems related to medical facilities and other health care were for patients classified as persons awaiting admission to residential aged care (with an average length of stay of 35 days).

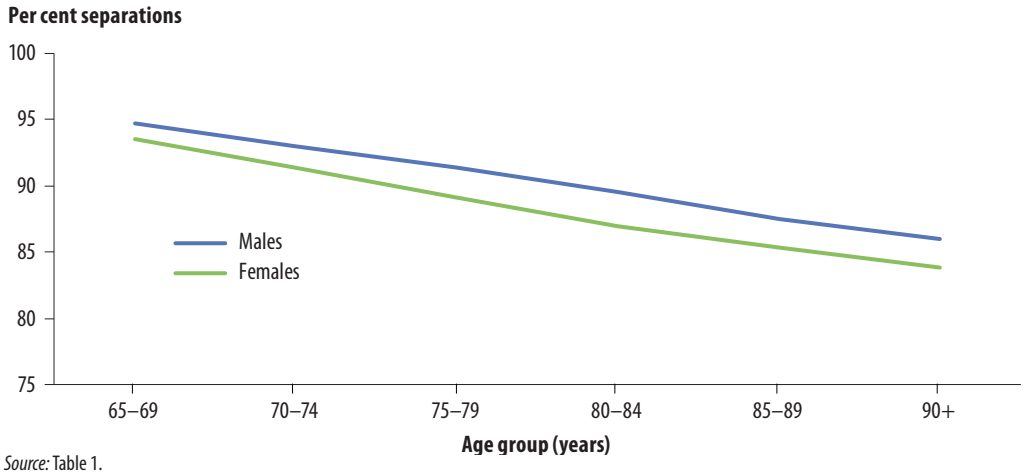
Eye disease was the second most common group of conditions among same-day stays in 2004–05, with its associated principal diagnoses accounting for 10% of same-day episodes. However, it was one of the rarer conditions among longer stays (reported for 1.3% of overnight episodes). Nearly 90% of same-day stays related to eye problems were due to cataracts; for overnight stays, the corresponding figure was just over 60%.

For overnight stays, principal diagnoses relating to six groups of conditions (including factors influencing health status as discussed above) accounted for two-thirds (66%) of episodes, and together these accounted for 70% of patient days (Table A6). The most common group of conditions—reported for 19% of overnight stays and accounting for 15% of patient days—was circulatory system disease, which includes any disease that affects the heart and blood vessels. Along with diseases of the respiratory system, injury and poisoning, and infectious and parasitic diseases, patients in hospital for this set of conditions were less likely than others to have a same-day separation (each 18% of separations or less, compared with 53% overall). Within episodes reporting a principal diagnosis of circulatory system disease, common diagnoses included angina (severe pain over the heart that signals a possible impending cardiac infarction) and heart failure. Among the latter, congestive heart failure was the most frequently recorded principal diagnosis (73% of all heart failure episodes)—a condition for which hospitalisation is regarded as potentially avoidable if there is access to timely and effective primary care (Culler et al. 1998; Page et al. 2007).

At 11% of episodes—and accounting for 10% of patient days—tumours and cancers were the second most common reason for hospital care among older overnight patients, followed by factors influencing health status. The three other groups of conditions appearing in the top six reasons for overnight stays in 2004–05 were diseases of the digestive system, diseases of the respiratory system and injury and poisoning—each reported for around 9% of overnight stays and accounting for a total of 23% of patient days. The last of these is discussed in more detail at the end of this bulletin.

Type of care received

As the patient's condition changes, within one overall hospital stay people can receive a range of broad types of care while in hospital depending on the main clinical intent. These include acute care, rehabilitative care, palliative care, geriatric evaluation and management (GEM), psychogeriatric care and maintenance care (see Box 3 for descriptions). In 2004–05, around 97% of same-day episodes for people aged 65 and over were for acute care, with this percentage decreasing slightly with age (from 98% among 65–74 year olds to 95% for patients aged 85 and over) (Table A7). Acute care was somewhat less common for patients with overnight stays, and the pattern of decreasing use with increasing age was more marked, going from 94% of separations for people aged 65–69 down to 85% among very old patients (90+) (Table 1). In all age groups, overnight episodes of care for women were less likely to be for acute care than those for men (Figure 4).



Source: Table 1.

Figure 4: Use of acute care within age and sex group, separations in 2004–05 (overnight separations only)

In 2004–05, female patients were somewhat more likely to be in rehabilitative care than their male counterparts (6.5% of overnight stays for women aged 65 and over, compared with 4.2% for men) (Table 1). On the other hand, in all older age groups, men were slightly more likely to receive palliative care—although, for both men and women, under 2% of episodes were for this type of care in 2004–05. For both men and women, there was increasing use of maintenance care with age, rising from under 1% among episodes for 70–74 year olds to 4% for those aged 90 and over.

In terms of total patient days, acute care episodes account for fewer days than their relative numbers would suggest, indicating that episodes of acute care tend to be shorter than those for other types of care (see discussion below): in 2004–05, acute care accounted for 73% of patient days for overnight stays by people age 65 and over, but made up 90% of these episodes of care (Table 1 and Table A8). Rehabilitation and maintenance care together accounted for a further 20% of patient days (Table A8).

Care type, as recorded for hospital episodes, varies with the patient's principal diagnosis (Table A9). In particular, in 2004–05, 10% of overnight episodes with a cancer- or tumour-

related principal diagnosis were for palliative care (compared with 1.4% of all overnight stays), and more than three-quarters of episodes with a principal diagnosis relating to factors influencing health status involved non-acute care (56% were for rehabilitation and 15% involved maintenance care). Furthermore, nearly one-quarter (22%) of overnight episodes with a principal diagnosis of a mental or behavioural disorder were for either geriatric evaluation and management or for psychogeriatric care—predominantly the latter.

Examining diagnoses within care type, nearly all rehabilitation episodes lasting at least one night are for patients with a principal diagnosis associated with factors influencing health status (99% in 2004–05), while a large majority of patients receiving palliative care have a cancer-or tumour-related principal diagnosis (75%) (Table A9). Maintenance care is also commonly received by people in hospital for factors influencing health status (88% of such episodes), with this set of diagnoses also being highly prevalent among people receiving 'other' care (59%) or geriatric evaluation and management (32%). For the latter group, injury or poisoning and circulatory conditions are also relatively common (both around 11% of GEM episodes in 2004–05). As would be expected, among patients receiving psychogeriatric care, principal diagnoses usually relate to either mental and behavioural disorders (87%) or the nervous system (11%).

Box 3: Care types for admitted patients

The care type of an episode of care (see Box 1) defines the overall nature of a clinical service provided to an admitted patient during an episode of care (admitted care), or the type of service provided by the hospital for boarders or posthumous organ procurement (other care). Care types of relevance to older patients include:

- ***Acute care**, where the clinical intent is either to cure illness or provide definitive treatment of injury, to reduce or relieve symptoms (non-palliative) or to protect against exacerbation of an illness or injury. Surgery and diagnostic or therapeutic procedures are included.*
- ***Rehabilitation**, where the clinical intent or treatment goal is to improve the functional status of a patient with an impairment, disability or handicap.*
- ***Palliative care**, in which the clinical intent or treatment goal is primarily quality of life for a patient who has an active, progressive disease with little or no prospect of cure.*
- ***Geriatric evaluation and management (GEM)**, where the clinical intent or treatment goal is to maximise health status and/or optimise the living arrangements for a patient with multi-dimensional medical conditions associated with disabilities and psychosocial problems, and who is usually (but not always) an older patient.*
- ***Psychogeriatric care**, in which the clinical intent or treatment goal is improvement in health, modification of symptoms and enhancement in function, behaviour and/or quality of life for a patient with an age-related organic brain impairment with significant behavioural or late onset psychiatric disturbance or a physical condition accompanied by severe psychiatric or behavioural disturbance.*
- ***Maintenance care**, in which the clinical intent or treatment goal is prevention of deterioration in the functional and current health status of a patient with a disability or severe level of functional impairment. Following assessment or treatment, the patient does not require further complex assessment or stabilisation, and requires care over an indefinite period. This care includes that provided to a patient who would normally receive care in another setting, such as at home, or in a residential aged care service, by a relative or carer, that is unavailable in the short term.*

Source: *AIHW 2004.*

How long people stay

Measures of length of hospital stay based on data recorded on hospital episodes understate the total length of stay in hospital. This is because information on hospital use is collected with respect to episodes of care rather the entire stay in hospital and, as we have discussed in this bulletin, people may both transfer between hospitals and change their care type within a hospital during a period of hospitalisation. It is not possible to string together a person's episodes of care into a single stay because a person identifier is not available on the NHMD. Consequently, measures of length of hospital episode understate the total length of stay in hospital to the extent that people transfer within the hospital system. Estimates of hospital length of stay for older people are affected more than those for younger people because a higher proportion of their episodes end in a transfer—either within or between hospitals (Table A13 and Table A14).

Two measures are commonly used to gauge length of stay: the arithmetic mean and the median (that is, that length of stay with half of the values being smaller and half larger). For all groups, the mean length of episodes can be affected by a relatively small number of very long episodes. Therefore, consideration of both measures is informative.

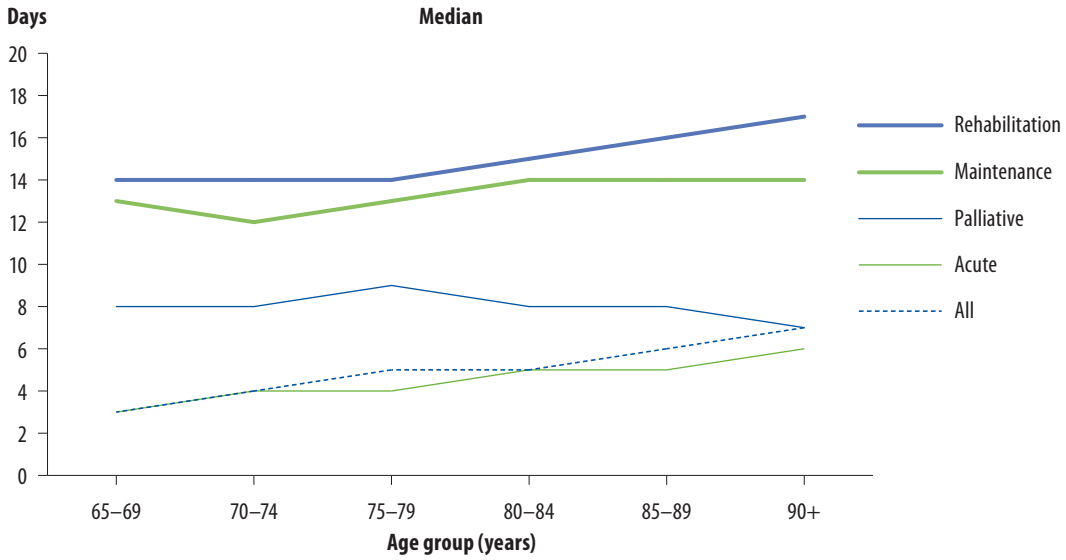
Overall, in 2004–05 the median length of stay for overnight episodes for older people was 5 days (mean of 8.7 days) (Table A10). On average, older people have longer hospital episodes than younger people: in 2004–05 the median length of stay was 5 days for people aged 65 and over, compared with 3 days across all age groups (means of 8.7 and 6.3 days, respectively, see Table A12). This pattern is also evident when looking in more detail at the distribution, with 90% of overnight stays for older people lasting 19 days or less compared with 12 days for younger people. These results reflect the fact that older people are both more likely to have longer stays in acute care and more likely to have episodes of non-acute care. One likely contributing factor is the proportion of episodes for patients with comorbidities that affect their care, as seen earlier (see Table A4). Other factors that could contribute include the slower pace of recovery with age and social factors, such as the availability of family care at home.

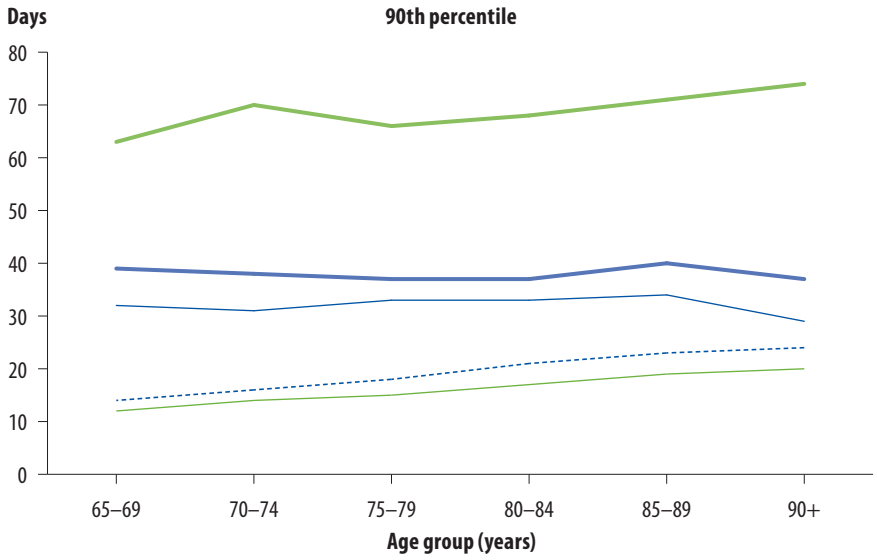
Length of stay is affected by a number of factors, including care type and diagnosis. Acute care episodes tend to be shorter than other overnight episodes, with a median of 4 days in 2004–05 for patients aged 65 and over, compared with 8 days for palliation—the care type with the second lowest median. Maintenance care and rehabilitation are commonly longer, with median stays of 13 and 15 days in 2004–05, respectively, and geriatric evaluation and management and psychogeriatric care tend to be longer again (medians of 18 and 23 days). While the median length of maintenance care episodes was not especially high in 2004–05 (13 days), this type of care can be provided to a patient for a very long period, and, in 2004–05, maintenance care had the second highest 90th percentile for length of stay (69 days compared with 71 days for psychogeriatric care) and the highest 99th percentile (751 days compared with 241 days for psychogeriatric care, which was the next highest) (Table A12).

In 2004–05, for acute care episodes, both the median length of stay and 90th percentile increased steadily with age; however, this relationship between age and length of stay was

not consistently evident for other care types (Figure 5). For example, the median length of stay for rehabilitation episodes increased with age for people 75 and over, while the 90th percentile seemed to remain fairly stable across these older ages. On the other hand, the reverse was true for maintenance care.

On average, women have longer stays than men. In 2004–05, the median length of stay for overnight stays for women was 5 days, compared with 4 days for men (Table A11). This difference is not apparent for all care types across all age groups. However, acute care and rehabilitation episodes tend to be longer for women aged 80 and over than for men of a similar age, and the median length of stay for geriatric evaluation and management is consistently higher for women than for men for all age groups for people aged 70 and over.





Source: Table A12.

Figure 5: Length of overnight stays for common care types for older clients, 2004–05 (days)

As might be expected from the relationship between care type and principal diagnosis (see previous section), length of stay varies with both principal diagnosis and care type (Table A10). Overall, in 2004–05 patients with a principal diagnosis related to factors influencing health status had the longest median length of stay at 13 days for overnight stays (mean episode length of 20.1 days). However, within these hospital episodes, median length of stay varied between 3 days for acute care episodes to 21 days for geriatric evaluation and management. The relatively small number of episodes for patients with a principal diagnosis of a mental or behavioural disorder also tended towards longer stays, with a median length of 11 days. Again, for these episodes, length of stay varied with care type, ranging from 8 or 9 days for acute care, rehabilitation and palliation to 22 days for geriatric evaluation and management and psychogeriatric care. The only care type – principal diagnosis combination with a higher length of stay was for psychogeriatric care patients with a principal diagnosis relating to the nervous system (median of 31 days). Overnight episodes for principal diagnoses in other condition groups generally had medians of 6 or fewer days, which reflects their high proportions of episodes in acute care. However, geriatric evaluation and management and maintenance care for patients with a principal diagnosis of injury or poisoning commonly had long stays (medians of 20 and 19 days, respectively).

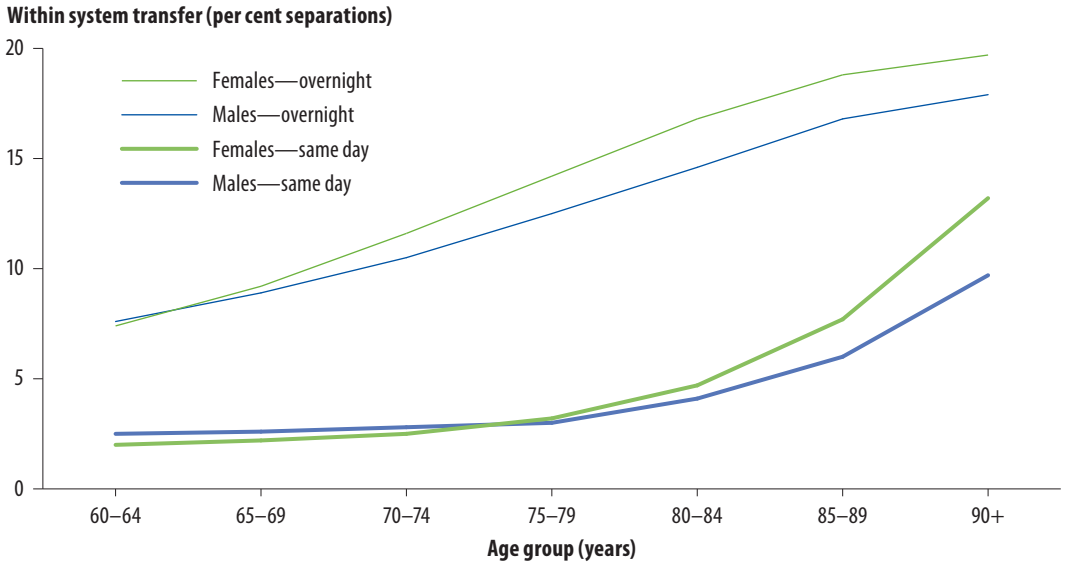
Where people go afterwards

An episode of care for an admitted patient can end in three ways: in discharge from the hospital system, in a change of type of care within the hospital, or in transfer to another hospital (Table A13, Table A14).

Overall, in 2004–05, episodes lasting one night or more were more likely than same-day episodes to end with a within-system transfer[1] (Figure 6). In addition, with increasing age separations are more likely to end with a transfer, both for overnight and same-day stays; for example, 9% of overnight stays for 65–69 year olds ended with a within-system transfer, compared with 19% of those for people aged 90 and over (Table A13). At all ages over 65, women were more likely than men to have transfer separations following an overnight stay; for same-day separations this was true only for those aged 80 and over.

In general, few same-day episodes end in either death or discharge to residential aged care or to another health care facility: just 0.8% of same-day separations for people aged 65 and over ended this way in 2004–05 (Table A14). The exception to this is among the very old, with 5.3% of same-day episodes for people aged 90 and over ending in either death (2.5%) or transfer to residential aged care or another health facility (2.8%). Note, however, that other analysis has indicated that the post-hospital destination is not always well-reported, with discharge into residential aged care and return to residential aged care when already a permanent resident not always being well-differentiated (see AIHW 2003; AIHW: Karmel & Rosman 2007).

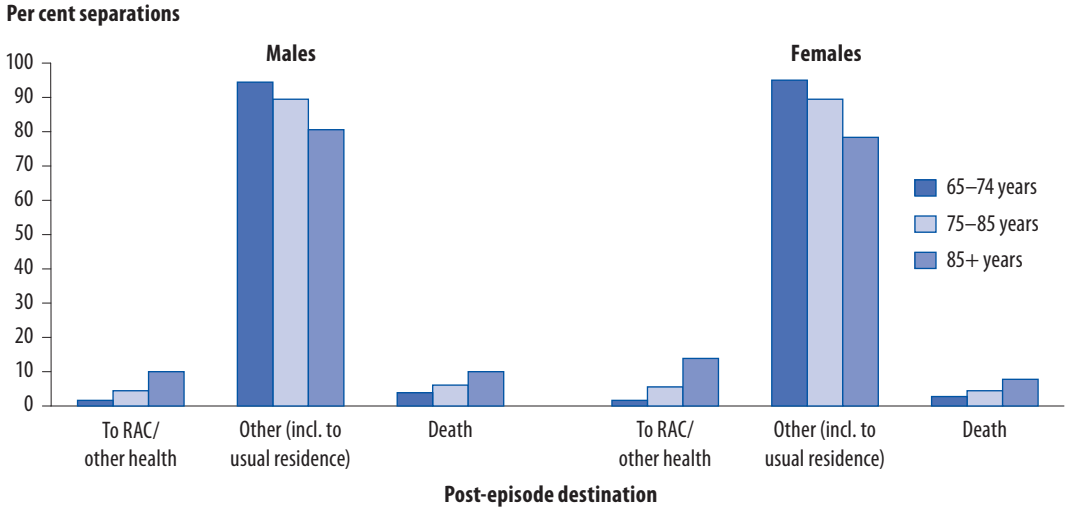
1 In this publication, within-system transfer refers to both statistical discharges recorded when a patient changes care type within a hospital and to transfers to another hospital (either acute or psychiatric).



Source: Tables A13 and A14.

Figure 6: Separations ending in between or within hospital transfer, by sex and same-day status, 2004–05

Looking at episodes that include an overnight stay in hospital and which end in discharge from the hospital system, separation patterns are similar for men and women (Figure 7). As expected, older patients are less likely to return to their usual residence, and more likely than younger patients to go into residential aged care or die in hospital. In 2004–05, 90% of discharges from the hospital system for patients aged 65–74 ended in the patient going home compared with just under 80% for patients aged 85 and over. Discharge to residential aged care is also more likely for older people, and in 2004–05 this destination was highest among female patients aged 85 and over (14% of discharges from the hospital system, compared with 10% for male patients of a similar age). For all age groups, episodes for male patients were more likely to end in death than those for their female counterparts (Table A13).



Source: derived from Table A13.

Figure 7: Destination following discharge from the hospital system, 2004–05 (overnight separations only)

A closer look at people in hospital following an accident

Unlike episodes of care for many other diagnosis chapters, in many cases hospitalisations for injury due to external causes are avoidable through injury prevention practices. The importance placed on avoiding such hospitalisations is indicated by the inclusion of injury prevention and control as one of seven National Health Priority Areas, with the National Falls Prevention for Older People Initiative sitting under this particular Health Priority Area (DoHA 2006a). Injury as a cause for hospitalisation is examined below by considering episodes of care with a principal diagnosis in the group of conditions 'Injury, poisoning and other consequences of external causes', with a focus on those in hospital because of a fall.

In 2004–05, at 8.9%, injury (including poisoning) was the fifth most common reason for hospitalisations lasting at least one night, and the sixth most common among all overnight hospital episodes for older people, including within-system transfers (Table A5, Table A6). In addition, over 80% of hospital episodes with injury as the principal diagnosis involved at least one night in hospital—compared with 53% of all hospital episodes for people aged 65 and over—and, out of the nine groups of conditions each reported for more than 5% of overnight episodes, injury and factors influencing health status were the only two to have an above average length of stay. The mean length of stay for episodes with a principle diagnosis of injury or poisoning was 9.3 days versus the overall average of 8.7 (Table A6).

Injury as a cause of admission increases with age: in 2004–05, including same-day episodes, age-specific hospitalisation rates where injury or poisoning was the principal diagnosis rose from 24.7 per 1,000 persons 65–74 years up to 92.6 separations per 1,000 persons 85 years and over. Looking just at overnight hospitalisations, these figures reduce to 19.0 and 80.2 hospitalisations per 1,000 persons, respectively (Table A15).

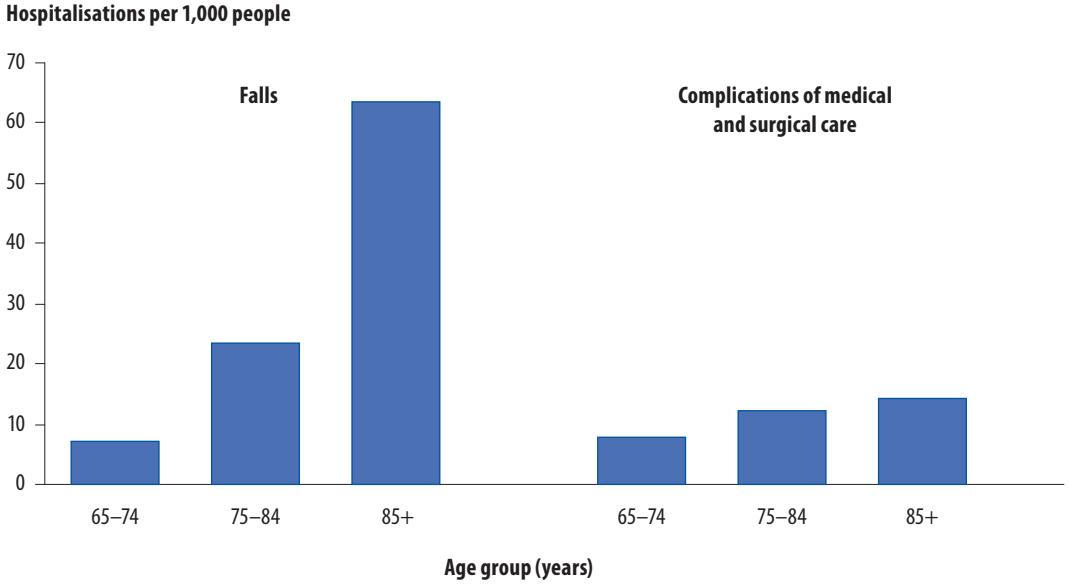
For older people, falls and complications of medical and surgical care are the most common causes of injury leading to hospitalisation, accounting for nearly 90% of overnight hospitalisations with a principal diagnosis of injury or poisoning in 2004–05 (Table A15).[2] Both of these causes increase in importance with age, although the effect is greater for falls: in the year under study, the annual overnight hospitalisation rate due to falls was 7.2 per 1,000 people aged 65–74 compared with 63.5 per 1,000 people aged 85 and over (Figure 8). A detailed discussion of a particular injury from falls that has a great impact on older people can be found in the publication *Hip fracture injuries* (AIHW: Kreisfeld & Newson 2006; see also AIHW: Bradley & Harrison 2007).

In 2004–05, older patients in hospital as a result of injury and a reported external cause had relatively long stays: the mean length of stay for patients with an overnight stay because of an injury or poisoning was fourth highest at 9.3 days when compared with all principal diagnosis groups (Table A6), and this group of conditions also had the (joint) fourth highest median length of stay (6 days) (Table A10). As with other diagnoses,

2 In 7% of cases more than one external cause was recorded (Table A15); for these it is not always possible to link a particular cause to the principal diagnosis.

this is an understatement of the average length of hospitalisation owing to within-system transfers. However, the difference is likely to be more marked for this group as a relatively high proportion of people in hospital as the result of a fall—the main cause of injury—have their period of hospitalisation recorded as a number of episodes of care as a consequence of hospital transfer and/or change in care type. In 2004–05, falls accounted for 59% of all overnight episodes with injury or poisoning as the principal diagnosis for older patients; around one-third of these episodes (34% of hospitalisations and 35% of all overnight stays) ended with a transfer within the hospital system, compared with 14% for all overnight hospital separations for people aged 65 and over (Table 2, Table A12, Table A13). Interestingly, despite the high rate of within-system transfers, 98% of hospital episodes with injury or poisoning as the principal diagnosis were for acute care, with most of the remainder being for geriatric evaluation and management (1.4%) (Table A9). This indicates a high level of between-hospital transfers to provide appropriate treatment within acute care.

A relatively high proportion of falls-related hospital episodes end in discharge to residential aged care or another health facility: 8% compared with just 4.5% of all overnight hospital separations for older people in 2004–05. In terms of destination on exit from hospital (that is, excluding episodes ending with the patient transferring within the hospital system), 12% of falls patients discharged from the hospital system after at least one night in hospital were recorded as going to residential aged care or to another health facility, with a further 8% being discharged due to death; for all patients aged 65 and over the corresponding figures were 5.5% and 5.1% (Table 2 and Table A13).



Source: Table A15.

Figure 8: Two common causes of principal diagnosis of injury with external cause recorded, 2004–05 (overnight stays only)

Table 2: Separations (excluding same-day separations) for patients aged 65+ with principal diagnosis of injury and with falls recorded as an external cause, by mode of separation and age at admission, 2004–05 (per cent)

Mode of separation	Age (years) 65–74	75–84	85+	All 65+
		Hospitalisations only		
Discharge/transfer within hospital system	23.6	34.6	37.3	33.5
To RAC/other health	2.8	6.8	11.8	7.9
Other (including to usual residence)	71.8	55.7	46.0	55.2
Death	1.7	2.8	4.9	3.4
Unknown	0.1	—	—	—
Total	*100.0*	*100.0*	*100.0*	*100.0*
Row %	*19.5*	*42.8*	*37.7*	*100.0*
Total (number)	*9,986*	*21,974*	*19,352*	*51,312*
		All overnight separations		
Discharge/transfer within hospital system	25.7	36.6	39.0	35.4
To RAC/other health	2.9	7.0	11.8	8.0
Other (including to usual residence)	69.5	53.5	44.0	53.0
Death	1.9	3.0	5.1	3.6
Unknown	—	—	—	—
Total	**100.0**	**100.0**	**100.0**	**100.0**
Row %	**19.2**	**42.9**	**37.9**	**100.0**
Total (number)	**11,474**	**25,586**	**22,644**	**59,704**

Note: Figures relate to injury recorded as a principal diagnosis, and do not include falls that occurred during the episode of care (see also notes to Table A15). Table excludes cases with missing sex.

Source: AIHW analysis of NHMD.

Acknowledgments

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Abbreviations

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
DoHA	Australian Department of Health and Ageing
GEM	Geriatric evaluation and management
ICD-10-AM	International Classification of Diseases 10th revision Australian Modification, based on the World Health Organization's internationally accepted classification of diseases and related health conditions.
n.e.c.	not elsewhere classified
NHMD	National Hospital Morbidity Database
RAC	residential aged care

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Appendix tables

Table A1: People in hospital, by age at admission and sex, on night of 30 June 2004

Sex	Age								All 65+	All ages
	0–59	60–64	65–69	70–74	75–79	80–84	85–89	90+		
					Number					
Males	10,332	1,812	2,017	2,466	3,172	2,974	1,633	792	13,054	25,198
Females	12,552	1,508	1,675	2,369	3,364	3,787	2,926	1,833	15,954	30,014
Persons	22,884	3,320	3,692	4,835	6,536	6,761	4,559	2,625	29,008	55,212
					Row per cent					
Males	41.0	7.2	8.0	9.8	12.6	11.8	6.5	3.1	51.8	100.0
Females	41.8	5.0	5.6	7.9	11.2	12.6	9.7	6.1	53.2	100.0
Persons	41.4	6.0	6.7	8.8	11.8	12.2	8.3	4.8	52.5	100.0
					Column per cent					
Males	45.1	54.6	54.6	51.0	48.5	44.0	35.8	30.2	45.0	45.6
Females	54.9	45.4	45.4	49.0	51.5	56.0	64.2	69.8	55.0	54.4
Persons	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
					Use per 1,000 people					
Males	1.2	4.0	5.5	8.2	12.8	19.2	[(a)]25.9		11.2	2.5
Females	1.4	3.4	4.4	7.2	11.1	16.4	[(a)]23.6		11.1	3.0
Persons	1.3	3.7	4.9	7.7	11.9	17.6	[(a)]24.3		11.1	2.7

(a) People aged 85 and over.

Note: NHMD data for particular financial year includes all those hospital episodes that finished during the year. The data in this bulletin are for 2004–05, so that the point-in-time data relate to 30 June 2004. The very small number of cases where a hospital episode started on or before 30 June 2004 and was not completed by 30 June 2005 are therefore not included in this table. Number per 1,000 population uses estimated resident population as at 30 June 2004.

Sources: AIHW analysis of NHMD; ABS 2004.

Table A2: Australian population, by age and sex, 30 June 2004

Sex	Age							All 65+	All ages
	0–59	60–64	65–69	70–74	75–79	80–84	85+		
					Number ('000s)				
Males	8,825.0	456.8	368.4	301.4	247.6	154.5	93.6	1,165.5	9,990.5
Females	8,661.6	448.1	378.0	327.0	302.1	230.3	202.0	1,439.4	10,101.0
Persons	**17,486.6**	**904.9**	**746.4**	**628.4**	**549.7**	**384.8**	**295.6**	**2,604.9**	**20,091.5**
					Row per cent				
Males	83.8	4.6	3.7	3.0	2.5	1.5	0.9	11.7	100.0
Females	81.3	4.4	3.7	3.2	3.0	2.3	2.0	14.3	100.0
Persons	**82.5**	**4.5**	**3.7**	**3.1**	**2.7**	**1.9**	**1.5**	**13.0**	**100.0**
					Column per cent				
Males	50.5	50.5	49.4	48.0	45.0	40.2	31.7	44.7	49.7
Females	49.5	49.5	50.6	52.0	55.0	59.8	68.3	55.3	50.3
Persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Sources: AIHW analysis of NHMD; ABS 2004.

Table A3: Hospital separations for people aged 45 years or over by age at admission and sex, 2004–05

Age	Separations				Average length of stay	
	Overnight stay	Same day	Total	Total	Overnight stay	All
			Per cent	Number		
45–64	36.5	63.5	100.0	1,953,195	5.6	2.7
65–74	38.7	61.3	100.0	1,093,662	7.2	3.4
75–84	48.4	51.6	100.0	1,051,332	8.9	4.8
85+	70.3	29.7	100.0	326,324	11.0	8.0
65+	**47.0**	**53.0**	**100.0**	**2,471,318**	**8.7**	**4.6**

Note: Separations for which the care type was reported as *Hospital boarder* or *Posthumous organ procurement* are excluded.

Source: AIHW analysis of NHMD.

Table A4: Separations for patients aged 65 years and over by Patient Clinical Complexity Level and age, 2004–05 (per cent)

	Separations		
Age/clinical complexity level	Overnight stay	Same day	Total
65–74 years			
None	50.4	88.0	73.4
Mild	16.5	8.1	11.3
Moderate	19.1	3.4	9.5
Severe	14.0	0.5	5.7
Total	*100.0*	*100.0*	*100.0*
Total ('000s)	*670.2*	*423.5*	*1,093.7*
75–84 years			
None	41.4	87.0	64.9
Mild	17.0	7.6	12.1
Moderate	22.7	4.7	13.4
Severe	19.0	0.7	9.5
Total	*100.0*	*100.0*	*100.0*
Total ('000s)	*542.4*	*508.9*	*1,051.3*
85+ years			
None	33.2	82.6	47.8
Mild	16.2	8.5	13.9
Moderate	26.3	7.4	20.7
Severe	24.4	1.6	17.6
Total	*100.0*	*100.0*	*100.0*
Total ('000s)	*96.8*	*229.5*	*326.3*
65+ years			
None	43.0	87.2	66.4
Mild	16.7	7.9	12.0
Moderate	22.1	4.2	12.6
Severe	18.2	0.7	8.9
Total	**100.0**	**100.0**	**100.0**
Total ('000s)	**1,309.4**	**1,161.9**	**2,471.3**

Note: Patient Clinical Complexity Levels are based on additional diagnoses (in conjunction with the principal diagnosis) which contribute to the complexity and cost of patient treatment (see Box 2). For many same-day stays there is no financial incentive for the hospital (in terms of funding) to code additional diagnoses and so the existence of comorbidities that affect treatment may not be recorded. Consequently, the proportion of same-day episodes that have recorded complexity levels of 'none' may be overstated.

Source: AIHW analysis of NHMD.

Table A5: Overnight hospitalisations for patients aged 65 years and over: principal diagnosis by age and sex, 2004–05 (per cent)

Principal diagnosis (ICD-10-AM chapter)	Males				Females				All
	65–74	75–84	85+	65+	65–74	75–84	85+	65+	65+
Diseases of the circulatory system	20.9	21.1	20.3	20.9	15.5	19.0	20.6	18.2	19.5
Neoplasms (tumours and cancers)	13.6	12.9	11.0	12.9	11.8	9.4	6.8	9.7	11.2
Diseases of the digestive system	11.5	10.0	8.9	10.5	11.2	9.8	9.1	10.1	10.3
Diseases of the respiratory system	8.9	11.3	13.0	10.5	8.4	8.6	9.2	8.6	9.5
Injury, poisoning and other consequences of external causes	6.1	6.7	9.5	6.9	8.1	10.6	15.6	10.9	8.9
Diseases of the musculoskeletal system and connective tissue	8.8	6.4	4.1	7.1	13.4	10.0	5.8	10.2	8.7
Symptoms, signs and abnormal findings n.e.c.	7.6	8.4	9.7	8.2	8.1	8.9	9.1	8.7	8.5
Diseases of the genitourinary system	7.2	6.7	6.0	6.8	6.3	4.9	5.1	5.4	6.1
Diseases of the nervous system	3.5	3.0	2.5	3.1	2.8	2.5	2.3	2.6	2.9
Endocrine, nutritional and metabolic diseases	2.7	2.7	2.4	2.7	2.9	3.0	2.8	2.9	2.8
Factors influencing health status and contact with health services	2.2	2.7	3.0	2.5	2.4	2.7	2.6	2.6	2.6
Mental and behavioural disorders	1.5	1.6	2.0	1.6	2.4	2.2	2.1	2.3	1.9
Diseases of the skin and subcutaneous tissue	1.6	1.6	2.1	1.7	1.7	2.1	2.8	2.1	1.9
Blood, blood-forming organs and immunological disorders	1.2	1.7	2.2	1.5	1.5	1.9	2.3	1.8	1.7
Diseases of the eye and adnexa	0.8	1.4	1.4	1.2	1.5	2.4	1.7	1.9	1.6
Infectious and parasitic diseases	1.3	1.4	1.6	1.4	1.3	1.4	1.7	1.4	1.4
Diseases of the ear and mastoid process	0.4	0.3	0.3	0.4	0.6	0.5	0.4	0.5	0.4
Congenital malformations	0.1	—	—	0.1	0.1	—	—	0.1	0.1
Other/unknown[a]	—	—	—	—	—	—	—	—	—
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total hospitalisations ('000s)	**204.7**	**208.6**	**68.0**	**481.3**	**169.9**	**217.6**	**115.2**	**502.7**	**984.0**
Total separations ('000s)	**230.7**	**245.9**	**83.7**	**560.4**	**192.8**	**263.0**	**145.8**	**601.6**	**1,161.9**

(a) Includes 284 hospitalisations with a missing principal diagnosis and 1 with principal diagnosis of condition originating in the perinatal period (792 and 2 separations).

Note: Hospitalisations for which the care type was reported as *Hospital boarder* or *Posthumous organ procurement* are excluded. Table excludes cases with missing sex.

Source: AIHW analysis of NHMD.

Table A6: Separations for patients aged 65 years and over by principal diagnosis and same-day status, 2004–05

Principal diagnosis (ICD-10-AM chapter)	Separations				Overnight stays	
	Over-night	Same day	Total	Per cent same-day	Patient days	Mean length
	Per cent				Per cent	Days
Diseases of the circulatory system	18.7	3.8	10.8	18.4	15.1	7.0
Neoplasms (tumours and cancers)	10.5	9.2	9.8	49.8	10.1	8.4
Factors influencing health status and contact with health services	9.5	48.3	30.0	85.1	21.9	20.1
Diseases of the digestive system	9.3	8.7	9.0	51.3	5.9	5.5
Diseases of the respiratory system	8.8	0.9	4.6	9.9	8.1	8.0
Injury, poisoning and other consequences of external causes	8.7	1.7	5.0	17.8	9.2	9.3
Symptoms, signs and abnormal findings n.e.c.	7.7	4.8	6.2	41.3	4.1	4.7
Diseases of the musculoskeletal system and connective tissue	7.7	2.9	5.1	29.7	6.6	7.5
Diseases of the genitourinary system	5.5	2.4	3.8	32.8	3.5	5.6
Diseases of the nervous system	2.7	1.2	1.9	32.9	2.6	8.4
Endocrine, nutritional and metabolic diseases	2.6	1.9	2.3	45.7	2.6	8.6
Mental and behavioural disorders	2.0	1.3	1.6	41.9	5.2	22.3
Disease of the skin and subcutaneous tissue	1.7	1.1	1.4	41.7	1.9	9.5
Blood, blood-forming organs and immunological disorders	1.5	1.6	1.5	54.0	0.9	5.1
Diseases of the eye and adnexa	1.3	10.0	5.9	89.3	0.3	1.8
Infectious and parasitic diseases	1.3	0.2	0.7	14.4	1.5	9.6
Diseases of the ear and mastoid process	0.4	0.2	0.3	38.5	0.2	3.7
Congenital malformations	0.1	—	—	47.8	—	5.9
Other/unknown[(a)]	—	—	—	33.6	0.2	44.4
All diagnoses	**100.0**	**100.0**	**100.0**	**53.0**	**100.0**	**8.7**
Total ('000s)	**1,161.9**	**1,309.4**	**2,471.3**	..	**10,113.8**	**..**

(a) Includes 792 separations with a missing principal diagnosis and 2 with principal diagnosis of condition originating in the perinatal period.

Note: Separations for which the care type was reported as *Hospital boarder* or *Posthumous organ procurement* are excluded. Table excludes 43 cases with missing sex.

Source: AIHW analysis of NHMD.

Table A7: Total days for hospital separations by same-day indicator, by care type by age at admission, 2004–05 (per cent)

	Overnight stay				Same day			
Care type	**65–74**	**75–84**	**85+**	**65+**	**65–74**	**75–84**	**85+**	**65+**
Acute	78.8	72.4	65.4	72.6	97.8	97.0	95.4	97.3
Rehabilitation	9.3	13.0	13.7	12.0	1.7	2.6	3.8	2.2
Palliative	2.7	2.2	1.6	2.2	0.1	0.1	0.2	0.1
GEM	1.6	2.9	4.4	2.9	—	—	—	—
Psychogeriatric	3.1	1.9	0.9	2.0	0.2	0.3	0.5	0.3
Maintenance	4.3	7.4	13.8	8.1	—	—	0.1	—
Other	0.3	0.3	0.2	0.2	—	—	—	—
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total ('000s)	**3,034.5**	**4,549.4**	**2,529.9**	**10,113.9**	**670.2**	**542.4**	**96.8**	**1,309.4**

Source: AIHW analysis of NHMD.

Table A8: Total days for overnight hospital separations, by care type by age at admission and sex, 2004–05 (per cent)

Care type	Age								All 65+	All ages
	0–59	60–64	65–69	70–74	75–79	80–84	85–89	90+		
Males										
Acute	86.1	83.7	82.1	78.8	75.7	73.4	69.3	64.9	75.3	80.4
Rehabilitation	7.0	7.6	7.8	8.8	10.3	11.3	12.2	10.6	10.1	8.6
Palliative	0.7	2.4	2.7	3.0	2.9	2.4	2.2	1.8	2.6	1.8
GEM	0.2	0.8	1.1	1.8	2.2	2.8	3.4	4.2	2.3	1.3
Psychogeriatric	0.2	1.0	2.4	2.4	1.9	1.8	1.1	0.9	1.9	1.1
Maintenance	5.4	4.3	3.6	4.9	6.8	8.0	11.6	17.5	7.5	6.4
Other	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.1	0.3	0.3
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Row %	*41.8*	*7.1*	*8.2*	*9.7*	*12.2*	*11.3*	*6.6*	*3.2*	*51.2*	*100.0*
Total days ('000s)	*3,737.5*	*632.3*	*737.4*	*864.8*	*1,088.2*	*1,012.6*	*593.0*	*284.3*	*4,580.3*	*8,950.1*
Females										
Acute	93.2	85.6	78.9	75.6	72.7	68.7	65.4	62.3	70.3	80.9
Rehabilitation	3.5	8.3	8.7	11.6	14.1	15.5	15.4	13.8	13.7	9.0
Palliative	0.7	2.3	2.5	2.3	2.0	1.7	1.4	1.1	1.8	1.4
GEM	0.2	0.7	1.4	2.0	2.7	3.7	4.4	5.5	3.3	1.9
Psychogeriatric	0.2	0.5	4.1	3.6	2.2	1.8	1.1	0.5	2.1	1.2
Maintenance	1.9	2.2	4.1	4.5	6.1	8.4	12.2	16.6	8.5	5.4
Other	0.4	0.4	0.3	0.3	0.2	0.3	0.1	0.1	0.2	0.3
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Row %	*42.8*	*4.9*	*5.9*	*7.6*	*10.7*	*12.4*	*9.4*	*6.3*	*52.3*	*100.0*
Total days ('000s)	*4,524.6*	*517.2*	*627.6*	*804.8*	*1,133.8*	*1,314.8*	*991.3*	*661.3*	*5,533.5*	*10,575.3*
Persons										
Acute	90.0	84.5	80.6	77.3	74.2	70.8	66.8	63.1	72.6	80.7
Rehabilitation	5.1	7.9	8.2	10.1	12.2	13.7	14.2	12.9	12.0	8.8
Palliative	0.7	2.4	2.6	2.7	2.4	2.0	1.7	1.3	2.2	1.6
GEM	0.2	0.7	1.2	1.9	2.4	3.3	4.0	5.1	2.9	1.6
Psychogeriatric	0.2	0.8	3.2	3.0	2.1	1.8	1.1	0.6	2.0	1.2
Maintenance	3.5	3.3	3.8	4.7	6.4	8.2	12.0	16.9	8.1	5.8
Other	0.4	0.4	0.2	0.3	0.3	0.3	0.2	0.1	0.2	0.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Row %	**42.3**	**5.9**	**7.0**	**8.6**	**11.4**	**11.9**	**8.1**	**4.8**	**51.8**	**100.0**
Total days ('000s)	**8,262.1**	**1,149.4**	**1,364.9**	**1,669.6**	**2,222.0**	**2,327.4**	**1,584.3**	**945.6**	**10,113.9**	**19,525.4**

Note: Table excludes same-day hospital episodes.

Source: AIHW analysis of NHMD.

Table A9: Overnight separations for patients aged 65 years and over by principal diagnosis and care type, 2004-05 (number)

	Acute	Rehab-ilitation	Pallia-tion	GEM	Psycho-geriatric	Main-tenance	[a]Other/ unknown	Total
Infectious and parasitic diseases	15,218	1	125	108	—	19	25	15,496
Neoplasms (tumours and cancers)	109,354	8	11,873	343	2	135	36	121,751
Blood, blood-forming organs and immunological disorders	17,324	3	55	64	1	31	41	17,519
Endocrine, nutritional and metabolic diseases	29,622	6	176	335	6	92	34	30,271
Mental and behavioural disorders	17,833	11	76	746	4,328	303	147	23,444
Diseases of the nervous system	29,103	20	218	682	560	220	46	30,849
Diseases of the eye and adnexa	15,553	1	—	19	—	11	8	15,592
Diseases of the ear and mastoid process	4,369	—	2	17	—	2	3	4,393
Diseases of the circulatory system	214,168	40	954	1,370	10	429	347	217,318
Diseases of the respiratory system	100,768	7	737	674	3	241	77	102,507
Diseases of the digestive system	107,468	7	374	320	—	73	26	108,268
Diseases of the skin and subcutaneous tissue	19,681	4	36	189	1	56	131	20,098
Diseases of the musculoskeletal system and connective tissue	87,944	29	67	711	3	119	27	88,900
Diseases of genitourinary system	63,017	5	255	324	3	58	31	63,693
Congenital malformations	638	—	—	4	—	—	—	642
Symptoms, signs and abnormal findings n.e.c.	87,610	12	264	1,061	43	169	39	89,198
Injury, poisoning and other consequences of external causes	98,974	21	136	1,409	9	166	70	100,785
Factors influencing health status and contact with health services	26,056	62,291	544	3,847	30	16,346	1,548	110,662
Other/unknown[b]	323	170	5	4	6	18	1	527
All diagnoses	**1,045,024**	**62,636**	**15,897**	**12,227**	**5,005**	**18,488**	**2,637**	**1,161,913**

(a) Includes 118 separations with unknown care type.

(b) Includes 1 separation with a principal diagnosis in the ICD chapter *Perinatal conditions*.

Source: AIHW analysis of NHMD.

Table A10: Median length of stay of overnight separations for patients aged 65 years and over by principal diagnosis and care type, 2004–05 (days)

	Acute	Rehab-ilitation	Pallia-tion	GEM	Psycho-geriatric	Main-tenance	[a]Other /unknown	All
Infectious and parasitic diseases	6	n.p.	5	15	—	11	8	6
Neoplasms (tumours and cancers)	5	n.p.	9	16	n.p.	11	5.5	5
Blood, blood-forming organs and immunological disorders	3	n.p.	6	9	n.p.	12	5	3
Endocrine, nutritional and metabolic diseases	5	n.p.	6	14	n.p.	12	4.5	5
Mental and behavioural disorders	9	8	9.5	22	22	16	22	11
Diseases of the nervous system	2	12	10	20	31	18	1	3
Diseases of the eye and adnexa	1	n.p.	—	1	—	1	n.p.	1
Diseases of the ear and mastoid process	2	—	n.p.	7	—	n.p.	n.p.	2
Diseases of the circulatory system	4	14.5	5	16	10.5	14	6	4
Diseases of the respiratory system	6	n.p.	5	14	n.p.	9	6	6
Diseases of the digestive system	3	n.p.	5	15	—	11	6	3
Diseases of the skin and subcutaneous tissue	6	n.p.	8	19	n.p.	10	5	6
Diseases of the musculoskeletal system and connective tissue	6	9	7	14	n.p.	12	9	6
Diseases of genitourinary system	3	n.p.	5	11	n.p.	9	4	3
Congenital malformations	3	—	—	n.p.	—	—	—	3
Symptoms, signs and abnormal findings n.e.c.	2	5	5	16	29	10	6	2
Injury, poisoning and other consequences of external causes	6	12	5	20	n.p.	19	7	6
Factors influencing health status and contact with health services	3	15	13	21	13.5	14	7	13
Other/unknown[b]	6	17	n.p.	n.p.	n.p.	17	n.p.	10
All diagnoses	**4**	**15**	**8**	**18**	**23**	**13**	**6**	**5**

(a) Includes 118 separations with unknown care type.
(b) Includes 1 separation with a principal diagnosis in the ICD chapter *Perinatal conditions*.
n.p. not publishable (fewer than 10 separations for calculating median).

Source: AIHW analysis of NHMD.

Table A11: Median length of stay of overnight hospital separations: care type by age at admission and sex, 2004–05 (days)

Care type	Sex	Age								All 65+	All ages
		0–59	60–64	65–69	70–74	75–79	80–84	85–89	90+		
Acute	Male	2	3	3	4	4	4	5	5	4	2
	Female	3	3	3	4	4	5	6	6	5	3
Rehabilitation	Male	15	14	14	14	14	14	16	16	14	14
	Female	13	13	13	14	14	15	17	17	15	15
Palliative	Male	6	7	7	8	8	8	8	8	8	8
	Female	8	9	9	9	9	9	8	7	9	8
GEM	Male	2	14	17	14	16	18	18	18	17	15
	Female	3	13	15	17	18	20	20	20	19	18
Psychogeriatric	Male	26	15	21	21	26	23	22	27	23	23
	Female	10	30	23	22	22	25	24.5	25	23	23
Maintenance	Male	13.5	13	12	11	14	14	15	14	14	14
	Female	7	12	13	13	12	13	14	14	13	13
Other	Male	7	6	6	7	7	6	7	8.5	6	7
	Female	5	6	5	6	6	6	6	8	6	5
All	**Male**	**2**	**3**	**3**	**4**	**4**	**5**	**6**	**6**	**4**	**3**
	Female	**3**	**3**	**4**	**4**	**5**	**6**	**7**	**7**	**5**	**3**

Note: Table excludes same-day hospital episodes.

Source: AIHW analysis of NHMD.

Table A12: Percentiles of length of stay of overnight hospital separations, by care type by age at admission, 2004–05 (days)

		Age								All	All
Care type	Percentile	0–59	60–64	65–69	70–74	75–79	80–84	85–89	90+	65+	ages
Acute	10	1	1	1	1	1	1	1	1	1	1
	50	2	3	3	4	4	5	5	6	4	3
	90	8	11	12	14	15	17	19	20	15	11
	99	35	39	40	42	44	45	47	46	44	39
	Mean	4.3	5.3	5.8	6.3	7.0	7.6	8.3	8.7	7.0	5.3
Rehabilitation	10	3	4	4	4	5	6	6	6	5	5
	50	14	14	14	14	14	15	16	17	15	15
	90	57	40	39	38	37	37	40	37	38	40
	99	238	117	96	87	87	81	78	76	84	108
	Mean	29.5	20.5	18.8	18.5	19.0	19.5	20.6	20.5	19.4	21.3
Palliative	10	1	1	2	2	2	2	2	1	2	2
	50	7	8	8	8	9	8	8	7	8	8
	90	29	28	32	31	33	33	34	29	32	31
	99	89	74	82	91	92	82	81	75	85	85
	Mean	12.7	12.4	13.6	13.9	14.4	13.9	14.1	12.4	13.9	13.5
GEM	10	1	2	3	2	3	5	4	5	4	2
	50	2	13	15	15	17	19	19	19	18	16
	90	25	50	54	50	50	49	49	49	49	48
	99	116	n.p.	129	119	109	115	93	107	108	110
	Mean	10.7	21.4	23.7	22.7	23.4	24.7	23.8	24.3	23.9	22.6
Psychogeriatric	10	1	2	4	2	2	4	2	1	3	2
	50	18	27	22	21	24	24	22.5	25.5	23	23
	90	222	123	69	71	70	75	72	69.5	71	73
	99	n.p.	n.p.	295	334	241	228	202	190	241	295
	Mean	141.5	75.3	47.6	45.6	36.9	38.5	32.7	34.0	40.6	43.8
Maintenance	10	2	2	2	2	2	3	3	3	3	2
	50	11	13	13	12	13	14	14	14	13	13
	90	214	82	63	70	66	68	71	74	69	76
	99	1,639	814	996	763	771	581	756	878	751	814
	Mean	108.8	59.6	49.7	44.2	42.9	39.7	45.2	48.3	44.1	52.3
Other	10	1	1	1	2	2	2	2	1	2	1
	50	5	6	6	6	6	6	7	8	6	6
	90	17	23	17	20.5	21.5	24	27	27	22	19
	99	49	n.p.	n.p.	42	46	56.5	n.p.	n.p.	48	49
	Mean	7.9	9.9	7.8	9.2	9.2	10.4	11.8	11.1	9.6	8.6
All	**10**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
	50	**2**	**3**	**3**	**4**	**5**	**5**	**6**	**7**	**5**	**3**
	90	**8**	**13**	**14**	**16**	**18**	**21**	**23**	**24**	**19**	**13**
	99	**38**	**45**	**48**	**53**	**57**	**59**	**63**	**65**	**57**	**48**
	Mean	**4.7**	**6.0**	**6.8**	**7.5**	**8.5**	**9.4**	**10.7**	**11.7**	**8.7**	**6.3**

n.p. not publishable (fewer than 500 separations for calculating 99th percentile).
Note: Table excludes same-day hospital episodes.

Source: AIHW analysis of NHMD.

Table A13: Overnight hospital separations, mode of separation by age at admission and sex, 2004–05 (per cent)

	Age								All 65+	All ages
	0–59	60–64	65–69	70–74	75–79	80–84	85–89	90+		
Males										
Discharge/transfer within hospital system	5.3	7.6	8.9	10.5	12.5	14.6	16.8	17.9	12.5	8.3
To RAC/other health	0.5	0.9	1.2	1.9	3.0	4.5	6.9	10.8	3.5	1.7
Other (including to usual residence)	93.5	89.2	87.0	83.8	79.7	75.0	68.8	61.7	79.1	87.4
Death	0.6	2.2	2.9	3.7	4.7	5.8	7.4	9.6	4.9	2.4
Unknown	0.2	—	—	0.1	0.1	0.1	—	0.1	0.1	0.1
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Row %	*52.6*	*7.5*	*7.9*	*8.5*	*9.4*	*8.1*	*4.2*	*1.8*	*39.9*	*100.0*
Total ('000s)	*737.7*	*105.0*	*111.4*	*119.3*	*132.5*	*113.4*	*58.4*	*25.3*	*560.4*	*1,403.0*
Females										
Discharge/transfer within hospital system	3.9	7.4	9.2	11.6	14.2	16.8	18.8	19.7	14.8	7.9
To RAC/other health	0.3	0.8	1.3	2.1	3.6	6.2	9.4	14.1	5.4	2.1
Other (including to usual residence)	95.4	90.0	87.2	83.4	78.8	72.7	66.3	58.4	75.7	88.2
Death	0.4	1.8	2.3	2.8	3.4	4.3	5.5	7.7	4.0	1.7
Unknown	0.1	—	0.1	—	0.1	0.1	0.1	0.1	0.1	0.1
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Row %	*60.0*	*5.0*	*5.3*	*6.0*	*7.5*	*7.8*	*5.2*	*3.2*	*35.0*	*100.0*
Total ('000s)	*1,030.6*	*85.5*	*90.3*	*102.5*	*129.5*	*133.5*	*90.0*	*55.8*	*601.6*	*1,717.7*
Persons										
Discharge/transfer within hospital system	4.5	7.5	9.0	11.0	13.3	15.8	18.0	19.1	13.7	8.1
To RAC/other health	0.4	0.9	1.2	2.0	3.3	5.4	8.4	13.0	4.5	1.9
Other (including to usual residence)	94.6	89.5	87.1	83.6	79.2	73.8	67.3	59.4	77.4	87.9
Death	0.5	2.0	2.6	3.3	4.1	4.9	6.3	8.3	4.4	2.0
Unknown	0.1	—	—	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Row %	**56.7**	**6.1**	**6.5**	**7.1**	**8.4**	**7.9**	**4.8**	**2.6**	**37.2**	**100.0**
Total ('000s)	**1,768.3**	**190.4**	**201.7**	**221.7**	**262.0**	**247.0**	**148.4**	**81.1**	**1,161.9**	**3,120.6**

Source: AIHW analysis of NHMD.

Table A14: Same-day hospital separations, mode of separation by age at admission and sex, 2004–05 (per cent)

	Age								All 65+	All ages
	0–59	60–64	65–69	70–74	75–79	80–84	85–89	90+		
Males										
Discharge/transfer within hospital system	3.3	2.5	2.6	2.8	3.0	4.1	6.0	9.7	3.3	3.2
To RAC/other health	0.1	0.1	0.3	0.2	0.2	0.3	0.6	1.6	0.3	0.2
Other (including to usual residence)	96.4	97.2	96.9	96.8	96.4	95.1	92.5	86.5	96.1	96.4
Death	0.1	0.2	0.2	0.2	0.3	0.5	0.9	2.2	0.4	0.2
Unknown	—	—	—	—	—	—	—	—	—	—
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Row %	*53.1*	*9.3*	*9.5*	*9.8*	*9.8*	*6.1*	*2.0*	*0.5*	*37.6*	*100.0*
Total ('000s)	*988.3*	*172.5*	*176.3*	*181.5*	*181.4*	*113.4*	*37.4*	*9.0*	*698.9*	*1,859.7*
Females										
Discharge/transfer within hospital system	2.5	2.0	2.2	2.5	3.2	4.7	7.7	13.2	3.5	2.8
To RAC/other health	0.1	0.2	0.1	0.3	0.5	0.7	1.2	3.7	0.5	0.2
Other (including to usual residence)	97.3	97.8	97.6	97.0	96.0	94.1	90.0	80.4	95.6	96.9
Death	—	0.1	0.1	0.1	0.3	0.5	1.2	2.7	0.3	0.1
Unknown	—	—	—	—	—	—	—	—	—	—
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Row %	*61.6*	*7.6*	*7.9*	*7.8*	*7.5*	*5.0*	*1.9*	*0.6*	*30.8*	*100.0*
Total ('000s)	*1,223.0*	*150.8*	*157.2*	*155.2*	*149.1*	*98.5*	*37.6*	*12.8*	*610.5*	*1,984.3*
Persons										
Discharge/transfer within hospital system	2.9	2.3	2.4	2.6	3.1	4.4	6.8	11.8	3.4	3.0
To RAC/other health	0.1	0.1	0.2	0.3	0.4	0.5	0.9	2.8	0.4	0.2
Other (including to usual residence)	96.9	97.5	97.2	96.9	96.2	94.6	91.3	82.9	95.9	96.6
Death	0.1	0.1	0.2	0.2	0.3	0.5	1.1	2.5	0.4	0.2
Unknown	—	—	—	—	—	—	—	—	—	—
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Row %	**57.5**	**8.4**	**8.7**	**8.8**	**8.6**	**5.5**	**2.0**	**0.6**	**34.1**	**100.0**
Total ('000s)	**2,211.3**	**323.3**	**333.5**	**336.7**	**330.5**	**211.9**	**75.0**	**21.8**	**1,309.4**	**3,844.0**

Source: AIHW analysis of NHMD.

Table A15: Overnight hospitalisations for patients aged 65 years and over with principal diagnosis of injury or poisoning, by external cause (ICD-10-AM codes U50–Y98) by age, 2004–05 (per 1,000 population)

External cause of injury	Age group			Total 65+	
	65–74	75–84	85+		
	Per 1,000 population			Per 1,000 population	Number
Falls	7.2	23.3	63.5	19.5	51,312
Complications of medical and surgical care	7.9	12.1	14.4	10.2	26,822
Exposure/contact with heat, substances, currents or forces of nature or other unspecified factors	1.8	2.9	5.0	2.6	6,719
Exposure to mechanical forces	1.2	1.4	1.9	1.4	3,618
Transport accident	1.1	1.6	1.6	1.3	3,546
Other[(a)]	0.7	0.9	1.4	0.8	2,209
Total	**19.0**	**39.3**	**80.2**	**33.3**	**..**
Total hospitalisations (number)	**26,342**	**37,022**	**24,418**	**..**	**87,782**
Total overnight separations	**29,585**	**42,664**	**28,503**	**..**	**100,752**

(a) Includes sequelae of external causes or supplementary factors related to external causes of morbidity and mortality; accidental drowning/submersion or other accidental threat to breathing; assault; intentional self-harm; event of undetermined intent.

Notes

1. More than one external cause can be recorded per separation with a principal diagnosis of injury and so column percentages may sum to more than 100%.
2. Each category of external cause is counted once only per separation. For example, a separation with two types of fall recorded is counted once against 'Falls'.
3. External causes can be coded in connection with an additional diagnosis of injury, poisoning and certain other consequences of external causes and a non-injury principal diagnosis; for example, when a patient is admitted to hospital for another reason but sustains an accidental injury or complication of treatment while in hospital. Separations of this type are excluded from the table.
4. Table excludes 26 cases with cause not recorded, and excludes cases with missing sex.
5. Number per 1,000 population uses estimated resident population for 31 December 2004.

Source: AIHW analysis of NHMD; ABS 2005.

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