



Aboriginal and Torres Strait Islander
Health Performance Framework
2014 report

Measure 55 of 68

Detailed analyses

3.09 Discharge against medical advice

This measure reports on the rate at which Aboriginal and Torres Strait Islander people leave hospital against medical advice or are discharged at their own risk

Introduction

This is no. 55 of 68 measures in the *Aboriginal and Torres Strait Islander Health Performance Framework 2014 report: detailed analyses*. This report provides information on a range of measures of health status, determinants of health and the health system performance relating to Aboriginal and Torres Strait Islander people.

The Framework comprises 3 tiers:

Tier 1 – Health status and outcomes

Tier 2 – Determinants of health

Tier 3 – Health system performance.

The full report, including a comprehensive description of all data sources used in the report, and notes about the data quality is available from
<<http://www.aihw.gov.au/publication-detail/?id=60129550779>>.

Tables referenced are available from

<<http://www.aihw.gov.au/indigenous-data/health-performance-framework/>>.

Data source

National Hospital Morbidity Database.

For more information, see 'Data sources and quality' at the end of this measure.

Data analyses

Age-standardised rates and ratios have been used as a measure of hospitalisations in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of hospitalisations among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions. All data presented exclude hospitalisations due to mental and behavioural disorders.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospitalisations for Indigenous Australians. Also, changes in access, hospital policies and practices all have an impact on the level of hospitalisation over time. Caution should be used in interpreting changes over time because it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous Australians are hospitalised. An increase in hospitalisation rates may reflect better access to hospitals, rather than a worsening of health.

For more information related to this measure, see measures 1.02, 3.06, 3.07 and 3.08. See also 'Other related information' at the end of this measure.

The following data are presented for this measure:

- Hospitalisations where individuals left hospital against medical advice or were discharged at their own risk – see tables 3.09.1–7
- The principal diagnosis for Indigenous Australians who left hospital against medical advice or were discharged at their own risk – see tables 3.09.8–9.

To analyse the relative impact of a range of factors which might have an impact on whether a patient would leave against medical advice/discharge at own risk over the period July 2011 to June 2013, multivariate logistic regression was applied. The selected factors include Indigenous status, remoteness of hospital, sex, principal diagnosis, age group, state of hospital, remoteness of usual residence, and state of usual residence. The results of multivariate logistic regression are presented in tables 3.09.10 and 3.19.11.

Current period

Overview

In 2011–12 to 2012–13:

- There were 17,494 hospitalisations for Indigenous Australians where the patient left hospital against medical advice or was discharged at their own risk (5% of all Indigenous hospitalisations) (Table 3.09.1).
- After adjusting for age, Indigenous patients were 8 times as likely as non-Indigenous patients to leave hospital against medical advice or be discharged at their own risk (3.6% compared with 0.5%). The difference was 3.1 percentage points (Table 3.09.2).

Aboriginal and Torres Strait Islander Health Performance Framework 2014 report: detailed analyses

- The percentage point difference increased with remoteness, from 2.2 in *Major cities* and 1.4 in *Inner regional* areas to 4.7 in *Remote* areas and 5.7 in *Very remote* areas (Table 3.09.4).

Hospitalisations by principal diagnosis

In 2011–12 to 2012–13:

- In relation to principal diagnosis chapter, *Injury, poisoning, and certain consequences of external causes* had the highest proportion of hospitalisations for Indigenous Australians where the patient left hospital against medical advice or was discharged at their own risk (7.4%).
- The principal diagnosis chapter that had the largest difference between the rates for Indigenous and non-Indigenous Australians (after adjusting for age) was *Endocrine, nutritional, and metabolic disorders* (5.6% percentage points).
- The principal diagnosis chapter that had the largest ratio between the rates for Indigenous and non-Indigenous Australians was *Diseases of the musculoskeletal system* (rate ratio of 13) (Table 3.09.8).

Multivariate analysis

- Results from multivariate logistic regression analysis show that Indigenous status contributed the most to the model of likelihood of a patient leaving hospital against medical advice or being discharged at their own risk, followed by remoteness of the hospital. The factor which contributed the least was state/territory of usual residence (Table 3.09.10).
- Excluding mental and behavioural disorders, hospitalisations with a principal diagnosis in the chapter *Endocrine, nutritional and metabolic disorders* had the greatest odds of leaving hospital against medical advice or being discharged at their own risk (an odds ratio of 10.97) compared to the reference category of *Factors influencing health status* (Table 3.09.11).

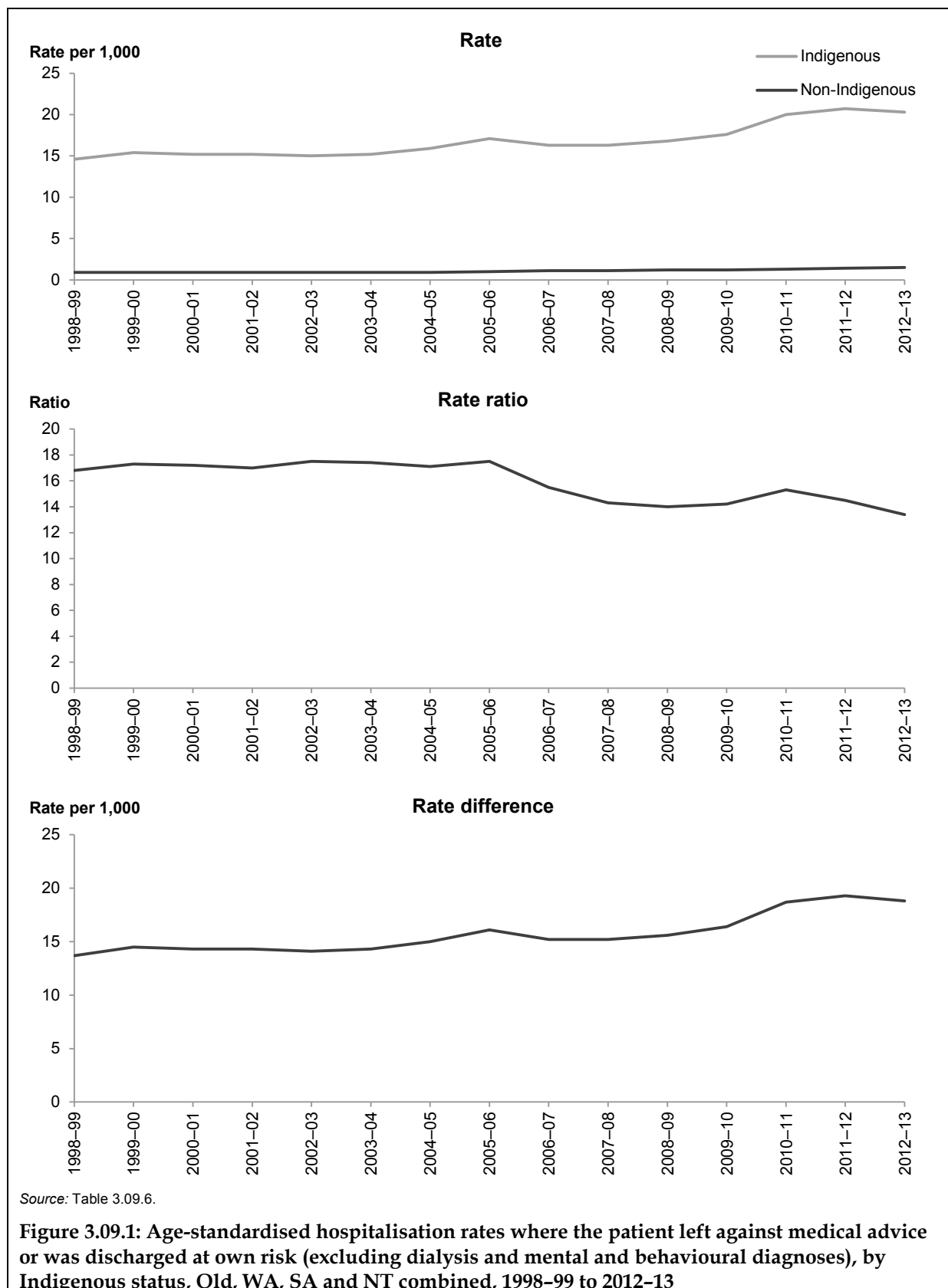
Trend

From 1998–99 to 2012–13, for Queensland, Western Australia, South Australia and the Northern Territory combined:

- The rate of hospitalisations for Indigenous Australians where the patient left hospital against medical advice or was discharged at their own risk increased 41% from 15 per 1,000 to 20 per 1,000. There was relatively larger increase in the rate for non-Indigenous Australians, however the actual rates were much lower (0.9 per 1,000 in 1998–99 up to 1.5 per 1,000 in 2012–13).
- The rate difference between Indigenous and non-Indigenous Australians increased 39% from 14 per 1,000 in 1998–99 to 19 per 1,000 in 2012–13 (Table 3.09.6, Figure 3.09.1).

From 2004–05 to 2012–13 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined:

- The rate of hospitalisations for Indigenous Australians where the patient left against medical advice or was discharged at their own risk increased 35% from 12 per 1,000 in 2004–05 to 16 per 1,000 in 2012–13.
- The rate difference between Indigenous and non-Indigenous Australians increased by 35%, from 11 per 1,000 in 2004–05 to 15 per 1,000 in 2012–13 (Table 3.09.7, Figure 3.09.2).



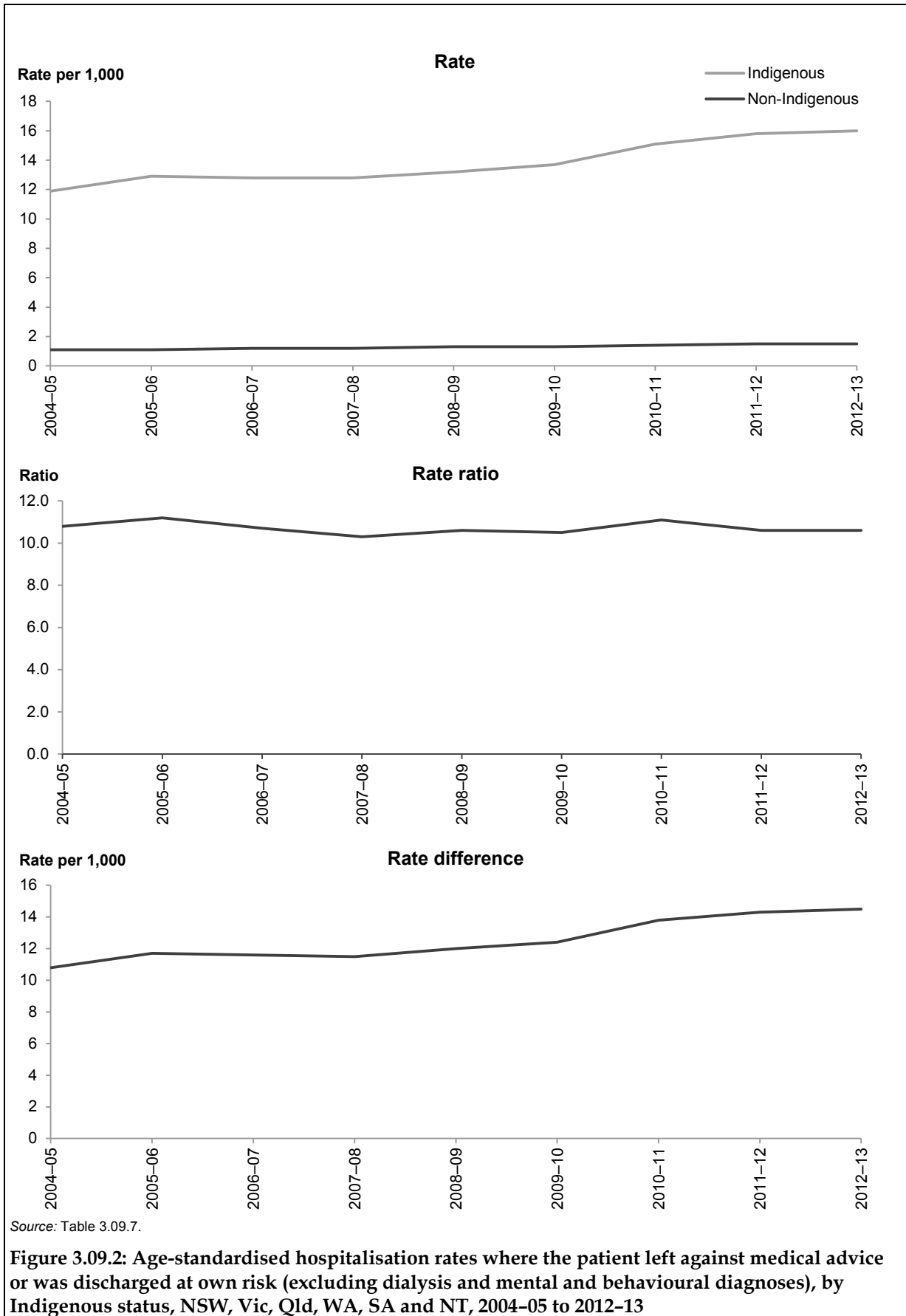


Table 3.09.1: Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and age group (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13^(a)

Age group (years)	Number		Per cent ^(b)		Rate ratio	Rate difference
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous		
0–4	832	2,110	1.3	0.2	5.4	1.0
5–14	1,328	3,536	3.3	0.6	5.7	2.8
15–24	3,793	11,915	5.6	0.9	5.9	4.7
25–34	4,096	11,369	7.7	0.7	10.4	7.0
35–44	4,290	11,160	7.4	0.7	10.1	6.7
45–54	2,244	9,689	4.6	0.5	9.4	4.1
55–64	709	7,544	2.2	0.3	7.4	1.9
65+	202	9,397	0.9	0.2	4.0	0.7
Total (crude)	17,494	66,720	4.5	0.5	10.0	4.1
Total (age-standardised)^(c)	17,494	66,720	3.6	0.5	7.8	3.1

(a) Data includes public and private hospitals in all jurisdictions.

(b) Percentage of hospitalisations for Indigenous and non-Indigenous respectively (excluding mental and behavioural disorders and dialysis) in the period 2011–12 to 2012–13.

(c) Indirectly age-standardised using the non-Indigenous hospitalisations in 2011–12 and 2012–13.

Notes

1. Excludes separations with care types 7.3, 9 and 10 (newborn, unqualified days only; organ procurement; and hospital boarder).
2. Includes hospitalisations for which no principal diagnosis was recorded.
3. Excludes principal diagnosis of dialysis (Z49) and mental and behavioural disorders (F00–F99, R44, R48, G30). Categories are based on the ICD-10-AM seventh edition (National Centre for Classification in Health 2010).

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.09.2: Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and sex (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13^(a)

	Number		Per cent of total separations ^(b)		Age-standardised rate ^(c)		Rate ratio ^(d)	Rate difference ^(e)
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous		
Males	8,702	38,839	5.3	0.6	4.1	0.6	7.1	3.5
Females	8,792	27,880	4.0	0.4	3.0	0.4	8.5	2.6
Persons ^(f)	17,494	66,720	4.5	0.5	3.6	0.5	7.8	3.1

(a) Data includes public and private hospitals in all jurisdictions.

(b) Percentage of hospitalisations for Indigenous and non-Indigenous respectively (excluding mental and behavioural disorders and dialysis) in the period 2011–12 to 2012–13.

(c) Indirectly age-standardised using the non-Indigenous hospitalisations in 2011–12 and 2012–13.

(d) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous.

(e) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous.

(f) Persons data includes sex not stated and indeterminate.

Notes

1. Excludes separations with care types 7.3, 9 and 10 (newborn, unqualified days only; organ procurement; and hospital boarder).
2. Includes hospitalisations for which no principal diagnosis was recorded.
3. Excludes principal diagnosis of dialysis (Z49) and mental and behavioural disorders (F00–F99, R44, R48, G30). Categories are based on the ICD-10-AM seventh edition (National Centre for Classification in Health 2010).

Source: AIHW National Hospital Morbidity Database.

Table 3.09.3: Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and state/territory (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13^(a)

	Number		Per cent	Age-standardised ^(b)		Rate ratio ^(c)	Rate difference ^(d)
	Indigenous	Non-Indigenous	Indigenous	Indigenous	Non-Indigenous		
New South Wales	3,249	27,043	3.1	2.5	0.6	4.1	1.9
Victoria	497	12,348	2.2	1.9	0.3	5.9	1.5
Queensland	3,130	14,203	3.0	2.3	0.5	4.7	1.8
Western Australia	3,121	6,169	4.9	3.9	0.4	10.1	3.5
South Australia	1,425	4,313	6.2	4.5	0.4	11.4	4.1
Tasmania	n.p.	n.p.	0.9	0.6	0.2	3.3	0.4
Australian Capital Territory	n.p.	n.p.	2.0	1.5	0.4	4.3	1.2
Northern Territory	n.p.	n.p.	10.5	10.5	1.1	9.3	9.3
Australia	17,494	66,720	4.5	3.6	0.5	7.8	3.1

(a) Data include public and private hospital in all jurisdictions. Number of hospitalisations in NT, ACT and Tas are not published for privacy reasons.

(b) Indirectly age-standardised using the non-Indigenous hospitalisations in 2011–12 and 2012–13.

(c) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous.

(d) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous.

Notes

1. Rates are calculated using ABS backcast population estimates and projections based on the 2011 Census.

2. Excludes principal diagnosis of dialysis (Z49) and mental and behavioural disorders (F00–F99, R44, R48, G30).

Source: AIHW National Hospital Morbidity Database.

Table 3.09.4: Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and remoteness, (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13^(a)

	Number		Per cent		Age-standardised ^(b)		Ratio ^(c)	Rate difference ^(d)
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous		
Major cities	3,252	44,297	3.2	0.4	2.6	0.4	5.9	2.2
Inner regional	1,765	12,400	2.4	0.4	1.8	0.4	4.3	1.4
Outer regional	3,890	7,339	4.4	0.6	3.2	0.6	5.8	2.7
Remote	3,286	1,181	6.5	0.7	5.4	0.7	7.7	4.7
Very remote	5,085	457	7.3	0.8	6.5	0.8	8.3	5.7
Missing	216	1,046	12.5	1.8	9.5	1.8	5.4	7.7
Total	17,494	66,720	4.5	0.5	3.6	0.5	7.8	3.1

(a) Data includes public and private hospitals in all jurisdictions.

(b) Indirectly age-standardised using the non-Indigenous hospitalisations in 2011–12 and 2012–13.

(c) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous.

(d) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous.

Notes

1. Excludes separations with care types 7.3, 9 and 10 (newborn, unqualified days only; organ procurement; and hospital boarder).
2. Excludes principal diagnosis of dialysis (Z49) and mental and behavioural disorders (F00–F99, R44, R48, G30). Categories are based on the ICD-10-AM seventh edition (National Centre for Classification in Health 2010).

Source: AIHW National Hospital Morbidity Database.

Table 3.09.5: Average length of stay of hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and sex (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13

	Left at own risk/discharged against medical advice				Other separations			
	Number of patient days		Average length of stay		Number of patient days		Average length of stay	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Males	28,663	118,262	3.3	3.0	636,045	20,643,011	4.1	3.1
Females	25,363	75,781	2.9	2.7	710,462	23,918,891	3.4	3.0
Persons	54,026	194,045	3.1	2.9	1,346,509	44,562,108	3.7	3.1

Notes

1. Data includes public and private hospitals in all jurisdictions.
2. Excludes separations with care types 7.3, 9 and 10 (newborn, unqualified days only; organ procurement; and hospital boarder).
3. Excludes principal diagnosis of dialysis (Z49) and mental and behavioural disorders (F00–F99, R44, R48, G30).

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.09.6: Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status (excluding dialysis and mental and behavioural disorders), Qld, WA, SA and NT, 1998–99 to 2012–13^{(a)(b)(c)(d)}

	Number		Indigenous	Non-Indigenous	Rate ratio ^(f)	Rate difference
	Indigenous	Non-Indigenous	No. per 1,000 ^(e)	No. per 1,000 ^(e)		
1998–99	3,677	5,825	14.6	0.9	16.8	13.7
1999–00	3,972	6,022	15.4	0.9	17.3	14.5
2000–01	3,990	6,056	15.2	0.9	17.2	14.3
2001–02	4,177	6,208	15.2	0.9	17.0	14.3
2002–03	4,130	6,010	15.0	0.9	17.5	14.1
2003–04	4,304	6,279	15.2	0.9	17.4	14.3
2004–05	4,551	6,824	15.9	0.9	17.1	15.0
2005–06	4,964	7,261	17.1	1.0	17.5	16.1
2006–07	4,851	8,063	16.3	1.1	15.5	15.2
2007–08	4,917	8,956	16.3	1.1	14.3	15.2
2008–09	5,198	9,624	16.8	1.2	14.0	15.6
2009–10	5,471	10,231	17.6	1.2	14.2	16.4
2010–11	6,404	10,981	20.0	1.3	15.3	18.7
2011–12	6,775	12,218	20.7	1.4	14.5	19.3
2012–13	6,767	13,304	20.3	1.5	13.4	18.8
Annual change ^(g)	215.8	527.4	0.4	0.05	..	0.4
% change ^(h)	88.0	161.7	40.9	87.1	..	38.5

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.

(b) Data are reported for Qld, WA, SA and NT only. Hospitalisation data for these jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(c) Categories are based on the ICD-10-AM seventh edition (National Centre for Classification in Health 2010) and previous editions.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(g) Annual change determined using linear regression analysis.

(h) Percentage change between 1998–99 and 2012–13 based on annual rate of change over the period.

Notes

1. Excludes separations with care types 7.3, 9 and 10 (newborn, unqualified days only; organ procurement; and hospital boarder).

2. Excludes: separations with episode types 5.3 and 7 for 1998–99 and 1999–00; separations with care types 7.3, 9 and 10 for 2001 onward (newborn, unqualified days only; organ procurement; and hospital boarder); principal diagnosis of dialysis (Z49) and mental and behavioural disorders (F00–F99, R44, R48, G30).

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.09.7: Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status (excluding dialysis and mental and behavioural disorders), NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2012–13^{(a)(b)(c)(d)}

	Number		Indigenous	Non-Indigenous	Rate ratio ^(f)	Rate difference
	Indigenous	Non-Indigenous	No. per 1,000 ^(e)	No. per 1,000 ^(e)		
2004–05	5,608	20,740	11.9	1.1	10.8	10.8
2005–06	6,213	21,992	12.9	1.1	11.2	11.7
2006–07	6,222	23,387	12.8	1.2	10.7	11.6
2007–08	6,356	24,844	12.8	1.2	10.3	11.5
2008–09	6,712	25,592	13.2	1.3	10.6	12
2009–10	7,008	27,199	13.7	1.3	10.5	12.4
2010–11	7,986	28,832	15.1	1.4	11.1	13.8
2011–12	8,520	31,938	15.8	1.5	10.6	14.3
2012–13	8,768	32,975	16.0	1.5	10.6	14.5
Annual change ^(g)	395.7	1,533.7	0.5	0.1	..	0.5
% change ^(h)	58.0	60.6	34.8	36.9	..	34.6

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.

(b) Data are reported for NSW, Vic, Qld, WA, SA and NT only. Hospitalisation data for these jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(c) Categories are based on the ICD-10-AM seventh edition (National Centre for Classification in Health 2010) and previous editions.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(g) Annual change determined using linear regression analysis.

(h) Percentage change between 2004–05 and 2012–13 based on annual rate of change over the period.

Notes

1. Excludes separations with care types 7.3, 9 and 10 (newborn, unqualified days only; organ procurement; and hospital boarder).

2. Excludes principal diagnosis of dialysis (Z49) and mental and behavioural disorders (F00–F99, R44, R48, G30).

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.09.8: Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and principal diagnosis (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13^{(a)(b)}

	Number		Per cent ^(c)		Age-standardised proportion of separations ^(d)		Ratio ^(e)	Rate difference ^(f)
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous		
Injury, poisoning and certain consequences of external causes (S00–T98)	3,985	12,805	7.4	1.1	5.5	1.1	4.8	4.4
Diseases of the respiratory system (J00–J99)	2,154	4,509	5.1	0.6	4.3	0.6	7.2	3.7
Symptoms and signs and n.e.c. (R00–R99)	2,047	12,175	5.7	1.0	4.4	1.0	4.5	3.4
Diseases of the digestive system (K00–K93)	1,687	7,302	4.5	0.4	3.8	0.4	9.2	3.4
Pregnancy and child birth (O00–O99)	1,180	3,832	2.7	0.4	1.9	0.4	4.5	1.5
Diseases of the skin (L00–L99)	1,171	2,452	7.2	0.9	5.9	0.9	6.9	5.0
Diseases of the circulatory system (I00–I99)	1,050	4,989	4.7	0.5	3.2	0.5	6.4	2.7
Endocrine and nutritional and metabolic disorders (E00–E99)	802	2,300	7.3	0.9	6.5	0.9	7.0	5.6
Infectious and parasitic diseases (A00–B99)	671	1,913	5.3	0.7	5.2	0.7	7.2	4.5
Factors influencing health status (Z00–Z99)	578	3,449	2.1	0.1	1.5	0.1	10.5	1.3
Diseases of the genitourinary system (N00–N99)	735	2,566	3.7	0.3	3.2	0.3	10.2	2.9
Diseases of the nervous system (G00–G99)	468	2,625	4.9	0.6	4.2	0.6	7.3	3.6
Diseases of the musculoskeletal system (M00–M99)	564	2,485	4.0	0.3	3.4	0.3	13.0	3.1
Other (C00–D48,D50–D89,H00–H59,H60–H95, P00–P96,Q00–Q99) ^(g)	390	3,282	1.1	0.1	0.9	0.1	6.2	0.7
Total^(h)	17,494	66,720	4.5	0.5	3.6	0.5	7.8	3.1

(continued)

Table 3.09.8 (continued): Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and principal diagnosis (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13^{(a)(b)}

- (a) Data includes public and private hospitals in all jurisdictions.
- (b) Categories are based on the ICD-10-AM seventh edition (National Centre for Classification in Health 2010).
- (c) Percentage of hospitalisations in Indigenous and non-Indigenous separations respectively (excluding mental and behavioural disorders) in the period 2011–12 to 2012–13.
- (d) Indirectly age-standardised using the non-Indigenous hospitalisations in 2011–12 and 2012–13.
- (e) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous.
- (f) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous.
- (g) Includes: neoplasms, certain conditions originating in the perinatal period, diseases of the ear and mastoid process, diseases of the eye and adnexa, diseases of the genitourinary system, diseases of the musculoskeletal system, diseases of the blood and blood-forming organs and certain disorders involving the immune system, and congenital malformations and deformations and chromosomal abnormalities.
- (h) Includes hospitalisations for which no principal diagnosis was recorded. Excludes principal diagnosis of dialysis (Z49) and mental and behavioural disorders (F00–F99, R44, R48, G30).

Note: Excludes separations with care types 7.3, 9 and 10 (newborn, unqualified days only; organ procurement; and hospital boarder).

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.09.9: Diagnosis chapters with the highest percentage of Indigenous hospitalisations where patients left against medical advice/were discharged at own risk (excluding dialysis and mental and behavioural disorders), by remoteness, Australia, 2011–12 to 2012–13

Remoteness category	Highest		Second highest		Third highest	
	Diagnosis chapter	Per cent	Diagnosis chapter	Per cent	Diagnosis chapter	Per cent
Major cities	Injury, poisoning and certain consequences of external causes (S00–T98)	5.8	Diseases of the skin (L00–L99)	5.7	Endocrine, nutritional and metabolic disorders (E00–E99)	5.1
Inner regional	Injury, poisoning and certain consequences of external causes (S00–T98)	4.2	Endocrine, nutritional and metabolic disorders (E00–E99)	4.1	Symptoms, signs and abnormal findings n.e.c. (R00–R99)	3.8
Outer regional	Endocrine, nutritional and metabolic disorders (E00–E99)	7.4	Diseases of the nervous system (G00–G99)	7.1	Symptoms, signs and abnormal findings n.e.c. (R00–R99)	6.8
Remote	Injury, poisoning and certain consequences of external causes (S00–T98)	9.2	Endocrine, nutritional and metabolic disorders (E00–E99)	9.2	Diseases of the skin (L00–L99)	8.6
Very remote	Injury, poisoning and certain consequences of external causes (S00–T98)	11.1	Diseases of the skin (L00–L99)	9.9	Endocrine, nutritional and metabolic disorders (E00–E99)	9.4

Notes

1. Data includes public and private hospitals in all jurisdictions.
2. Excludes separations with care types 7.3, 9 and 10 (newborn, unqualified days only; organ procurement; and hospital boarder).
3. Proportion is the per cent of total Indigenous separations in 2011–12 and 2012–13.
4. Excludes principal diagnosis of dialysis (Z49) and mental and behavioural disorders (F00–F99, R44, R48, G30).

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.09.10: Mean Square Error (MSE) of variables in the logistic regression model of the likelihood of patients leaving against medical advice/being discharged at own risk, 2011–12 to 2012–13

Variable	Chi-squared^(a)	Degrees of freedom^(b)	MSE^(c)	p-value
Indigenous status	11539.6	2	5769.8	<.0001
Remoteness of hospital	24758.7	5	4951.7	<.0001
Sex	3546.4	1	3546.4	<.0001
Principal diagnosis	38522.6	20	1926.1	<.0001
Age group	25091.2	15	1672.7	<.0001
State of hospital	696.4	7	99.5	<.0001
Remoteness of usual residence	232.8	4	58.2	<.0001
State of usual residence	59.1	7	8.4	<.0001

(a) Chi-squared: -2 times the difference between the log-likelihoods for the models with and without that particular variable.

(b) Degrees of freedom: number of parameters associated with that variable.

(c) Mean square error: chi-square statistic/degrees of freedom.

Notes

1. Excludes separations with care types 7.3, 9 and 10 (newborn, unqualified days only; organ procurement; and hospital boarder).
2. Data includes public and private hospitals in all jurisdictions.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.09.11: Odds ratios of variables in the logistic regression model of the likelihood of patients leaving against medical advice/being discharged at own risk, 2011–12 to 2012–13

Variable	Odds ratio	95% Confidence Interval ^(a)		p-value ^(b)	
		Lower limit	Upper limit		
Indigenous status	Not stated	1.03	0.97	1.09	0.3995
	Indigenous	3.03	2.97	3.09	<.0001
	Non-Indigenous (Reference category)	1			
Sex	Female	0.66	0.66	0.67	<.0001
	Male (Reference category)	1			
Age group	0–4	0.89	0.85	0.94	<.0001
	5–9	0.56	0.51	0.61	<.0001
	10–14	0.63	0.58	0.69	<.0001
	15–19	3.11	3	3.23	<.0001
	20–24	4.8	4.64	4.95	<.0001
	25–29	4.69	4.54	4.84	<.0001
	30–34	4.61	4.46	4.76	<.0001
	35–39	4.53	4.39	4.67	<.0001
	40–44	4.18	4.05	4.31	<.0001
	45–49	3.68	3.57	3.8	<.0001
	50–54	3.08	2.99	3.19	<.0001
	55–59	2.4	2.32	2.48	<.0001
	60–64	1.92	1.85	1.99	<.0001
	65–70	1.56	1.5	1.62	<.0001
	70–74	1.34	1.29	1.4	<.0001
	75+ (Reference category)	1			
Remoteness of hospital	Inner regional	0.95	0.92	0.97	0.0001
	Outer regional	1.43	1.38	1.49	<.0001
	Remote	1.73	1.64	1.82	<.0001
	Very remote	1.25	1.17	1.34	<.0001
	Not stated	0.09	0.09	0.09	<.0001
	Major cities (Reference category)	1			
State of hospital	Vic	0.5	0.46	0.55	<.0001
	Qld	0.63	0.58	0.67	<.0001
	WA	0.52	0.46	0.6	<.0001
	SA	0.5	0.44	0.56	<.0001
	Tas	0.41	0.3	0.57	<.0001
	NT	0.99	0.88	1.13	0.9337
	ACT	0.48	0.43	0.54	<.0001
	NSW (Reference category)	1			

(continued)

Table 3.09.11 (continued): Odd ratios of variables in the logistic regression model of the likelihood of patients leaving against medical advice/being discharged at own risk, 2011–12 to 2012–13

Variable	Odds ratio	95% Confidence Interval ^(a)		p-value ^(b)	
		Lower limit	Upper limit		
Principal diagnosis chapter	Infectious and parasitic diseases (A00–B99)	7.64	7.28	8.02	<.0001
	Neoplasms (C00–D48)	2.5	2.36	2.63	<.0001
	Diseases of the blood (D50–D89)	3.95	3.67	4.24	<.0001
	Endocrine, nutritional and metabolic disorders (E00–E89)	10.97	10.48	11.47	<.0001
	Mental and behavioural disorders (F00–F99)	14.47	14	14.96	<.0001
	Diseases of the nervous system (G00–G99)	7.62	7.28	7.97	<.0001
	Diseases of the eye and adnexa (H00–H59)	1.8	1.62	2	<.0001
	Diseases of the ear and mastoid process (H60–H99)	3.27	2.88	3.71	<.0001
	Diseases of the circulatory system (I00–I99)	7	6.75	7.27	<.0001
	Diseases of the respiratory system (J00–J99)	8.41	8.1	8.72	<.0001
	Diseases of the digestive system (K00–K93)	6.02	5.82	6.23	<.0001
	Diseases of the skin (L00–L99)	8.7	8.33	9.08	<.0001
	Diseases of the musculoskeletal system (M00–M99)	4.88	4.67	5.11	<.0001
	Diseases of the genitourinary system (N00–N99)	4.04	3.86	4.22	<.0001
	Pregnancy and child birth (O00–O99)	2.97	2.85	3.1	<.0001
	Certain conditions in perinatal period (P00–P96)	3.64	3.17	4.18	<.0001
	Congenital malformations (Q00–Q99)	3.26	2.77	3.83	<.0001
	Symptoms, signs etc. (R00–R99)	10.51	10.18	10.85	<.0001
	Injury and poisoning and certain other consequences of external causes (S00–T98)	9.62	9.32	9.93	<.0001
	Missing	2.66	2.04	3.46	<.0001
Factors influencing health status (Z00–Z99) (Reference category)	1				
Remoteness of usual residence	Inner regional	0.88	0.86	0.9	<.0001
	Outer regional	0.8	0.77	0.83	<.0001
	Remote	0.83	0.79	0.87	<.0001
	Very remote	0.96	0.91	1.01	0.1305
	Major cities (Reference category)	1			

(continued)

Table 3.09.11 (continued): Odd ratios of variables in the logistic regression model of the likelihood of patients leaving against medical advice/being discharged at own risk, 2011–12 to 2012–13

Variable		Odds ratio	95% Confidence Interval ^(a)		p-value ^(b)
			Lower limit	Upper limit	
State of usual residence	Vic	1	0.92	1.08	0.9125
	Qld	1.19	1.11	1.28	<.0001
	WA	1.32	1.15	1.51	<.0001
	SA	1.39	1.23	1.58	<.0001
	Tas	0.77	0.56	1.06	0.1055
	NT	1.24	1.09	1.4	0.0008
	ACT	0.87	0.76	0.99	0.0335
	NSW (Reference category)	1			

(a) 95% confidence interval using the Wald method.

(b) Wald chi-squared test.

Notes

1. Excludes separations with care types 7.3, 9 and 10 (newborn, unqualified days only; organ procurement; and hospital boarder).
2. Data includes public and private hospitals in all jurisdictions.
3. The difference in the deviance of the full model (all variables) and the null model (no independent variables), was significant ($p < .0005$, degrees of freedom = 61).

Source: AIHW analysis of National Hospital Morbidity Database.

Data sources and quality

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2012–13, almost all public hospitals provided data for the NHMD. The exception was a mothercraft hospital in the ACT. The great majority of private hospitals also provided data, the exceptions being the private free-standing day hospital facilities in the ACT, the single private free-standing day hospital in the Northern Territory, and a private free-standing day hospital in Victoria.

Hospitalisations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay that begins or ends in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Records for newborn episodes that did not include qualified days, and records for hospital boarders and posthumous organ procurement have been excluded as these activities are not considered to be admitted patient care.

Indigenous status information

Approximately 2% of hospital records have Indigenous status of 'not stated', though this proportion varies across the jurisdictions (see Table 1.02.1). These records are excluded from analyses of hospital data in this report. Note that for hospitals in Western Australia, records with an unknown status are reported as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Indigenous Australians.

The AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories in 2007–08. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory had adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data (AIHW 2010). The study estimated that 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08.

In 2011–12, the AIHW completed a second study to reassess the level of under-identification in public hospitals data, and found that all jurisdictions had sufficient quality Indigenous identification for reporting from 2010–11 (AIHW 2013). The study estimated that 88% of Indigenous patients were correctly identified in Australian public hospital admission records in 2011–12, and a correction factor of 1.09 is used at the national level to adjust for under-identification in hospital data. Interpretation of results should take into account the relative quality of the data from the jurisdictions.

Time series analysis may be affected by changes in the quality of Indigenous identification over time. The second AIHW study found no statistically significant change in identification rates at the national level, although there were some changes at the jurisdictional level. Time series presentations in this report include data from both public and private hospitals across several jurisdictions, so the overall effect of changes in Indigenous identification over time is unclear. This should be taken into account when interpreting the results of time series analysis.

Change in coding and coding practices

Between 2009–10 and 2010–11, there were significant changes in the coding of diagnoses for diabetes, obstetrics, and imaging procedures. There were also significant changes made to coding practices for diabetes and related conditions for the 2012–13 year, resulting in increased counts for these conditions. Caution should be used in comparing 2011–12 and 2012–13 data with data from previous Health Performance Framework reports.

For more information about the quality of the NHMD and emergency department care data, please refer to Database quality statement summaries in the report *Australian Hospital Statistics 2012–13*, available at <http://www.aihw.gov.au/publication-detail/?id=60129546922>.

List of symbols used in tables

- . . . not applicable
- n.e.c. not elsewhere classified
- n.p. not available for publication but included in totals where applicable, unless otherwise indicated

List of tables

Table 3.09.1:	Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and age group (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13.....	6
Table 3.09.2:	Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and sex (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13.....	7
Table 3.09.3:	Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and state/territory (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13	8
Table 3.09.4:	Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and remoteness, (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13	9
Table 3.09.5:	Average length of stay of hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and sex (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13.....	10
Table 3.09.6:	Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status (excluding dialysis and mental and behavioural disorders), Qld, WA, SA and NT, 1998–99 to 2012–13.....	11
Table 3.09.7:	Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status (excluding dialysis and mental and behavioural disorders), NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2012–13.....	12
Table 3.09.8:	Hospitalisations where patients left against medical advice/were discharged at own risk, by Indigenous status and principal diagnosis (excluding dialysis and mental and behavioural disorders), Australia, 2011–12 to 2012–13	13
Table 3.09.9:	Diagnosis chapters with the highest percentage of Indigenous hospitalisations where patients left against medical advice/were discharged at own risk (excluding dialysis and mental and behavioural disorders), by remoteness, Australia, 2011–12 to 2012–13.....	15
Table 3.09.10:	Mean Square Error (MSE) of variables in the logistic regression model of the likelihood of patients leaving against medical advice/being discharged at own risk, 2011–12 to 2012–13	16
Table 3.09.11:	Odds ratios of variables in the logistic regression model of the likelihood of patients leaving against medical advice/being discharged at own risk, 2011–12 to 2012–13	17

List of figures

Figure 3.09.1: Age-standardised hospitalisation rates where the patient left against medical advice or was discharged at own risk (excluding dialysis and mental and behavioural diagnoses), by Indigenous status, Qld, WA, SA and NT combined, 1998-99 to 2012-134

Figure 3.09.2: Age-standardised hospitalisation rates where the patient left against medical advice or was discharged at own risk (excluding dialysis and mental and behavioural diagnoses), by Indigenous status, NSW, Vic, Qld, WA, SA and NT, 2004-05 to 2012-135

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Other related information

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