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.

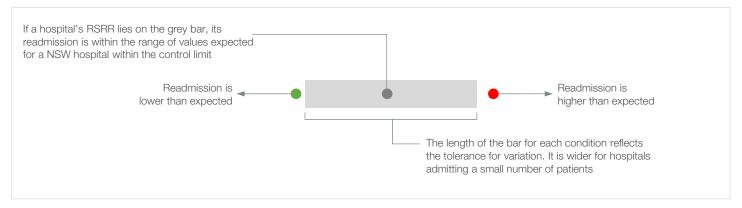
For each hospital, the RSRR compares the 'observed' number of readmissions to any hospital, within 30 days of discharge for a specific clinical condition or within 60 days for specified surgical procedures, with the 'expected' number of readmissions. The expected number of readmissions is calculated 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

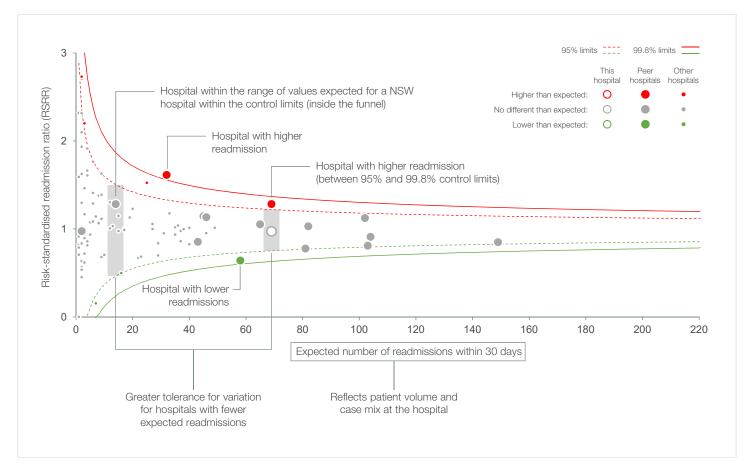
Condition	RSRR	July 2015 – June 2018							RSRRs for three-year periods				
		0.0	0.5	1.0	1.5	2.0	2.5	3.0	July 03 – June 06	July 06 – June 09	July 09 – June 12	July 12 – June 15	July 15 – June 18
Acute myocardial infarction	0.98			•					•	•	•	•	•
Ischaemic stroke	1.07			•					•	•	•	•	•
Congestive heart failure	1.09								•	•	•	•	•
Pneumonia	1.08								•	•	•	•	•
Chronic obstructive pulmonary disease	1.04								•	•	•	•	•
Hip fracture surgery	1.43				•				•	•	•	•	•
Total hip replacement	1.14			•					•	•	•	•	•
Total knee replacement	1.10			•					•	•	•	•	•
Readmiss	sion this period	No		nan expecte	ed	959	6 control l	imits	No	itistically sign significant o D 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}

NSW	This hospital	
28,583	286	otal index cases for acute myocardial infarction
5.2	6.4	Average length of stay (days)
9,182	171	Patients transferred in from acute care in another hospital
		Discharge destination
25,477	242	Home
3,106	44	Other
	242	

Age profile for index hospitalisations (years)⁴

						■15–44	■45-64	■65–74	■75-84	85+
This hospital		29.4		19.9		26.2			22.0	
NSW	4.8	34.2	34.2		24.1		21.9		15.0	
				04 : 1						

% index cases

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

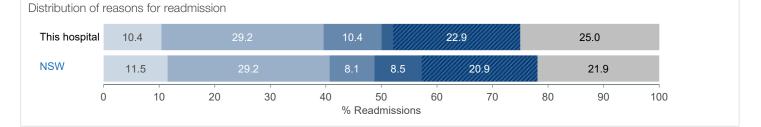
Congestive heart failure						14.8			
Diabetes, complicated					9.9				
Previous AMI admission					8.1				
Female					7.5				
Hypertension				5.7					
Chronic pulmonary disease					5.6				
Fluid and electrolyte disorders					4.9				
Deficiency anaemia					4.8				
Peripheral vascular disorder				2.0					
Coagulopathy				0.9					
Depression				0.6					
Lymphoma			-0.3						
Abuse drug/alcohol/psychoses			-0.5						
Solid tumour without metastasis			-0.8						
Cardiac arrhythmia			-1.0						
-30	-20	-10	()	10	20	30		
	9	6 difference from	NSW (inde	x cases w	th factor recorde	d)			

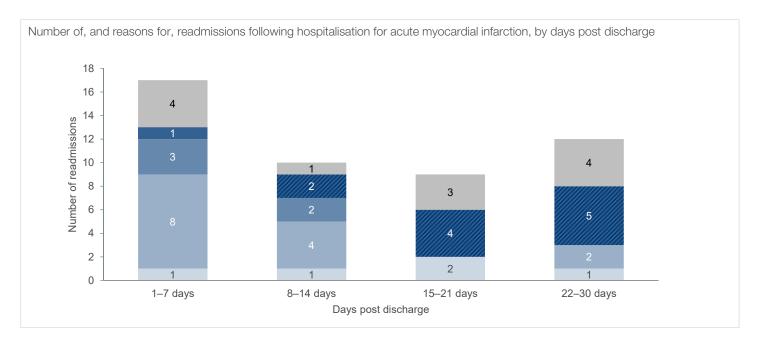
30-day readmission following hospitalisation for acute myocardial infarction, July 2015 – June 2018

ocation of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for acute myocardial infarction	48	4,250
Returns to acute care	1	159
Readmitted following hospital discharge	47	4,091
Readmitted to the same hospital where acute care was completed	39	2,815
Readmitted to a different hospital	8	1,276
To an urban public hospital	8	
To a regional or rural public hospital	0	
To a private hospital	0	

Reasons for and time to readmission⁸

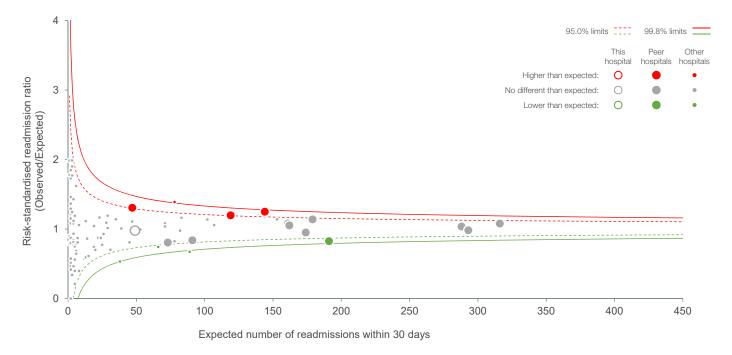
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)</p>
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other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



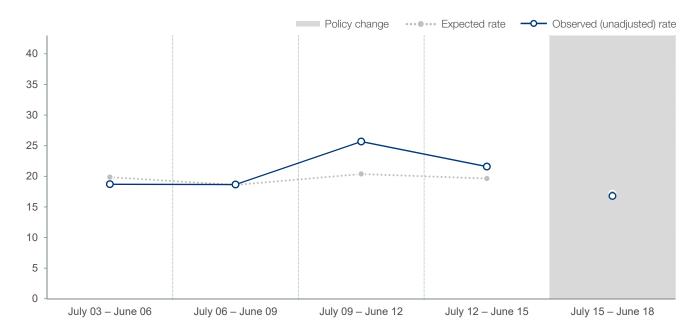


30-day readmission following hospitalisation for acute myocardial infarction, July 2015 – June 2018

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
Fotal index cases for ischaemic stroke	421	16,435
Average length of stay (days)	9.0	7.3
Patients transferred in from acute care in another hospital	35	1,916
Discharge destination		
Home	198	8,688
Other	223	7,747

Age profile for index hospitalisations (years)⁴

				■15–44	■45–64	65-74	■75–84	85+
This hospital		19.0	23.0	31.8			22.8	
NSW		20.0	23.5	30.4			22.4	
% index cases								

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

Weight loss							4.4			
Diabetes, complicated						2	.0			
Fluid and electrolyte disorders						1.	8			
Liver disease						1.2				
Coagulopathy						0.6				
Congestive heart failure						0.3				
Deficiency anaemia					1	0.2				
Lymphoma]	0.2				
Other neurological disorders					-1.3					
Solid tumour without metastasis				-	1.5					
Cardiac arrhythmia				-3.6						
-	-20	-15	-10	-5	0		5	10	15	20
			% differen	ce from N	SW (index	cases	with factor r	ecorded)		

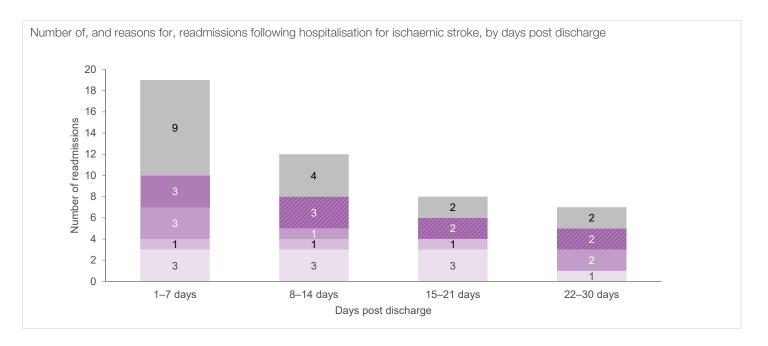
30-day readmission following hospitalisation for ischaemic stroke, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for ischaemic stroke	46	1,638
Returns to acute care	17	505
Readmitted following hospital discharge	29	1,133
Readmitted to the same hospital where acute care was completed	26	868
Readmitted to a different hospital	3	265
To an urban public hospital	3	
To a regional or rural public hospital	0	
To a private hospital	0	

Reasons for and time to readmission⁸

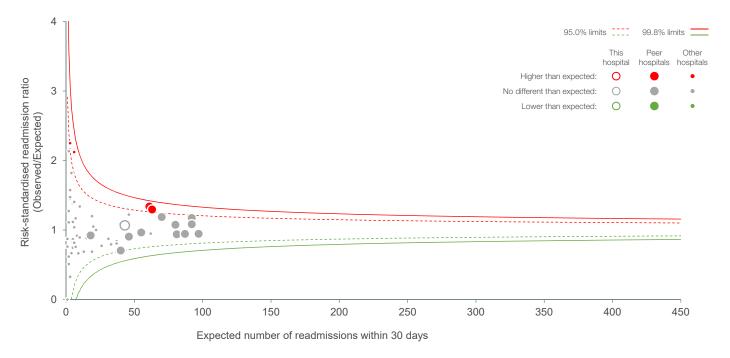
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

	Distribution of r	reasons for readm	hission							
0 10 20 30 40 50 60 70 80 90 10	This hospital	21.3	6.4	12.8	8.5	14.9		36.2		
	NSW	18.2	8.8	20.5	5.4	4 12.8		34.3		
% Readmissions	0) 10	20	30 4			70	80	90	10

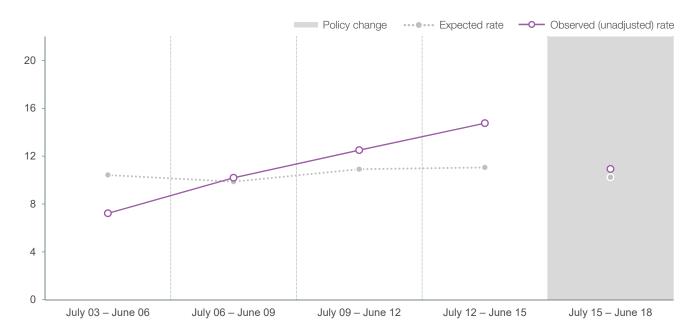


30-day readmission following hospitalisation for ischaemic stroke, July 2015 – June 2018

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

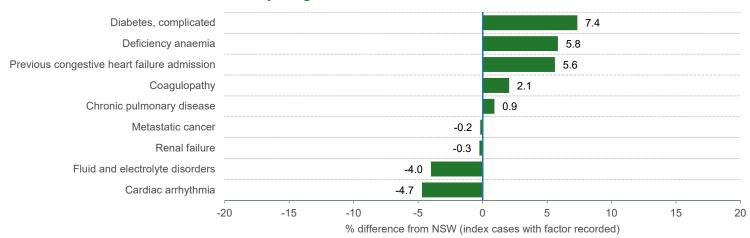
Patient cohort, index hospitalisations^{1,2,3}

s hospital	NSW
959	33,686
6.0	6.0
38	2,723
807	29,025
152	4,661
	152

Age profile for index hospitalisations (years)⁴

			■ 15-44	■45–64	■65-74	■75–84	85+
This hospital	8.7	21.7	32.7		35.8		
NSW	10.8	18.9	33.6		34.9		
			% index cases				

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



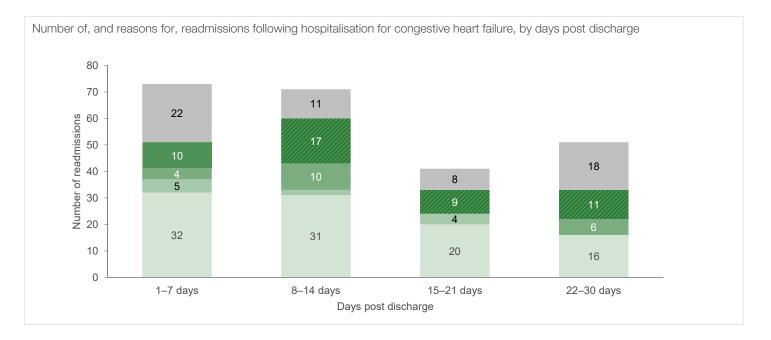
30-day readmission following hospitalisation for congestive heart failure, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for congestive heart failure	236	7,465
Returns to acute care	5	309
Readmitted following hospital discharge	231	7,156
Readmitted to the same hospital where acute care was completed	200	5,843
Readmitted to a different hospital	31	1,313
To an urban public hospital	30	
To a regional or rural public hospital	1	
To a private hospital	0	

Reasons for and time to readmission⁸

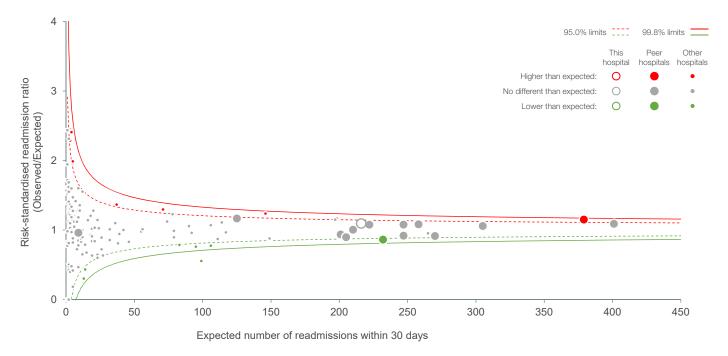
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)</p>
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other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

Distribution of reasons for readmission This hospital 42.0 4.6 8.4 4.2 24.8 NSW 6.4 17.9 23.8 36.5 0 10 20 30 40 50 60 70 80 90 100 % Readmissions

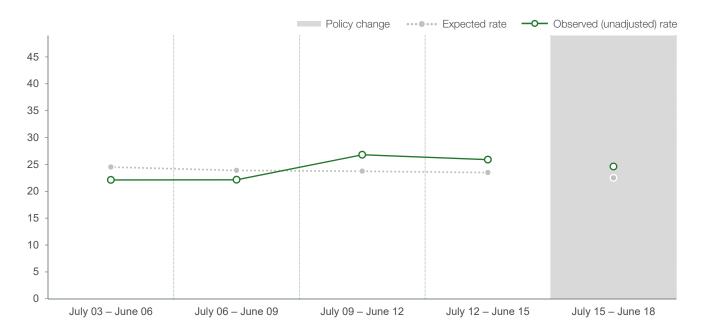


30-day readmission following hospitalisation for congestive heart failure, July 2015 – June 2018

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).
- 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 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}

849 5.3	5.1
5.3	5.1
11	3,190
699	42,535
150	6,320
	699 150

Age profile for index hospitalisations (years)⁴

				■ 18–44	45-64	65-74	75-84	85+
This hospital	11.9	18.5	15.9	26.2			27.6	
NSW	11.1	19.9	19.9	26.1			23.0	
			o/ :					

% index cases

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

Diabetes, complicated	3.8
Deficiency anaemia	3.6
Congestive heart failure	3.3
Renal failure	2.9
Coagulopathy	1.2
Liver disease	1.0
Peripheral vascular disorder	0.8
Cardiac arrhythmia	0.3
Female	0.0
Rheumatoid arthritis/collagen	-0.1
Depression	-0.5
Metastatic cancer	-0.8
Abuse drug/alcohol/psychoses	-0.8
Paralysis	-0.8
Solid tumour without metastasis	-0.9
Lymphoma	-0.9
Weight loss	-1.9
Previous pneumonia admission	-2.3
Chronic pulmonary disease	-2.6
Hypertension	-3.0
Fluid and electrolyte disorders	-3.1
-2	20 -15 %Qifference from NSW (index cases with factor recorder) 15 20

Performance Profile: Bankstown-Lidcombe Hospital

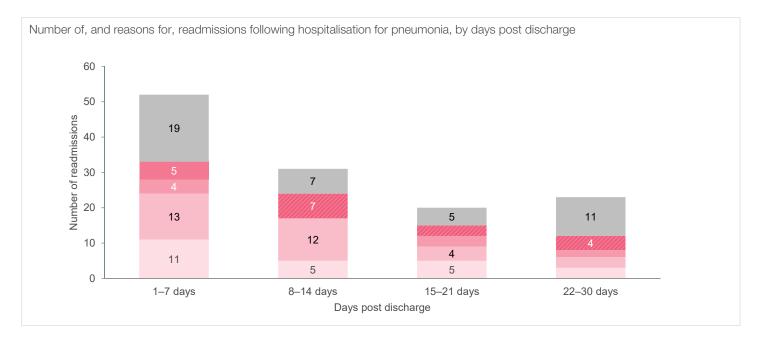
30-day readmission following hospitalisation for pneumonia, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for pneumonia	126	6,704
Returns to acute care	10	325
Readmitted following hospital discharge	116	6,379
Readmitted to the same hospital where acute care was completed	99	5,201
Readmitted to a different hospital	17	1,178
To an urban public hospital	17	
To a regional or rural public hospital	0	
To a private hospital	0	

Reasons for and time to readmission⁸

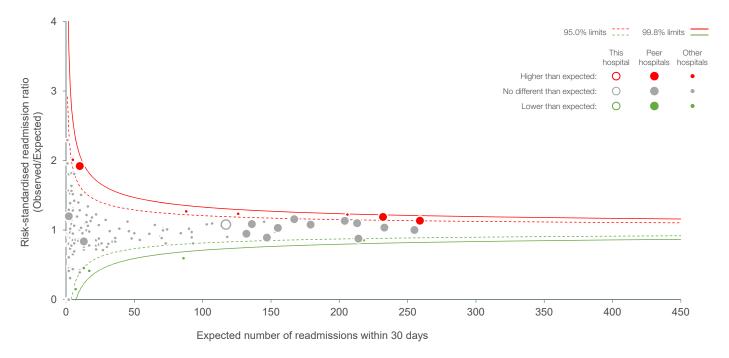
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of I	reasons for readm	ission								
This hospital	18.6		25.6		7.0 5.4	10.9		32.6	6	
NSW	19.5		20.0	7.8	7.5	14.2		31.	.1	
C) 10	20	30	40 %	50 Readmissic	60 ons	70	80	90	10

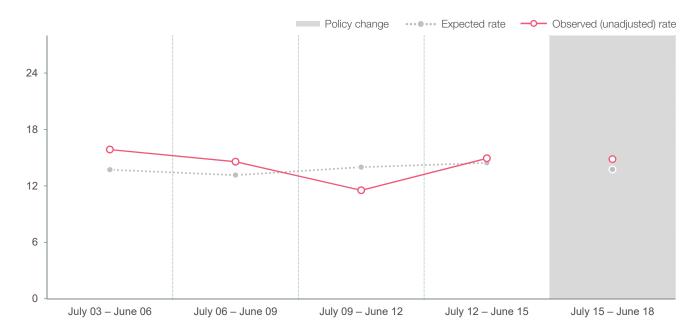


30-day readmission following hospitalisation for pneumonia, July 2015 – June 2018

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
1,161	48,336
5.4	4.8
10	2,330
1,047	43,932
114	4,404
	5.4 10

Age profile for index hospitalisations (years)⁴

			45-64 65-74	■75-84 ■85+					
This hospital	18.4	32.6	29.6	19.4					
NSW	21.2	31.7	32.0	15.1					
	% index cases								

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

Disk store source listed								7 -		
Diabetes, complicated								7.5		
Diabetes, uncomplicated								7.4		
Congestive heart failure							6	.8		
Renal failure						3	.4			
Cardiac arrhythmia						2.3				
Deficiency anaemia						1.3				
Pulmonary circulation disorders						0.8				
Weight loss						0.6				
Solid tumour without metastasis						0.4				
Dementia						0.2				
Peripheral vascular disorder					-0.8					
Female					-1.1					
Fluid and electrolyte disorders					-1.2					
Depression					-1.3					
Abuse drug/alcohol/psychoses					-1.9					
Previous COPD admission				-	-2.1					
Hypertension				-4.7						
-2	20	-15	-10	-5	0		5	10	15	20
			% differ	rence from	NSW (index	x cases with	factor re	corded)		

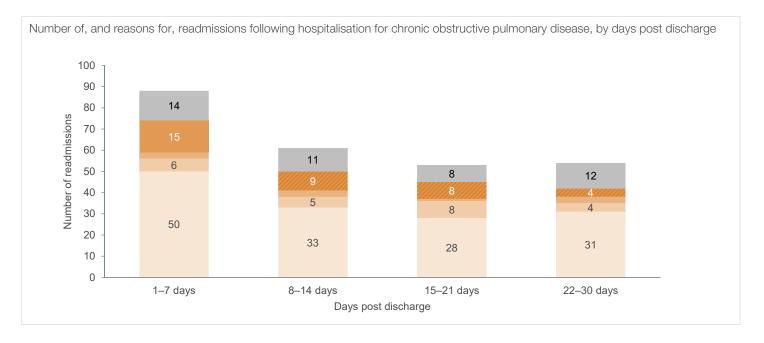
30-day readmission following hospitalisation for chronic obstructive pulmonary disease, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for chronic obstructive pulmonary disease	256	10,241
Returns to acute care	4	233
Readmitted following hospital discharge	252	10,008
Readmitted to the same hospital where acute care was completed	226	8,472
Readmitted to a different hospital	26	1,536
To an urban public hospital	25	
To a regional or rural public hospital	1	
To a private hospital	0	

Reasons for and time to readmission⁸

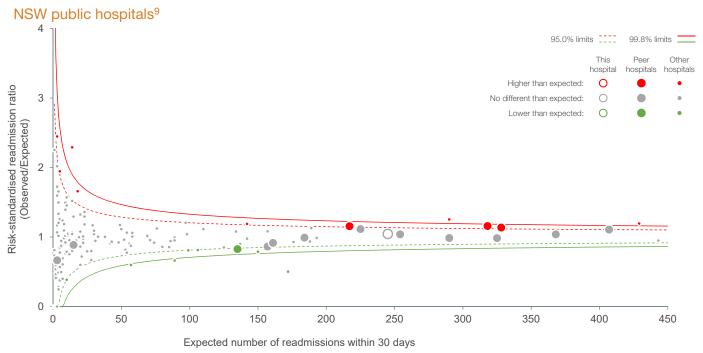
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of r	reasons fo	or readmis	sion								
This hospital			5	5.4			9.6	5.8	8.1	17.3	
NSW			54	1.5			10.3	4.2	9.2	18.3	
C)	10	20	30	40 %	50 Readmissio	60 ons	70	80	90	100

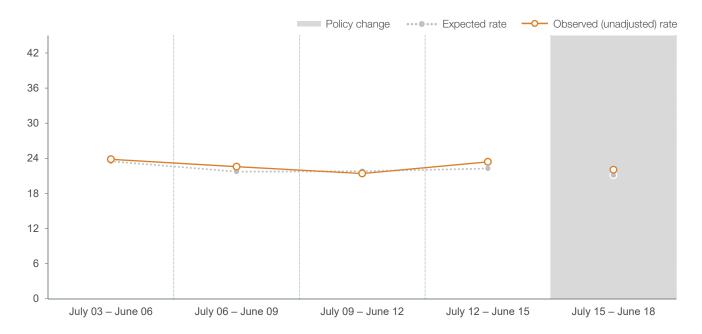


30-day readmission following hospitalisation for chronic obstructive pulmonary disease, July 2015 – June 2018

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
otal index cases for hip fracture surgery	421	14,895
Average length of stay (days)	13.1	9.7
Patients transferred in from acute care in another hospital	13	2,030
Discharge destination		
Home	102	4,404
Other	319	10,491

Age profile for index hospitalisations (years)⁴

				■ 50-64	65-74	■75-84	85+
This hospital	5.9	11.9	34.4		47.7		
NSW	6.8	13.9	31.6		47.8		
			% index ca	ases			

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

Fluid and electrolyte disorders							4.3			
Diabetes, complicated							2.6			
Dementia						1.	7			
Depression						1.	7			
Chronic pulmonary disease						0.6				
Congestive heart failure						0.6				
AIDS/HIV						0.0				
Cardiac arrhythmia					-0.1					
Other neurological disorders					-0.2					
Liver disease					-0.3					
Female				-3.6						
-5	20	-15	-10	-5	(Ċ	5	10	15	20
			% differe	ence from N	SW (inde	ex cases	with factor r	ecorded)		

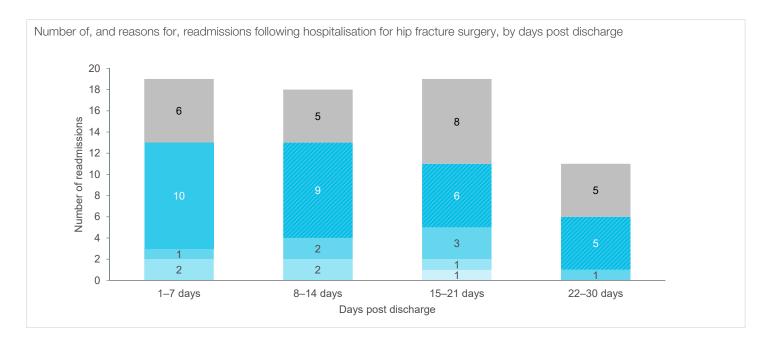
30-day readmission following hospitalisation for hip fracture surgery, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for hip fracture surgery	67	1,617
Returns to acute care	28	677
Readmitted following hospital discharge	39	940
Readmitted to the same hospital where acute care was completed	33	696
Readmitted to a different hospital	6	244
To an urban public hospital	6	
To a regional or rural public hospital	0	
To a private hospital	0	

Reasons for and time to readmission⁸

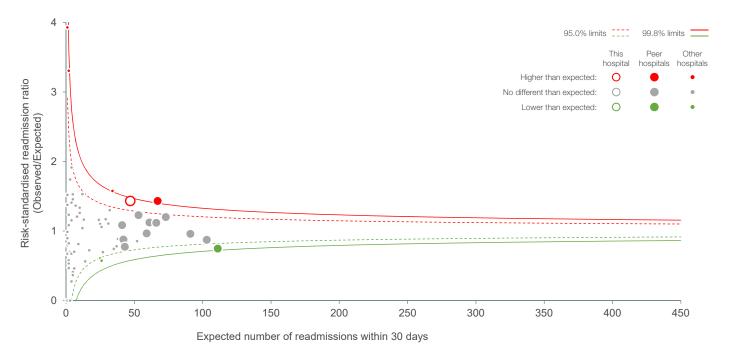
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)
- Orthopaedic complications
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of reasons for readmission This hospital 7.1 11.4 35.7 NSW 7.0 36.3 14.6 6.3 24.4 0 10 20 30 40 50 60 70 80 90 100 % Readmissions

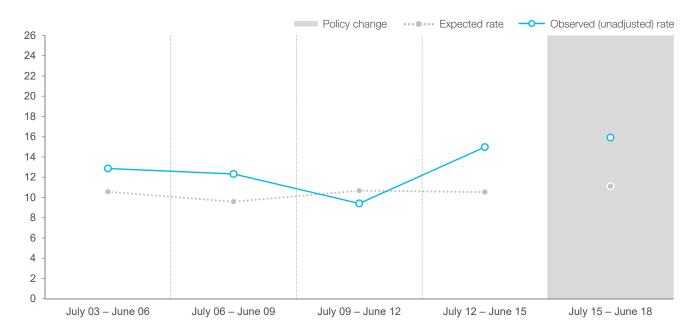


30-day readmission following hospitalisation for hip fracture surgery, July 2015 – June 2018

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
Fotal index cases for total hip replacement	236	8,985
Average length of stay (days)	5.1	4.7
Discharge destination		
Home	215	7,472
Other	21	1,513

Age profile for index hospitalisations (years)⁴

		18 –44	45-64	65-74	75-84	85+
This hospital	30.9			29.7		5.5
NSW	35.2	32.7		23	3.3	
		% index cases				

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

Diabetes, uncomplicated								6.9		
Other neurological disorders						0.2		0.9		
Ũ						0.2				
Metastatic cancer	•				-0.2					
Diabetes, complicated					-0.2					
Weight loss					-0.4					
Depression				-	-0.4					
Chronic pulmonary disease				-	0.7					
Rheumatoid arthritis/collagen				-	0.7					
Coagulopathy				-	0.7					
Abuse drug/alcohol/psychoses				-1	.1					
Cardiac arrhythmia				-1.4	4					
	-20	-15	-10	-5	C)	5	10	15	20
			% differe	ence from NSV	V (inde	x cases v	vith factor r	ecorded)		

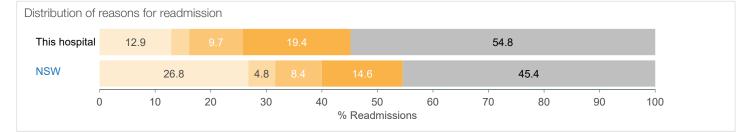
60-day readmission following hospitalisation for total hip replacement, July 2015 – June 2018

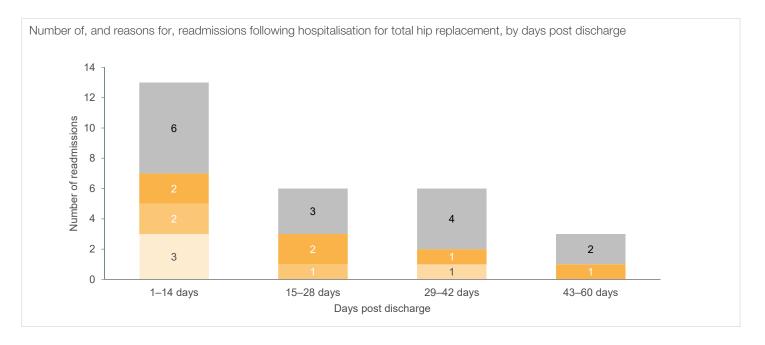
Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for total hip replacement	28	949
Returns to acute care	0	107
Readmitted following hospital discharge	28	842
Readmitted to the same hospital where acute care was completed	24	499
Readmitted to a different hospital	4	343
To an urban public hospital	4	
To a regional or rural public hospital	0	
To a private hospital	0	

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

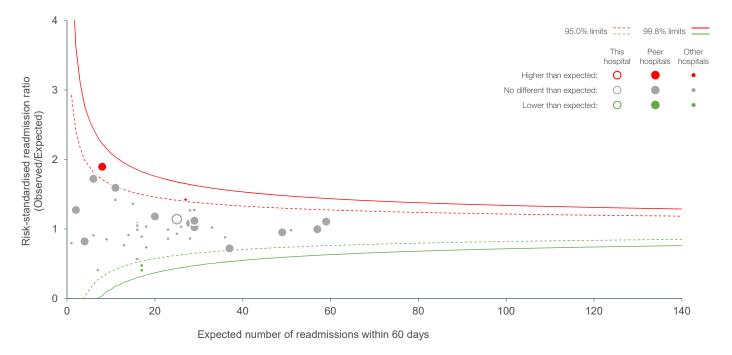
 Potentially related to hospital care (within time specified)



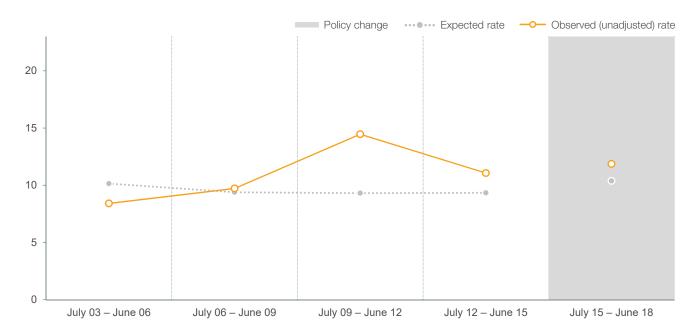


60-day readmission following hospitalisation for total hip replacement, July 2015 – June 2018

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	648	15,940
Average length of stay (days)	5.9	4.9
Discharge destination		
Home	609	13,175
Other	39	2,765

Age profile for index hospitalisations (years)⁴

		■ 18-	-44 •45-	64 65-74	■75–84	85+
This hospital	25.0	37.4		32.4		5.1
NSW	30.9	40.1		2	5.3	
		% index cases				

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

Female						4.1			
Chronic pulmonary disease						1.4			
Fluid and electrolyte disorders						1.3			
Diabetes, complicated						1.1			
Renal failure						0.4			
Weight loss						0.2			
Lymphoma						0.1			
Coagulopathy					-0.2				
Blood loss anaemia					-0.4				
Abuse drug/alcohol/psychoses				-1	1.1				
Cardiac arrhythmia				-2.1					
-	-20	-15	-10	-5	0	5	10	15	20
			% differe	nce from NS	N (index	cases with factor	recorded)		

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

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for total knee replacement	85	1,892
Returns to acute care	2	152
Readmitted following hospital discharge	83	1,740
Readmitted to the same hospital where acute care was completed	63	1,052
Readmitted to a different hospital	20	688
To an urban public hospital	16	
To a regional or rural public hospital	1	
To a private hospital	3	

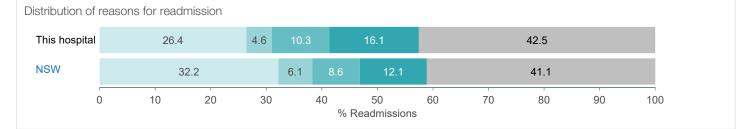
Reasons for and time to readmission⁸

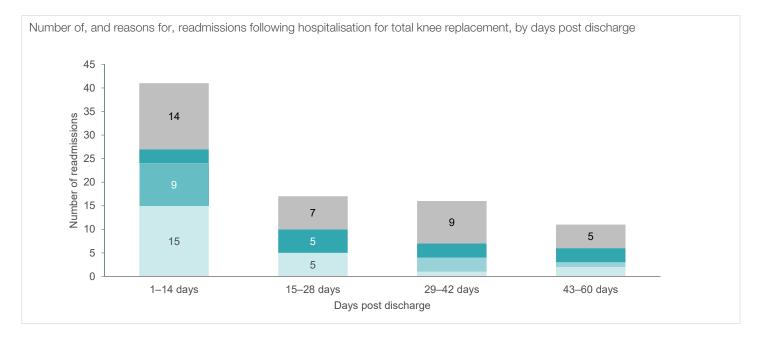
 Orthopaedic complications (within time specified)

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

Other conditions

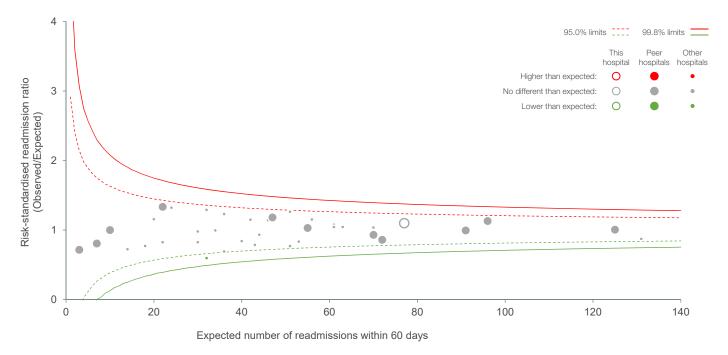
 Potentially related to hospital care (within time specified)



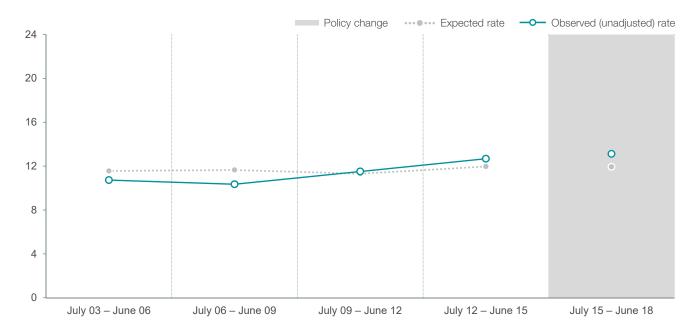


60-day readmission following hospitalisation for total knee replacement, July 2015 – June 2018

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.*