

# Appendix 4: Calculations for 1999–00 patient day estimates and trimming procedure for length of stay

This appendix details the calculations used to estimate the number of days spent in hospitals during 1999–00 by patients who separated in that year and the trimming procedure used in calculating the length of stay.

## 1999–00 patient day estimates

This section outlines the method used to calculate estimates of the number of patient days occurring within 1999–00 for patients who separated in 1999–00 in Table 3.2.

Separations with an admission date of 1 July 1999 or later had all patient days within the financial year. For separations with an admission date before 1 July 1999, the number of days falling between 1 July 1999 and the separation date were calculated. The number of days would include both patient days and leave days, so a leave fraction was then applied to this figure to estimate the number of patient days within 1999–00.

Patient days + leave days within year = Date of separation - 1 July 1999

Leave fraction =  $1 - \frac{\text{total leave days for separation}}{\text{(total days between admission and separation)}}$

Patient days within year = leave fraction × (patient days + leave days within year)

As information on when the leave days occurred was not available, the calculated number of patient days occurring in 1999–00 for 1999–00 separations is only an estimate of the actual number of patient days.

Accurate admission and separation dates for Queensland were not available, so estimates for Queensland may be less accurate than for other States and Territories.

## Trimming procedure for length of stay

The data on length of stay for separations in the NHMD is affected by outliers relating to the separation of long-term patients. Because of the resulting skew of the distribution, both means and medians were supplied as summary measures of length of stay. While the mean averages all items in the distribution and is therefore increased by outliers, the median represents the point of the distribution at which half the records fall above and half below. The median is therefore affected less by outliers and can be a more robust measurement.

Averages and medians were calculated using AR-DRGs as categories, since AR-DRGs are designed to group together patients with similar resource requirements and lengths of stay. Episodes for which the type of care was reported as acute, or was not reported, were

included in all calculations. Overnight mental health-related separations only were used in the calculations.

For Tables 3.42 and 3.44, a trimming approach was adopted in order to counter the effect of extreme outliers. Any separation with a length of stay greater than 365 days was excluded from the calculations.

Table A4.1 outlines the number of overnight mental health-related acute care separations with more than 365 patient days by AR-DRG, hospital type and State or Territory. Table A4.2 presents the number of overnight mental health-related acute care separations with more than 365 patient days by age and sex.

**Table A4.1a: Acute care overnight separations with specialised psychiatric care removed by 365 day cutoff, by hospital type, States and Territories, 1999-00**

AR-DRG	Description	NSW	Vic	Qld	WA	SA	Tas	Total
<b>Public acute hospitals</b>								
B07A	Peripheral and Cranial Nerve & Other Nervous System Procedures W CC	0	0	0	1	0	0	1
B63Z	Dementia and Other Chronic Disturbances of Cerebral Function	1	0	0	0	0	0	1
B67A	Degenerative Nervous System Disorders W Catastrophic or Severe CC	1	1	0	0	0	0	2
B76A	Seizure Age<3 or W Catastrophic or Severe CC	0	0	1	0	0	0	1
U61A	Schizophrenia Disorders W Mental Health Legal Status	0	11	0	0	0	0	11
U61B	Schizophrenia Disorders W/O Mental Health Legal Status	2	4	0	0	0	0	6
U63A	Major Affective Disorders W Cat or Sev CC or (Age > 69 W/O Cat or Sev CC)	0	0	1	0	0	0	1
U63B	Major Affective Disorders Age < 70 W/O Catastrophic or Severe CC	0	2	0	0	0	0	2
U64Z	Other Affective and Somatoform Disorders	0	1	0	0	0	0	1
U65Z	Anxiety Disorders	0	1	0	0	0	0	1
V60Z	Alcohol Intoxication and Withdrawal	0	0	0	1	0	0	1
<b>Private hospitals</b>								
U61B	Schizophrenia Disorders W/O Mental Health Legal Status	0	0	2	0	0	0	2
<b>Public psychiatric hospitals</b>								
960Z	Ungroupable	0	1	0	0	0	6	7
B60B	Non Acute Paraplegia/Quadriplegia W or W/O O.R. Procedures W/O Catastr	0	0	0	0	1	0	1
B63Z	Dementia and Other Chronic Disturbances of Cerebral Function	24	0	5	3	1	0	33
B64Z	Delirium	0	0	0	1	0	0	1
B81B	Other Disorders of the Nervous System W/O Catastrophic or Severe CC	1	0	2	0	0	0	3
U61A	Schizophrenia Disorders W Mental Health Legal Status	34	1	11	11	2	0	59
U61B	Schizophrenia Disorders W/O Mental Health Legal Status	21	0	3	2	3	0	29
U62A	Paranoia & Acute Psych Disorder W Cat/Sev CC or W Mental Health Legal	3	0	0	1	0	0	4
U63A	Major Affective Disorders W Cat or Sev CC or (Age > 69 W/O Cat or Sev CC)	3	0	2	0	0	0	5
U63B	Major Affective Disorders Age<70 W/O Catastrophic or Severe CC	1	0	3	0	0	0	4
U67Z	Personality Disorders and Acute Reactions	1	0	0	1	0	0	2
U68Z	Childhood Mental Disorders	1	0	0	0	0	0	1
V60Z	Alcohol Intoxication and Withdrawal	3	0	1	0	0	0	4

Note: Abbreviations: W—with, W/O—without, CC—complications and comorbidities, ECT—Electroconvulsive therapy, Cat/Sev—catastrophic or severe, O.R.—operating room.

**Table A4.1b: Acute care overnight separations without specialised psychiatric care removed by 365 day cutoff, by hospital type, States and Territories, 1999–00**

<b>AR-DRG</b>	<b>Description</b>	<b>NSW</b>	<b>Qld</b>	<b>Total</b>
<b>Public acute hospitals</b>				
B63Z	Dementia and Other Chronic Disturbances of Cerebral Function	3	0	3
<b>Private hospitals</b>				
B63Z	Dementia and Other Chronic Disturbances of Cerebral Function	0	5	5
U65Z	Anxiety Disorders	0	1	1

*Note:* Abbreviations: W—with, W/O—without, CC—complications and comorbidities, ECT—Electroconvulsive therapy, Cat/Sev—catastrophic or severe, O.R.—operating room.

**Table A4.2a: Acute care overnight separations with specialised psychiatric care removed by 365 day cutoff by sex and age group, Australia, 1999–00**

AR-DRG	Description	15–24	25–34	35–44	45–54	55–64	65–74	75–84	85 or older	Total
<b>Males</b>										
960Z	Ungroupable	0	0	0	0	1	3	0	1	5
B07A	Peripheral and Cranial Nerve & Other Nervous System Procedures W CC	0	0	0	0	0	0	1	0	1
B60B	Non Acute Paraplegia/Quadriplegia W or W/O O.R. Procedures W/O Catastr CC	0	0	1	0	0	0	0	0	1
B63Z	Dementia and Other Chronic Disturbances of Cerebral Function	0	1	0	4	4	6	8	0	23
B64Z	Delirium	0	0	0	0	0	0	0	1	1
B67A	Degenerative Nervous System Disorders W Catastrophic or Severe CC	0	0	2	0	0	0	0	0	2
B76A	Seizure Age<3 or W Catastrophic or Severe CC	0	0	1	0	0	0	0	0	1
B81B	Other Disorders of the Nervous System W/O Catastrophic or Severe CC	0	1	0	1	0	0	0	0	2
U61A	Schizophrenia Disorders W Mental Health Legal Status	10	13	13	5	2	3	0	0	46
U61B	Schizophrenia Disorders W/O Mental Health Legal Status	5	3	4	8	3	1	2	0	26
U62A	Paranoia & Acute Psych Disorder W Cat/Sev CC or W Mental Health Legal	0	1	1	0	1	1	0	0	4
U63A	Major Affective Disorders W Cat or Sev CC or (Age > 69 W/O Cat or Sev CC)	0	0	0	0	0	1	1	0	2
U63B	Major Affective Disorders Age < 70 W/O Catastrophic or Severe CC	0	1	1	1	1	0	0	0	4
U65Z	Anxiety Disorders	0	1	0	0	0	0	0	0	1
V60Z	Alcohol Intoxication and Withdrawal	0	0	0	0	1	3	1	0	5
<b>Females</b>										
960Z	Ungroupable	0	0	1	0	0	0	1	0	2
B63Z	Dementia and Other Chronic Disturbances of Cerebral Function	0	0	1	0	1	6	2	1	11
B81B	Other Disorders of the Nervous System W/O Catastrophic or Severe CC	0	1	0	0	0	0	0	0	1
U61A	Schizophrenia Disorders W Mental Health Legal Status	2	4	6	6	3	2	1	0	24
U61B	Schizophrenia Disorders W/O Mental Health Legal Status	0	2	4	3	1	0	1	0	11
U63A	Major Affective Disorders W Cat or Sev CC or (Age>69 W/O Cat or Sev CC)	0	0	0	1	1	1	1	0	4
U63B	Major Affective Disorders Age<70 W/O Catastrophic or Severe CC	0	0	0	1	1	0	0	0	2
U64Z	Other Affective and Somatoform Disorders	0	0	0	0	0	1	0	0	1
U67Z	Personality Disorders and Acute Reactions	1	0	0	0	0	1	0	0	2
U68Z	Childhood Mental Disorders	0	0	1	0	0	0	0	0	1

Note: Abbreviations: W—with, W/O—without, CC—complications and comorbidities, ECT—Electroconvulsive therapy, Cat/Sev—catastrophic or severe, O.R.—operating room.

**Table A4.2b: Acute care overnight separations without specialised psychiatric care removed by 365 day cutoff by sex and age group, Australia, 1999-00**

<b>AR-DRG</b>	<b>Description</b>	<b>65-74</b>	<b>75-84</b>	<b>85 or older</b>	<b>Total</b>
<b>Males</b>					
B63Z	Dementia and Other Chronic Disturbances of Cerebral Function	2	0	0	2
U65Z	Anxiety Disorders	0	0	1	1
<b>Females</b>					
B63Z	Dementia and Other Chronic Disturbances of Cerebral Function	0	2	4	6

*Note:* Abbreviations: W—with, W/O—without, CC—complications and comorbidities, ECT—Electroconvulsive therapy, Cat/Sev—catastrophic or severe, O.R.—operating room.