Readmission and returns to acute care following hospitalisation for eight clinical conditions, July 2015 – June 2018

Measures that assess how healthcare affects patient outcomes, such as risk-standardised readmission ratios (RSRR), make a crucial contribution to informing efforts to improve care. They should be looked at alongside other measures and used by clinicians as a tool to prompt discussion and inform the development of quality improvement initiatives.

For this report, readmission includes both readmission following hospital discharge and returns to acute care from non-acute inpatient settings. This allows for fairer comparisons given the range of different arrangements hospitals have in place for nonacute care.

The RSRR differs from other readmission indicators principally because it is risk-adjusted and it takes into account readmission to any, rather than just the same, hospital. This includes readmissions to all hospitals, public and private, and provides a more meaningful and accurate reflection of readmissions, which are attributed to the last discharging hospital. The RSRR calculation takes into account the volume and characteristics of adults treated in each hospital (known as the case mix), as different hospitals provide care to patients who may be more or less likely to require readmission following discharge.

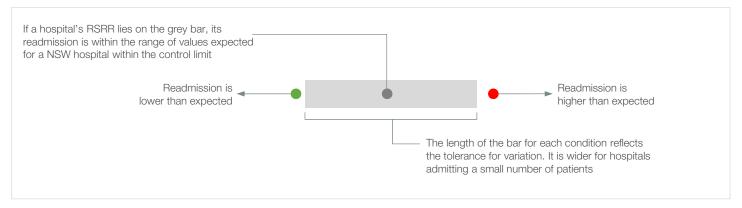
For each hospital, the RSRR compares the 'observed' number of readmissions to any hospital, within 30 days of discharge for a specific clinical condition or within 60 days for specified surgical procedures, with the 'expected' number of readmissions. The expected number of readmissions is calculated based on all adults admitted with that condition to any New South Wales (NSW) hospital.

The RSRR is a ratio. A ratio of less than 1.0 indicates that readmission was lower than expected to that hospital, whereas a ratio higher than 1.0 indicates higher readmission. Small deviations from 1.0 are not considered meaningful. The RSRR is not designed to compare hospitals to each other. Rather it compares each hospital's outcomes with what would have been expected given its particular case mix.

Risk-standardised readmission ratios (RSRRs) for eight clinical conditions

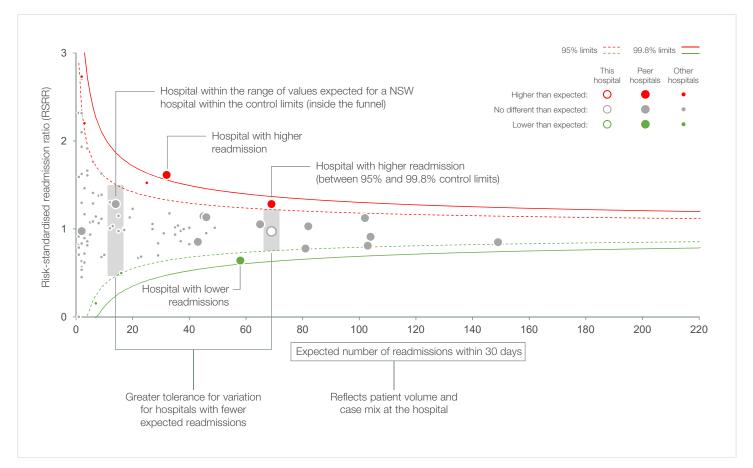
Condition	RSRR			July 20	15 – Ju	ne 2018			F	SRRs fo	r three-y	ear perio	ds
		0.0	0.5	1.0	1.5	2.0	2.5	3.0	July 03 – June 06	July 06 – June 09	July 09 – June 12	July 12 – June 15	July 15 – June 18
Acute myocardial infarction	0.74		(•					•	•	•	•	•
Ischaemic stroke	1.09			•					•	•	•	•	•
Congestive heart failure	0.88			•					•	•	•	•	•
Pneumonia	0.97			•					•	•	•	•	•
Chronic obstructive pulmonary disease	0.90			•					•	•	•	•	•
Hip fracture surgery	0.85			•					•	•	•	•	•
Total hip replacement	0.88			•					•	•	•	•	•
Total knee replacement	1.04			•					•	•	•	•	•
Readmis	sion this period	No	wer than e different ti gher than e	han expec	ted	95	% control	limits	No	atistically sig significant o 0 cases	nificant resu difference	lt	

How to interpret the dashboard



How to interpret a funnel plot

Funnel plots with 95% and 99.8% control limits around the NSW ratio are used to identify outlier hospitals, which are shaded in green or red. Control limits reflect the expected variation in the data.



30-day readmission following hospitalisation for acute myocardial infarction, July 2015 – June 2018

Patient cohort, index hospitalisations^{1,2,3}

	11011
430	28,583
6.1	5.2
354	9,182
387	25,477
43	3,106
	430 6.1 354 387 43

Age profile for index hospitalisations (years)⁴

				■15-44	■45–64	■65–74	■75-84	85+
This hospital	5.1	32.1	19.8		22.3		20.7	
NSW	4.8	34.2	24.1	21.9		9	15.0	
			% index cases					

Patient factors associated with 30-day acute myocardial infarction readmission^{5,6}

						8.2		
					5.8			
				2.0)			
				1.4				
				1.4				
				0.8				
				0.7				
				0.6				
				0.4				
				0.2				
				0.0				
			-1.3					
			-1.4					
			-1.7					
		-4.4						
-15	-10	-5		0	5	10	15	20
	-15		-15 -10 -5	-1.4 -1.7 -4.4 -15 -10 -5	-1.3 -1.4 -1.5 -10 -5 0 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4	2.0 1.4 1.4 0.8 0.7 0.6 0.4 0.2 0.0 -1.3 -1.4 -1.7 -4.4 -15 -10 -5 0 5	5.8 2.0 1.4 0.8 0.7 0.6 0.4 0.2 0.0 -1.3 -1.4 -1.7 -4.4	5.8 2.0 1.4 1.4 0.8 0.7 0.6 0.4 0.2 0.0 -1.3 -1.4 -1.7 -4.4 -15 -10 -5 0 5 10 5.8 1.4 0.8 0.7 0.8 0.7 0.6 0.4 0.2 0.0 5 10 10 10 1.4 1.4 1.4 0.8 0.7 0.6 0.6 0.2 0.0 1.4 0.2 0.0 1.4 0.2 0.0 1.4 0.2 0.0 1.4 0.2 0.0 1.4 0.2 0.0 1.4 0.2 0.0 1.4 0.2 0.0 1.4 0.2 0.0 1.4 0.2 0.0 1.4 0.5 0.0 1.5 0.5 0.0 1.5 1.0 1.5 0.5 1.0 1.5 0.5 1.0 1.5 1.5 1.0 1.5 1.5 1.0 1.5 1.5 1.5 1.0 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5

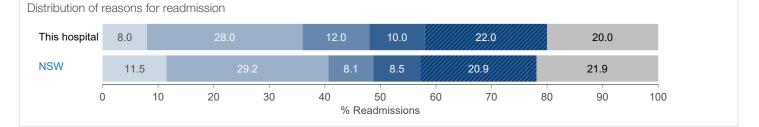
% difference from NSW (index cases with factor recorded)

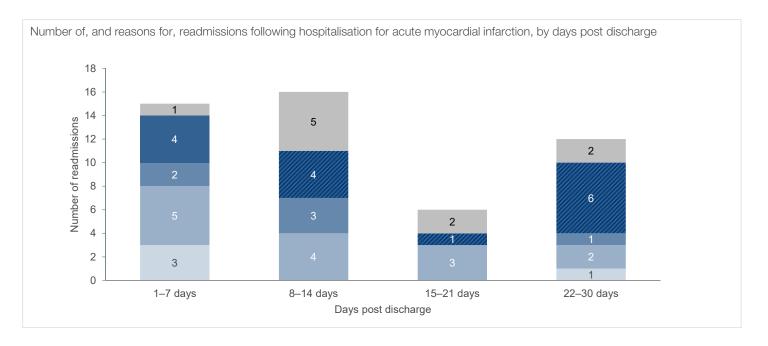
30-day readmission following hospitalisation for acute myocardial infarction, July 2015 – June 2018

location of readmissions ⁷	This hospital	NSW	
Total readmissions following index hospitalisation for acute myocardial infarction	49	4,250	
Returns to acute care	1	159	
Readmitted following hospital discharge	48	4,091	
Readmitted to the same hospital where acute care was completed	43	2,815	
Readmitted to a different hospital	5	1,276	
To an urban public hospital	5		
To a regional or rural public hospital	0		
To a private hospital	0		

Reasons for and time to readmission⁸

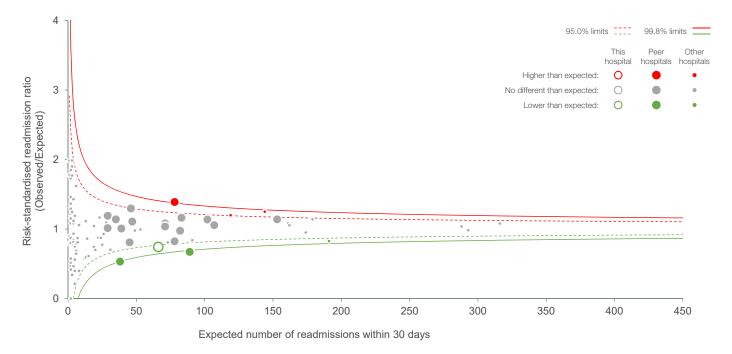
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions



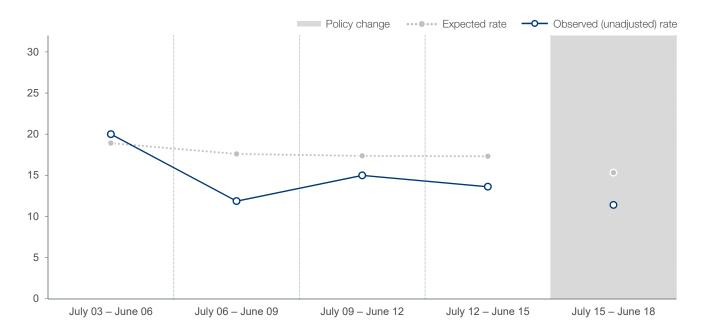


30-day readmission following hospitalisation for acute myocardial infarction, July 2015 – June 2018

Acute myocardial infarction risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals⁹



Acute myocardial infarction, this hospital's expected **readmission rates**¹⁰ and observed (unadjusted) readmission rates, July 2003 – June 2018



Reference notes

- 1. Data refer to patients aged 15+ years who were discharged from this hospital to a non-acute care setting, between July 2015 and June 2018, following an acute hospitalisation with AMI as principal diagnosis (ICD-10-AM codes I21, I22).
- For calculation of average length of stay, index admissions that were transferred in from, or transferred out to, another acute care hospital were excluded. Unreasonably long episodes are trimmed on the basis of the Diagnosis Related Group (DRG) of the episode. The trim point is the third quartile plus 1.5x the interquartile range of all in-scope episodes in each DRG.
- 3. For episodes coded as 'Discharged by hospital' or 'Discharged on leave', patients are considered as discharged home. All other modes of separation are deemed a discharge destination other than home. Where there is a non-acute care admission within one day of any discharge, it is not considered as discharged home regardless of the mode of separation.
- 4. Age at admission date.
- Comorbidities are identified from the hospital discharge records using the Elixhauser comorbidity set (plus dementia) with a one year look-back from the date of the admission. Only those conditions that were found to have a statistically significant impact on readmission (p<0.05) are shown.
- 6. Age was a statistically significant factor in the final model for acute myocardial infarction.
- Readmissions include both returns to acute care from non-acute inpatient settings and readmissions following hospital discharge. Hospitals are classified as urban and regional/rural using the geocoded address of the hospital assigned to Australian Bureau of Statistics statistical areas (SA2) and the Australian remoteness index for areas.
- 8. Reasons for readmission follow the same clinical grouping as used in the previous report *Return to acute care following discharge from hospital, July 2012 June 2015.* Please refer to the previously published *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition,* which outline the specifications used to describe reasons for readmission.
- 9. Results for hospitals with expected readmission <1 are not shown. Hospitals are classified according to the NSW Ministry of Health's peer grouping as at January 2018.
- 10. Readmission rates at an average NSW public hospital with the same case-mix.

Details of analyses are available in *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition* and the *Technical Supplement – Readmission and returns to acute care following hospitalisation for eight clinical conditions, July 2015-June 2018.*

30-day readmission following hospitalisation for ischaemic stroke, July 2015 – June 2018

Patient cohort, index hospitalisations^{1,2,3}

	This hospital	NSW
Total index cases for ischaemic stroke	416	16,435
Average length of stay (days)	7.2	7.3
Patients transferred in from acute care in another hospital	56	1,916
Discharge destination		
Home	247	8,688
Other	169	7,747

Age profile for index hospitalisations (years)⁴

						■15-44	■45–64	■65–74	■75–84	85+	
This hospital		16.8		23.8		28.6		28.9			
NSW		20.0		23.5		30.4		22.4			
	% index cases										

Patient factors associated with 30-day ischaemic stroke readmission^{5,6}

Congestive heart failure						1.4					
Weight loss).7					
Lymphoma					0.0						
Lymphoma					0.0	J					
Solid tumour without metastasis											
Coagulopathy				-1	0						
Liver disease				-1.	1						
Cardiac arrhythmia				-1.8							
Deficiency anaemia				-2.6							
Fluid and electrolyte disorders				-3.2							
Diabetes, complicated				-4.0							
Other neurological disorders			-7.9								
	-20	-15	-10	-5	0	5	10	15	20		
% difference from NSW (index cases with factor recorded)											

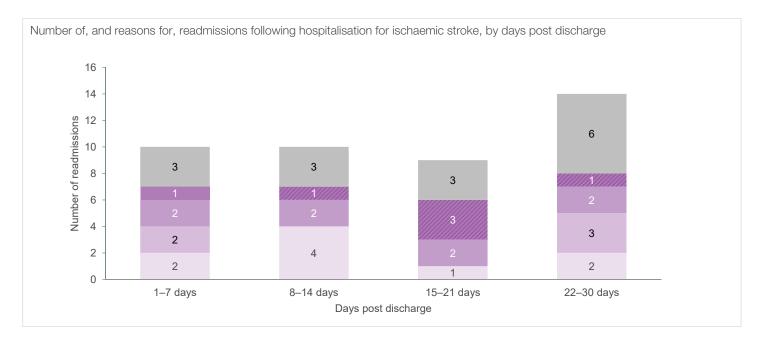
30-day readmission following hospitalisation for ischaemic stroke, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for ischaemic stroke	43	1,638
Returns to acute care	7	505
Readmitted following hospital discharge	36	1,133
Readmitted to the same hospital where acute care was completed	35	868
Readmitted to a different hospital	1	265
To an urban public hospital	0	
To a regional or rural public hospital	1	
To a private hospital	0	

Reasons for and time to readmission⁸

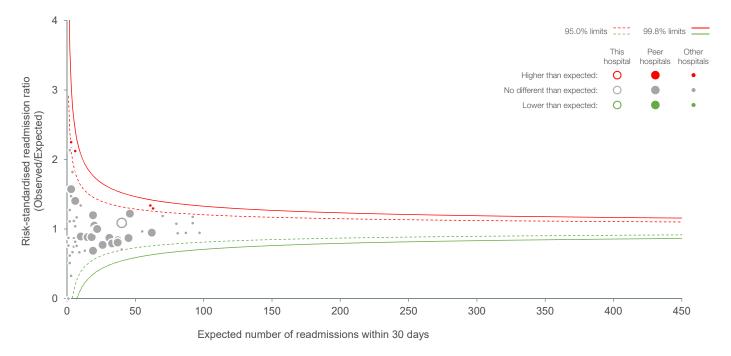
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of reasons for readmission										
This hospital	20.9	11	.6	18.6		11.6		34.9		
NSW	18.2	8.8		20.5		12.8		34.3		
C) 10	20	30	40 % Re	50 eadmissio	60 ons	70	80	90	100

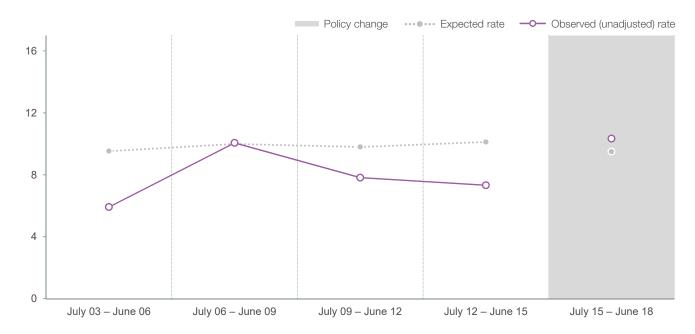


30-day readmission following hospitalisation for ischaemic stroke, July 2015 – June 2018

Ischaemic stroke risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals⁹







Reference notes

- 1. Data refer to patients aged 15+ years who were discharged from this hospital to a non-acute care setting, between July 2015 and June 2018, following an acute hospitalisation with ischaemic stroke as principal diagnosis (ICD-10-AM code I63).
- For calculation of average length of stay, index admissions that were transferred in from, or transferred out to, another acute care hospital were excluded. Unreasonably long episodes are trimmed on the basis of the Diagnosis Related Group (DRG) of the episode. The trim point is the third quartile plus 1.5x the interquartile range of all in-scope episodes in each DRG.
- 3. For episodes coded as 'Discharged by hospital' or 'Discharged on leave', patients are considered as discharged home. All other modes of separation are deemed a discharge destination other than home. Where there is a non-acute care admission within one day of any discharge, it is not considered as discharged home regardless of the mode of separation.
- 4. Age at admission date.
- Comorbidities are identified from the hospital discharge records using the Elixhauser comorbidity set (plus dementia) with a one year look-back from the date of the admission. Only those conditions that were found to have a statistically significant impact on readmission (p<0.05) are shown.
- 6. Age was not a statistically significant factor in the final model for ischaemic stroke.
- Readmissions include both returns to acute care from non-acute inpatient settings and readmissions following hospital discharge. Hospitals are classified as urban and regional/rural using the geocoded address of the hospital assigned to Australian Bureau of Statistics statistical areas (SA2) and the Australian remoteness index for areas.
- 8. Reasons for readmission follow the same clinical grouping as used in the previous report *Return to acute care following discharge from hospital, July 2012 June 2015.* Please refer to the previously published *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition,* which outline the specifications used to describe reasons for readmission.
- 9. Results for hospitals with expected readmission <1 are not shown. Hospitals are classified according to the NSW Ministry of Health's peer grouping as at January 2018.
- 10. Readmission rates at an average NSW public hospital with the same case-mix.

Details of analyses are available in *Spotlight on Measurement: Measuring return to acute care following discharge from hospital,* 2nd edition and the *Technical Supplement – Readmission and returns to acute care following hospitalisation for eight clinical conditions,* July 2015-June 2018.

30-day readmission following hospitalisation for congestive heart failure, July 2015 – June 2018

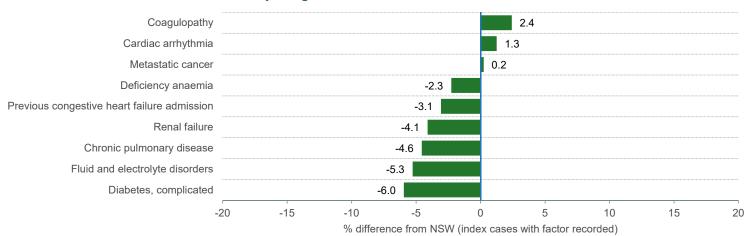
Patient cohort, index hospitalisations^{1,2,3}

This hospital	NSW
701	33,686
5.7	6.0
97	2,723
589	29,025
112	4,661
	This hospital 701 5.7 97 589 112

Age profile for index hospitalisations (years)⁴

							∎ 15-44	■ 45–64	■65–74	■75–84	85+
This hospital	5.6		16.3		31.4		46.4				
NSW		10.8	18	.9	33.6			34.9			
						% index cas	es				

Patient factors associated with 30-day congestive heart failure readmission^{5,6}

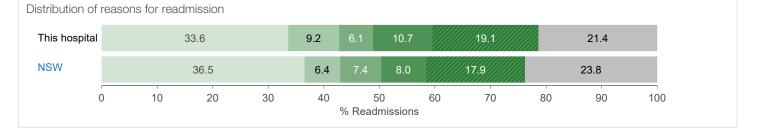


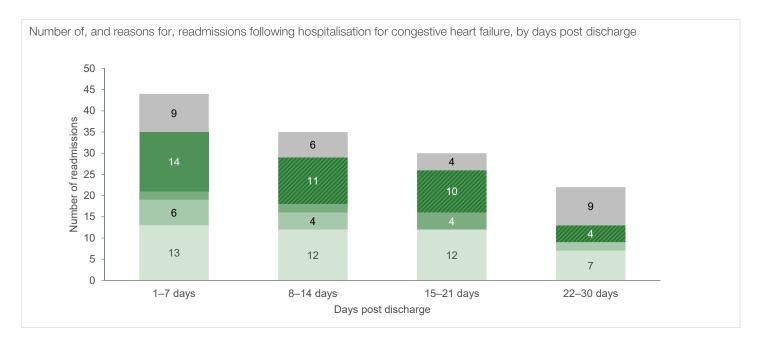
30-day readmission following hospitalisation for congestive heart failure, July 2015 – June 2018

_ocation of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for congestive heart failure	131	7,465
Returns to acute care	6	309
Readmitted following hospital discharge	125	7,156
Readmitted to the same hospital where acute care was completed	116	5,843
Readmitted to a different hospital	9	1,313
To an urban public hospital	9	
To a regional or rural public hospital	0	
To a private hospital	0	

Reasons for and time to readmission⁸

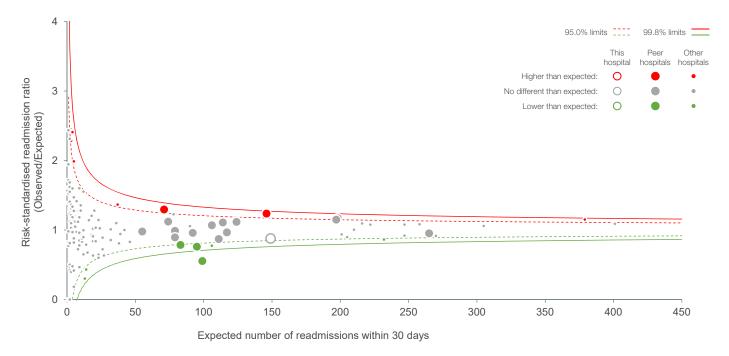
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions



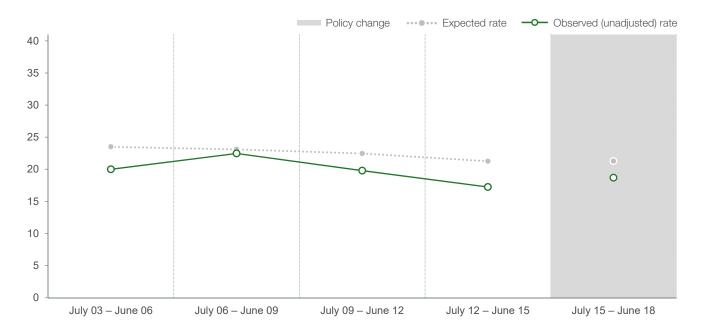


30-day readmission following hospitalisation for congestive heart failure, July 2015 – June 2018

Congestive heart failure risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals⁹



Congestive heart failure, this hospital's expected **readmission rates**¹⁰ and observed (unadjusted) readmission rates, July 2003 – June 2018



Reference notes

- 1. Data refer to patients aged 15+ years who were discharged from this hospital to a non-acute care setting, between July 2015 and June 2018, following an acute hospitalisation with congestive heart failure as principal diagnosis (ICD-10-AM codes I11.0, I13.0, I13.2, I50.0, I50.1, I50.9).
- For calculation of average length of stay, index admissions that were transferred in from, or transferred out to, another acute care hospital were excluded. Unreasonably long episodes are trimmed on the basis of the Diagnosis Related Group (DRG) of the episode. The trim point is the third quartile plus 1.5x the interquartile range of all in-scope episodes in each DRG.
- 3. For episodes coded as 'Discharged by hospital' or 'Discharged on leave', patients are considered as discharged home. All other modes of separation are deemed a discharge destination other than home. Where there is a non-acute care admission within one day of any discharge, it is not considered as discharged home regardless of the mode of separation.
- 4. Age at admission date.
- Comorbidities are identified from the hospital discharge records using the Elixhauser comorbidity set (plus dementia) with a one year look-back from the date of the admission. Only those conditions that were found to have a statistically significant impact on readmission (p<0.05) are shown.
- 6. Age was not a statistically significant factor in the final model for congestive heart failure.
- Readmissions include both returns to acute care from non-acute inpatient settings and readmissions following hospital discharge. Hospitals are classified as urban and regional/rural using the geocoded address of the hospital assigned to Australian Bureau of Statistics statistical areas (SA2) and the Australian remoteness index for areas.
- 8. Reasons for readmission follow the same clinical grouping as used in the previous report *Return to acute care following discharge from hospital, July 2012 June 2015.* Please refer to the previously published *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition,* which outline the specifications used to describe reasons for readmission.
- 9. Results for hospitals with expected readmission <1 are not shown. Hospitals are classified according to the NSW Ministry of Health's peer grouping as at January 2018.
- 10. Readmission rates at an average NSW public hospital with the same case-mix.

Details of analyses are available in *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition* and the *Technical Supplement – Readmission and returns to acute care following hospitalisation for eight clinical conditions, July 2015-June 2018.*

30-day readmission following hospitalisation for pneumonia, July 2015 – June 2018

Patient cohort, index hospitalisations^{1,2,3}

This hospital	NSW
1,069	48,855
5.9	5.1
24	3,190
861	42,535
208	6,320
	This hospital 1,069 5.9 24 861 208

Age profile for index hospitalisations (years)⁴

								18–44	45-64	65-74	75-84	85+
This hospital	5.7		15.5	17.3	3		29.2		32.3			
NSW	11	.1	19	.9		19.9 26.1				23.0		
	% index cases											

Patient factors associated with 30-day pneumonia readmission^{5,6}

Weight loss		4.5
Female		3.5
Chronic pulmonary disease		3.4
Congestive heart failure		1.8
Rheumatoid arthritis/collagen		1.5
Solid tumour without metastasis		1.2
Cardiac arrhythmia		1.1
Coagulopathy		1.0
Previous pneumonia admission		0.9
Hypertension		0.7
Metastatic cancer		0.5
Depression		0.1
Peripheral vascular disorder		0.1
Fluid and electrolyte disorders		0.0
Deficiency anaemia	-0.1	
Renal failure	-0.3	
Paralysis	-0.6	
Lymphoma	-0.7	
Abuse drug/alcohol/psychoses	-1.3	
Liver disease	-1.3	
Diabetes, complicated	-4.1	

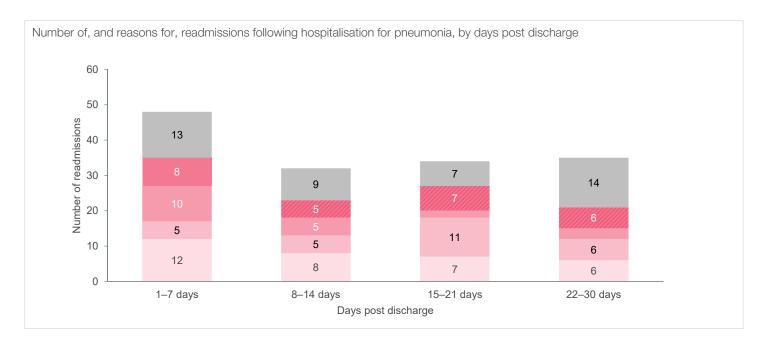
30-day readmission following hospitalisation for pneumonia, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW	
Total readmissions following index hospitalisation for pneumonia	149	6,704	
Returns to acute care	13	325	
Readmitted following hospital discharge	136	6,379	
Readmitted to the same hospital where acute care was completed	118	5,201	
Readmitted to a different hospital	18	1,178	
To an urban public hospital	16		
To a regional or rural public hospital	2		
To a private hospital	0		

Reasons for and time to readmission⁸

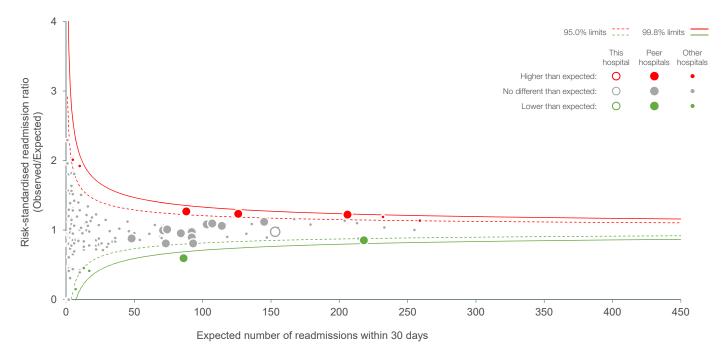
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of	reasons	s for readmi	ssion								
This hospital		22.2		18.1	13	3.4	5.4 12.	1	2	8.9	
NSW		19.5		20.0	7.8	7.5	14.2		31.1		
	0	10	20	30	40 % Re	50 eadmiss	60 ions	70	80	90	100

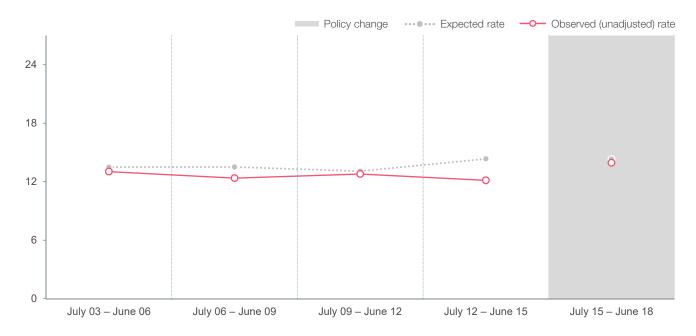


30-day readmission following hospitalisation for pneumonia, July 2015 – June 2018

Pneumonia risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals⁹



Pneumonia, this hospital's expected **readmission rates**¹⁰ and observed (unadjusted) readmission rates, July 2003 – June 2018



Reference notes

- 1. Data refer to patients aged 18+ years who were discharged from this hospital to a non-acute care setting, between July 2015 and June 2018, following an acute hospitalisation with pneumonia as principal diagnosis (ICD-10-AM codes J13, J14, J15, J16, J18).
- For calculation of average length of stay, index admissions that were transferred in from, or transferred out to, another acute care hospital were excluded. Unreasonably long episodes are trimmed on the basis of the Diagnosis Related Group (DRG) of the episode. The trim point is the third quartile plus 1.5x the interquartile range of all in-scope episodes in each DRG.
- 3. For episodes coded as 'Discharged by hospital' or 'Discharged on leave', patients are considered as discharged home. All other modes of separation are deemed a discharge destination other than home. Where there is a non-acute care admission within one day of any discharge, it is not considered as discharged home regardless of the mode of separation.
- 4. Age at admission date.
- Comorbidities are identified from the hospital discharge records using the Elixhauser comorbidity set (plus dementia) with a one year look-back from the date of the admission. Only those conditions that were found to have a statistically significant impact on readmission (p<0.05) are shown.
- 6. Age was a statistically significant factor in the final model for pneumonia.
- Readmissions include both returns to acute care from non-acute inpatient settings and readmissions following hospital discharge. Hospitals are classified as urban and regional/rural using the geocoded address of the hospital assigned to Australian Bureau of Statistics statistical areas (SA2) and the Australian remoteness index for areas.
- 8. Reasons for readmission follow the same clinical grouping as used in the previous report *Return to acute care following discharge from hospital, July 2012 June 2015.* Please refer to the previously published *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition,* which outline the specifications used to describe reasons for readmission.
- 9. Results for hospitals with expected readmission <1 are not shown. Hospitals are classified according to the NSW Ministry of Health's peer grouping as at January 2018.
- 10. Readmission rates at an average NSW public hospital with the same case-mix.

Details of analyses are available in *Spotlight on Measurement: Measuring return to acute care following discharge from hospital,* 2nd edition and the *Technical Supplement – Readmission and returns to acute care following hospitalisation for eight clinical conditions,* July 2015-June 2018.

30-day readmission following hospitalisation for chronic obstructive pulmonary disease, July 2015 – June 2018

Patient cohort, index hospitalisations^{1,2,3}

This hospital	NSW
652	48,336
6.0	4.8
20	2,330
566	43,932
86	4,404
-	20

Age profile for index hospitalisations (years)⁴

				45-64	65-74	75-	-84	85+				
This hospital	15.8	28.5		34.8	20.9							
NSW	21.2	31.7		32	2.0		1	15.1				
	% index cases											

Patient factors associated with 30-day chronic obstructive pulmonary disease readmission^{5,6}

Female							5.0			
Cardiac arrhythmia							3.8			
Weight loss							2.9			
Renal failure							1.9			
Depression							1.4			
Peripheral vascular disorder							1.4			
Pulmonary circulation disorders							1.2			
Dementia							1.1			
Congestive heart failure							0.8			
Fluid and electrolyte disorders						0	.3			
Hypertension						0	.3			
Solid tumour without metastasis					-0.2					
Abuse drug/alcohol/psychoses				-2.0						
Deficiency anaemia				-2.3						
Previous COPD admission				-2.6						
Diabetes, complicated				-2.9						
Diabetes, uncomplicated				-4.5						
-2	20	-15	-10	-5	C)	5	10	15	20
			% differ	ence from NS	W (inde	х са	uses with factor re	corded)		

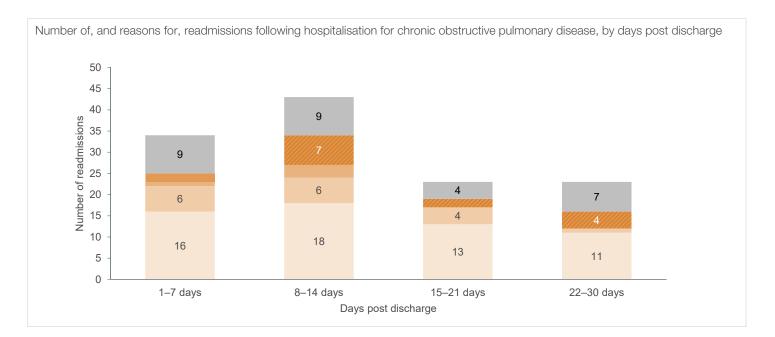
30-day readmission following hospitalisation for chronic obstructive pulmonary disease, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for chronic obstructive pulmonary disease	123	10,241
Returns to acute care	4	233
Readmitted following hospital discharge	119	10,008
Readmitted to the same hospital where acute care was completed	112	8,472
Readmitted to a different hospital	7	1,536
To an urban public hospital	7	
To a regional or rural public hospital	0	
To a private hospital	0	

Reasons for and time to readmission⁸

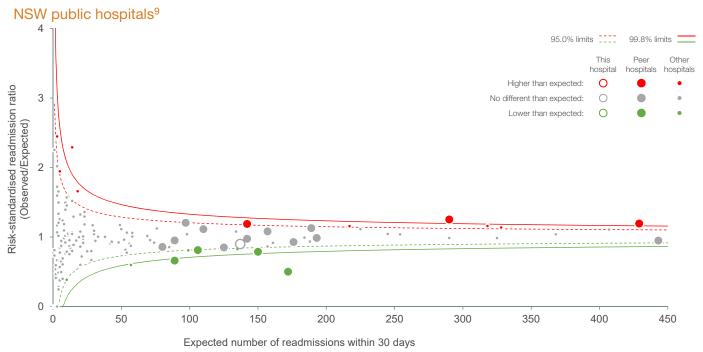
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)</p>
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of reasons for readmission This hospital 46.8 13.5 23.8 NSW 10.3 18.3 54.5 0 10 20 30 40 50 60 70 80 90 100 % Readmissions

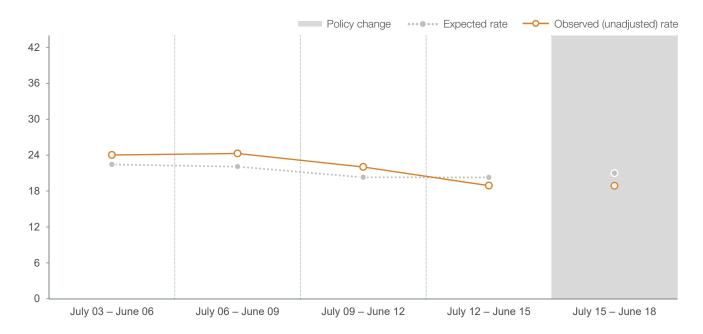


30-day readmission following hospitalisation for chronic obstructive pulmonary disease, July 2015 – June 2018

Chronic obstructive pulmonary disease risk-standardised **readmission ratios** by number of expected readmissions,



Chronic obstructive pulmonary disease, this hospital's expected **readmission rates**¹⁰ and observed (unadjusted) readmission rates, July 2003 – June 2018



Reference notes

- 1. Data refer to patients aged 45+ years who were discharged from this hospital to a non-acute care setting, between July 2015 and June 2018, following an acute hospitalisation with COPD as principal diagnosis (ICD-10-AM code J41, J42, J43, J44, J47, and J20 and J40 if accompanied by J41, J42, J43, J44 and J47 in any secondary diagnoses).
- For calculation of average length of stay, index admissions that were transferred in from, or transferred out to, another acute care hospital were excluded. Unreasonably long episodes are trimmed on the basis of the Diagnosis Related Group (DRG) of the episode. The trim point is the third quartile plus 1.5x the interquartile range of all in-scope episodes in each DRG.
- 3. For episodes coded as 'Discharged by hospital' or 'Discharged on leave', patients are considered as discharged home. All other modes of separation are deemed a discharge destination other than home. Where there is a non-acute care admission within one day of any discharge, it is not considered as discharged home regardless of the mode of separation.
- 4. Age at admission date.
- Comorbidities are identified from the hospital discharge records using the Elixhauser comorbidity set (plus dementia) with a one year look-back from the date of the admission. Only those conditions that were found to have a statistically significant impact on readmission (p<0.05) are shown.
- 6. Age was a statistically significant factor in the final model for chronic obstructive pulmonary disease.
- Readmissions include both returns to acute care from non-acute inpatient settings and readmissions following hospital discharge. Hospitals are classified as urban and regional/rural using the geocoded address of the hospital assigned to Australian Bureau of Statistics statistical areas (SA2) and the Australian remoteness index for areas.
- 8. Reasons for readmission follow the same clinical grouping as used in the previous report *Return to acute care following discharge from hospital, July 2012 June 2015.* Please refer to the previously published *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition,* which outline the specifications used to describe reasons for readmission.
- 9. Results for hospitals with expected readmission <1 are not shown. Hospitals are classified according to the NSW Ministry of Health's peer grouping as at January 2018.
- 10. Readmission rates at an average NSW public hospital with the same case-mix.

Details of analyses are available in *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition* and the *Technical Supplement – Readmission and returns to acute care following hospitalisation for eight clinical conditions, July 2015-June 2018.*

30-day readmission following hospitalisation for hip fracture surgery, July 2015 – June 2018

Patient cohort, index hospitalisations^{1,2,3}

This hospital	NSW
476	14,895
9.4	9.7
8	2,030
126	4,404
350	10,491
	This hospital 476 9.4 8 126 350

Age profile for index hospitalisations (years)⁴

								5 0–64	65-74	75-84	85+
This hospital		9.7		27.3					59.0		
NSW	6.8	13	3.9		31.6				47.8		
						% index ca	ases				

Patient factors associated with 30-day hip fracture surgery readmission^{5,6}

Dementia						7.5		
Fluid and electrolyte disorders					3.9			
Female					3.0			
AIDS/HIV				0.	2			
Cardiac arrhythmia				0.	2			
Depression			-	0.3				
Other neurological disorders			-C	.7				
Liver disease			-1.	1				
Congestive heart failure			-1.	1				
Chronic pulmonary disease			-1.6					
Diabetes, complicated			-3.0					
-20	-15	-10	-5	0	5	10	15	20
		% differe	nce from NSW	(index ca	uses with factor re	ecorded)		

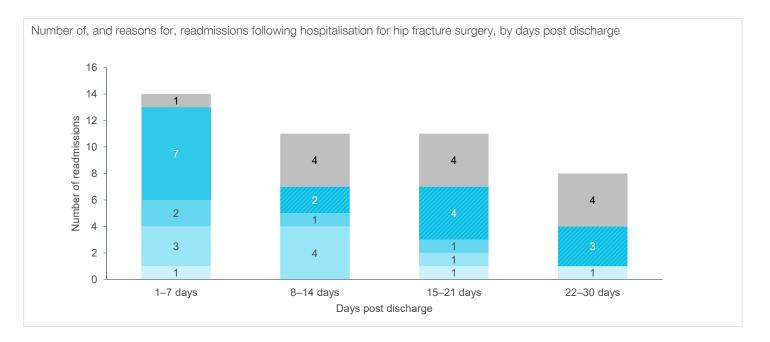
30-day readmission following hospitalisation for hip fracture surgery, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for hip fracture surgery	44	1,617
Returns to acute care	14	677
Readmitted following hospital discharge	30	940
Readmitted to the same hospital where acute care was completed	29	696
Readmitted to a different hospital	1	244
To an urban public hospital	1	
To a regional or rural public hospital	0	
To a private hospital	0	

Reasons for and time to readmission⁸

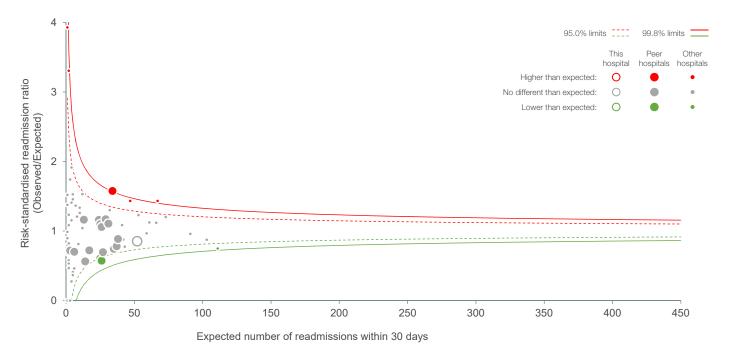
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)</p>
- Orthopaedic complications
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of reasons for readmission This hospital 6.8 18.2 9.1 29.6 NSW 6.3 36.3 14.6 7.0 24.4 0 10 20 30 40 50 60 70 80 90 100 % Readmissions

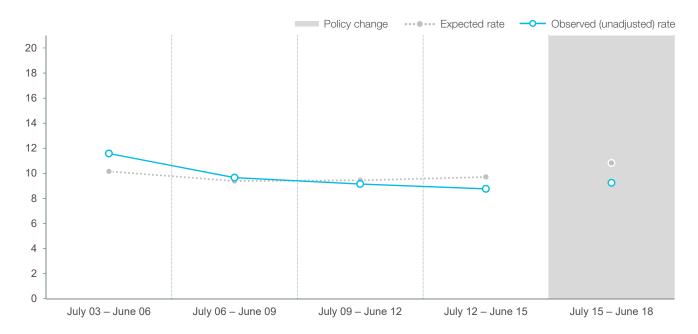


30-day readmission following hospitalisation for hip fracture surgery, July 2015 – June 2018

Hip fracture surgery risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals⁹



Hip fracture surgery, this hospital's expected **readmission rates**¹⁰ and observed (unadjusted) readmission rates, July 2003 – June 2018



Reference notes

- 1. Data refer to patients aged 50+ years who were discharged from this hospital to a non-acute care setting, between July 2015 and June 2018, following an acute hospitalisation with hip fracture as principal diagnosis and treated with surgery (ICD-10-AM codes for hip fracture S72.0, S72.1, S72.2 accompanied with a fall codes W00-W19 and R29.6 and treated with a surgical procedure).
- For calculation of average length of stay, index admissions that were transferred in from, or transferred out to, another acute care hospital were excluded. Unreasonably long episodes are trimmed on the basis of the Diagnosis Related Group (DRG) of the episode. The trim point is the third quartile plus 1.5x the interquartile range of all in-scope episodes in each DRG.
- 3. For episodes coded as 'Discharged by hospital' or 'Discharged on leave', patients are considered as discharged home. All other modes of separation are deemed a discharge destination other than home. Where there is a non-acute care admission within one day of any discharge, it is not considered as discharged home regardless of the mode of separation.
- 4. Age at admission date.
- Comorbidities are identified from the hospital discharge records using the Elixhauser comorbidity set (plus dementia) with a one year look-back from the date of the admission. Only those conditions that were found to have a statistically significant impact on readmission (p<0.05) are shown.
- 6. Age was a statistically significant factor in the final model for hip fracture surgery.
- Readmissions include both returns to acute care from non-acute inpatient settings and readmissions following hospital discharge. Hospitals are classified as urban and regional/rural using the geocoded address of the hospital assigned to Australian Bureau of Statistics statistical areas (SA2) and the Australian remoteness index for areas.
- 8. Reasons for readmission follow the same clinical grouping as used in the previous report *Return to acute care following discharge from hospital, July 2012 June 2015.* Please refer to the previously published *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition,* which outline the specifications used to describe reasons for readmission.
- 9. Results for hospitals with expected readmission <1 are not shown. Hospitals are classified according to the NSW Ministry of Health's peer grouping as at January 2018.
- 10. Readmission rates at an average NSW public hospital with the same case-mix.

Details of analyses are available in *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition* and the *Technical Supplement – Readmission and returns to acute care following hospitalisation for eight clinical conditions, July 2015-June 2018.*

60-day readmission following hospitalisation for total hip replacement, July 2015 – June 2018

Patient cohort, index hospitalisations^{1,2,3}

This hospital	NSW
351	8,985
4.3	4.7
240	7,472
111	1,513
	This hospital 351 4.3 240 111

Age profile for index hospitalisations (years)⁴

			■ 18–44	45–64	65-74	75-84	85+
This hospital	5.1	34.8	28.2		24.5		7.4
NSW		35.2	32.7		23	3.3	
			% index cases				

Patient factors associated with 60-day total hip replacement readmission^{5,6}

Diabetes, complicated						1.4				
							•			
Coagulopathy						0.6				
Cardiac arrhythmia						0.5				
Metastatic cancer						0.0				
Other neurological disorders					-0.1					
Weight loss					-0.2					
Diabetes, uncomplicated					-0.3					
Chronic pulmonary disease					-0.6					
Rheumatoid arthritis/collagen				•	0.8					
Depression				-	0.9					
Abuse drug/alcohol/psychoses				-	0.9					
	-20	-15	-10	-5	(Ċ	5	10	15	20
			% differe	nce from NS	N (inde	ex cases	with factor r	ecorded)		

60-day readmission following hospitalisation for total hip replacement, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for total hip replacement	32	949
Returns to acute care	5	107
Readmitted following hospital discharge	27	842
Readmitted to the same hospital where acute care was completed	10	499
Readmitted to a different hospital	17	343
To an urban public hospital	12	
To a regional or rural public hospital	1	
To a private hospital	4	

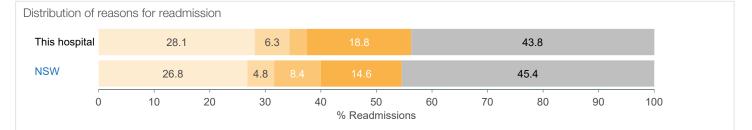
Reasons for and time to readmission⁸

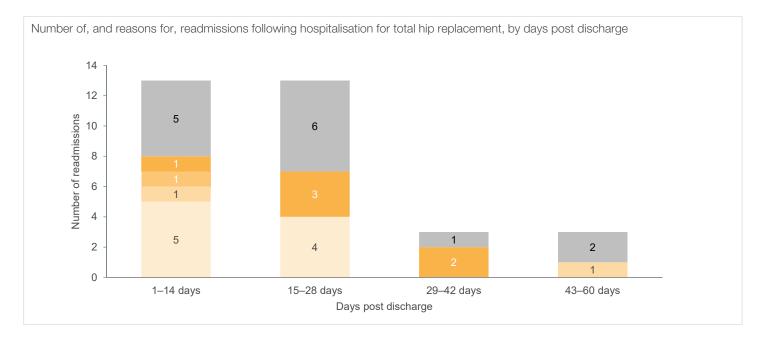
Orthopaedic complications (within time specified)

Potentially related to hospital care (outside time specified) Orthopaedic complications (outside time specified)

Other conditions

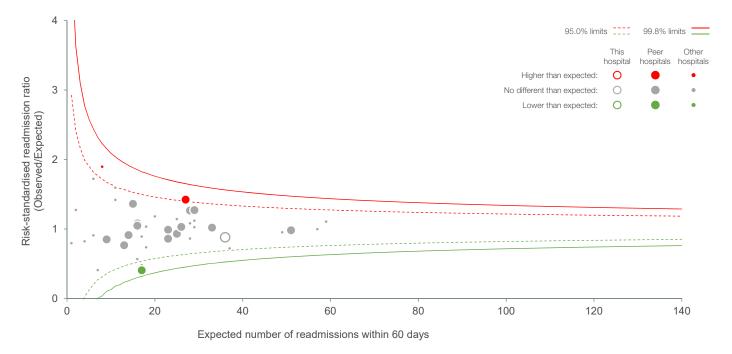
 Potentially related to hospital care (within time specified)



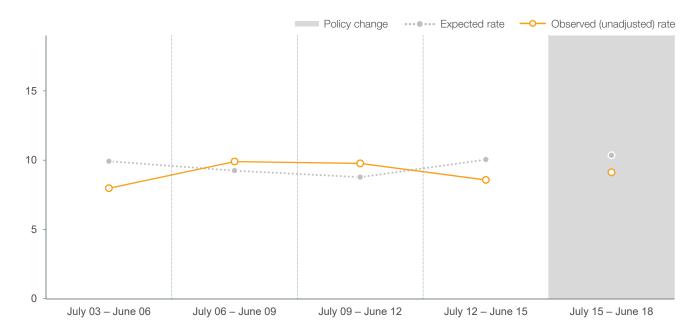


60-day readmission following hospitalisation for total hip replacement, July 2015 – June 2018

Total hip replacement risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals⁹



Total hip replacement, this hospital's expected **readmission rates**¹⁰ and observed (unadjusted) readmission rates, July 2003 – June 2018



Reference notes

- 1. Data refer to patients aged 18+ years who were discharged from this hospital to a non-acute care setting, between July 2015 and June 2018, following an acute hospitalisation for an elective total hip replacement (ACHI codes 49318-00, 49319-00).
- For calculation of average length of stay, index admissions that were transferred in from, or transferred out to, another acute care hospital were excluded. Unreasonably long episodes are trimmed on the basis of the Diagnosis Related Group (DRG) of the episode. The trim point is the third quartile plus 1.5x the interquartile range of all in-scope episodes in each DRG.
- 3. For episodes coded as 'Discharged by hospital' or 'Discharged on leave', patients are considered as discharged home. All other modes of separation are deemed a discharge destination other than home. Where there is a non-acute care admission within one day of any discharge, it is not considered as discharged home regardless of the mode of separation.
- 4. Age at admission date.
- Comorbidities are identified from the hospital discharge records using the Elixhauser comorbidity set (plus dementia) with a one year look-back from the date of the admission. Only those conditions that were found to have a statistically significant impact on readmission (p<0.05) are shown.
- 6. Age was a statistically significant factor in the final model for total hip replacement.
- Readmissions include both returns to acute care from non-acute inpatient settings and readmissions following hospital discharge. Hospitals are classified as urban and regional/rural using the geocoded address of the hospital assigned to Australian Bureau of Statistics statistical areas (SA2) and the Australian remoteness index for areas.
- 8. Reasons for readmission follow the same clinical grouping as used in the previous report *Return to acute care following discharge from hospital, July 2012 June 2015.* Please refer to the previously published *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition,* which outline the specifications used to describe reasons for readmission.
- 9. Results for hospitals with expected readmission <1 are not shown. Hospitals are classified according to the NSW Ministry of Health's peer grouping as at January 2018.
- 10. Readmission rates at an average NSW public hospital with the same case-mix.

Details of analyses are available in *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition* and the *Technical Supplement – Readmission and returns to acute care following hospitalisation for eight clinical conditions, July 2015-June 2018.*

60-day readmission following hospitalisation for total knee replacement, July 2015 – June 2018

Patient cohort, index hospitalisations^{1,2,3}

	This hospital	NSW
otal index cases for total knee replacement	541	15,940
Average length of stay (days)	4.6	4.9
Discharge destination		
Home	353	13,175
Other	188	2,765

Age profile for index hospitalisations (years)⁴

		■18–44	45–64 65–74 75–84 85+
This hospital	26.8	41.0	28.3
NSW	30.9	40.1	25.3
		% index cases	

Patient factors associated with 60-day total knee replacement readmission^{5,6}

Female							5.5			
Lymphoma						0.3	0.0			
Abuse drug/alcohol/psychoses						0.3				
Coagulopathy						0.1				
Chronic pulmonary disease						0.1				
Cardiac arrhythmia					-0.1					
Diabetes, complicated					-0.1					
Blood loss anaemia					-0.1					
Weight loss					-0.2					
Renal failure					-0.6					
Fluid and electrolyte disorders					-1.1					
-	20	-15	-10	-5	()	5	10	15	20
			% differe	ence from N	ISW (inde	x cases with	factor re	corded)		

60-day readmission following hospitalisation for total knee replacement, July 2015 – June 2018

This hospital	NSW
66	1,892
12	152
54	1,740
27	1,052
27	688
23	
4	
0	
	66

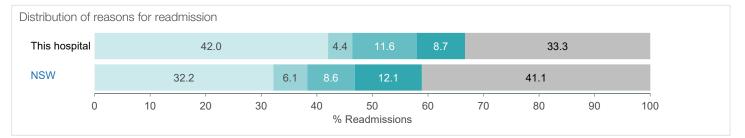
Reasons for and time to readmission⁸

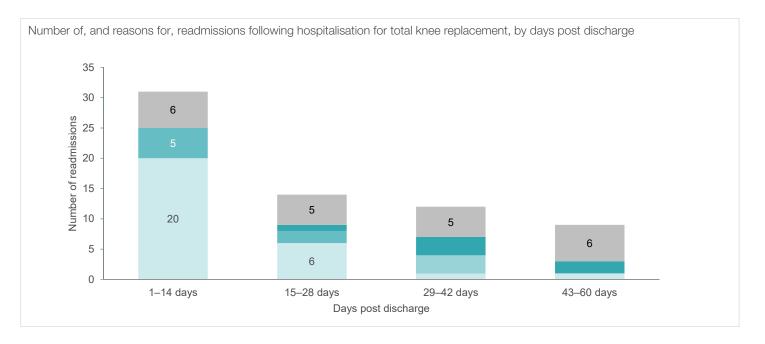
 Orthopaedic complications (within time specified)

 Potentially related to hospital care (outside time specified) Orthopaedic complications (outside time specified)

Other conditions

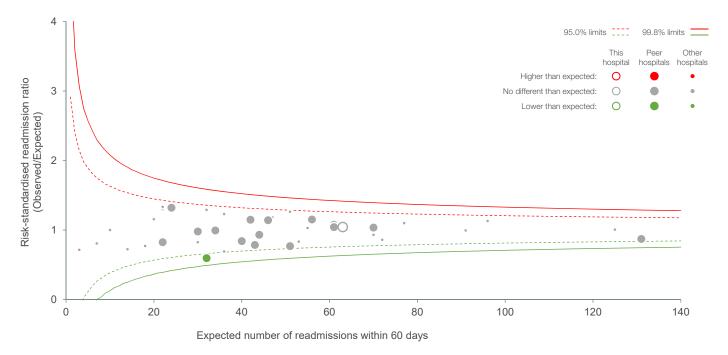
 Potentially related to hospital care (within time specified)



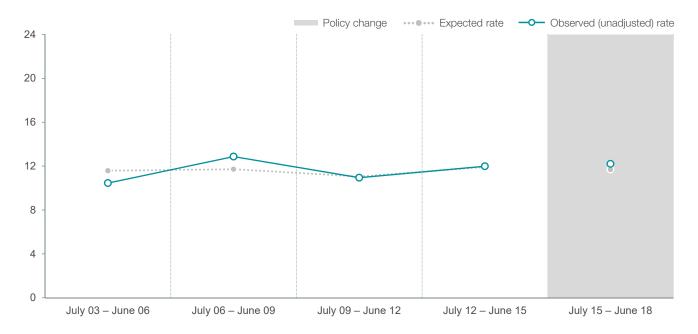


60-day readmission following hospitalisation for total knee replacement, July 2015 – June 2018

Total knee replacement risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals⁹



Total knee replacement, this hospital's expected **readmission rates**¹⁰ and observed (unadjusted) readmission rates, July 2003 – June 2018



Reference notes

- 1. Data refer to patients aged 18+ years who were discharged from this hospital to a non-acute care setting, between July 2015 and June 2018, following an acute hospitalisation for an elective total knee replacement (ACHI codes 49518-00, 49519-00, 49521-00, 49521-01, 49521-02, 49521-03, 49524-00, 49524-01).
- 2. For calculation of average length of stay, index admissions that were transferred in from, or transferred out to, another acute care hospital were excluded. Unreasonably long episodes are trimmed on the basis of the Diagnosis Related Group (DRG) of the episode. The trim point is the third quartile plus 1.5x the interquartile range of all in-scope episodes in each DRG.
- 3. For episodes coded as 'Discharged by hospital' or 'Discharged on leave', patients are considered as discharged home. All other modes of separation are deemed a discharge destination other than home. Where there is a non-acute care admission within one day of any discharge, it is not considered as discharged home regardless of the mode of separation.
- 4. Age at admission date.
- Comorbidities are identified from the hospital discharge records using the Elixhauser comorbidity set (plus dementia) with a one year look-back from the date of the admission. Only those conditions that were found to have a statistically significant impact on readmission (p<0.05) are shown.
- 6. Age was a statistically significant factor in the final model for total knee replacement.
- Readmissions include both returns to acute care from non-acute inpatient settings and readmissions following hospital discharge. Hospitals are classified as urban and regional/rural using the geocoded address of the hospital assigned to Australian Bureau of Statistics statistical areas (SA2) and the Australian remoteness index for areas.
- 8. Reasons for readmission follow the same clinical grouping as used in the previous report *Return to acute care following discharge from hospital, July 2012 June 2015.* Please refer to the previously published *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition,* which outline the specifications used to describe reasons for readmission.
- 9. Results for hospitals with expected readmission <1 are not shown. Hospitals are classified according to the NSW Ministry of Health's peer grouping as at January 2018.
- 10. Readmission rates at an average NSW public hospital with the same case-mix.

Details of analyses are available in *Spotlight on Measurement: Measuring return to acute care following discharge from hospital, 2nd edition* and the *Technical Supplement – Readmission and returns to acute care following hospitalisation for eight clinical conditions, July 2015-June 2018.*