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.

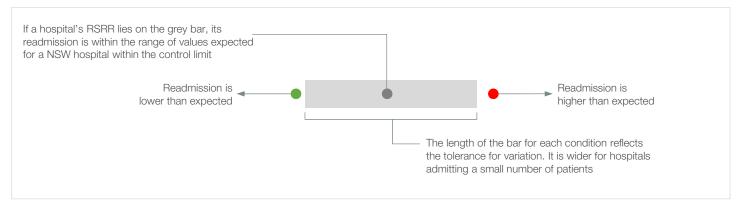
For each hospital, the RSRR compares the 'observed' number of readmissions to any hospital, within 30 days of discharge for a specific clinical condition or within 60 days for specified surgical procedures, with the 'expected' number of readmissions. The expected number of readmissions is calculated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

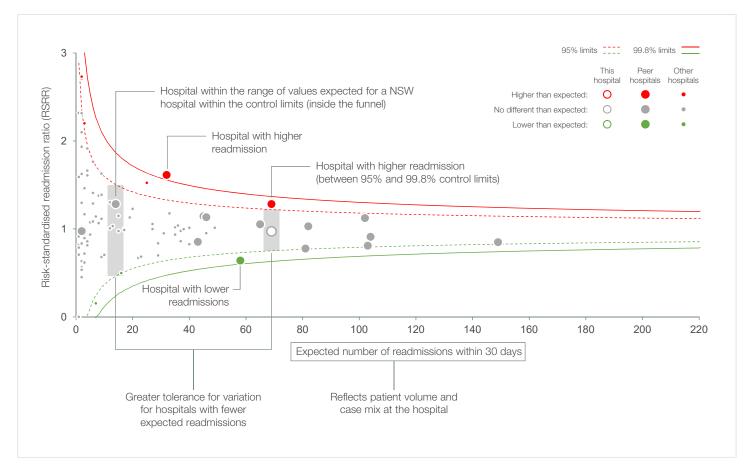
Condition	RSRR	July 2015 – June 2018						F	RSRRs for three-year periods					
		0.0	0.5	1.0	1.5	2.0	2.5	3.0	July 03 – June 06	July 06 – June 09	July 09 – June 12	July 12 – June 15	July 15 – June 18	
Acute myocardial infarction	0.95			•					•	•	•	•	•	
Ischaemic stroke	0.97			•					•	•	•	•	•	
Congestive heart failure	0.92								•	•	•	•	•	
Pneumonia	1.08								•	•	•	•	•	
Chronic obstructive pulmonary disease	1.16			•					•	•	•	•	•	
Hip fracture surgery	1.23								•	•	•	•	•	
Total hip replacement	0.72								•	•	•	•	•	
Total knee replacement	1.03			•					•	•	•	•	•	
Readmiss	sion this period	No	wer than ex different th her than e	nan expect	ted	95%	6 control I	imits	No	atistically sig significant o O 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}

I his hospital	NSW
1,175	28,583
5.1	5.2
1,076	9,182
1,086	25,477
89	3,106
	5.1 1,076 1,086

Age profile for index hospitalisations (years)⁴

			■15-4	14	45-64	■65–74	■75-	-84 85+
This hospital	4.9	35.8	26.2 22.0		22.0		11.1	
NSW	4.8	34.2	24.1 21.9		15.0			
			% index cases					

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

Cardiac arrhythmia							4.9			
Fluid and electrolyte disorders										
							4.4			
Previous AMI admission							4.2			
Hypertension							3.6			
Congestive heart failure						1.6				
Peripheral vascular disorder						1.0				
Abuse drug/alcohol/psychoses						0.9				
Depression						0.4				
Solid tumour without metastasis						0.4				
Lymphoma						0.0				
Chronic pulmonary disease					-0.7					
Deficiency anaemia					-0.9					
Coagulopathy					-0.9					
Diabetes, complicated				-1	.6					
Female				-4.4						
-2	20	-15	-10	-5	0)	5	10	15	20
			% differ	ence from NS	SW (inde	x cases w	/ith factor r	ecorded)		

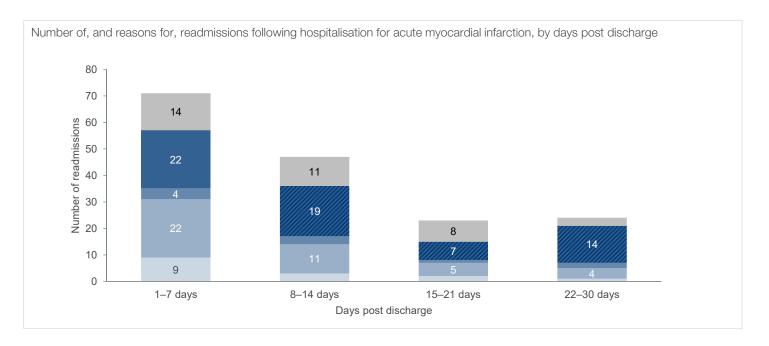
30-day readmission following hospitalisation for acute myocardial infarction, July 2015 – June 2018

location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for acute myocardial infarction	165	4,250
Returns to acute care	15	159
Readmitted following hospital discharge	150	4,091
Readmitted to the same hospital where acute care was completed	104	2,815
Readmitted to a different hospital	46	1,276
To an urban public hospital	24	
To a regional or rural public hospital	22	
To a private hospital	0	

Reasons for and time to readmission⁸

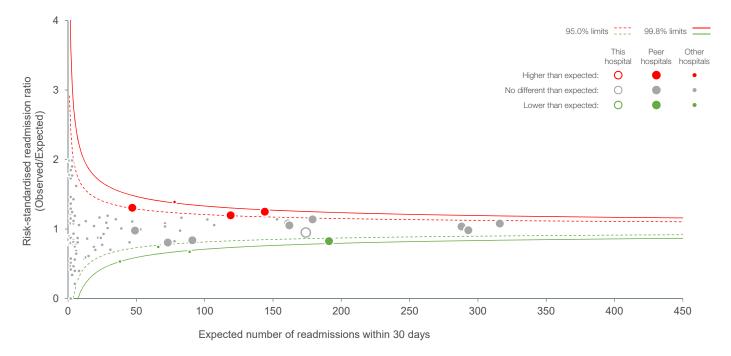
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)</p>
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other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

Distribution of I	reasons fo	r readmission									
This hospital	9.0	26.	4	6.0	13.	2		24.0		21.6	
NSW	11.5		29.2		8.1	8.5		20.9		21.9	
C) 1	10 20	30	40		50 dmission	60 s	70	80	90	10

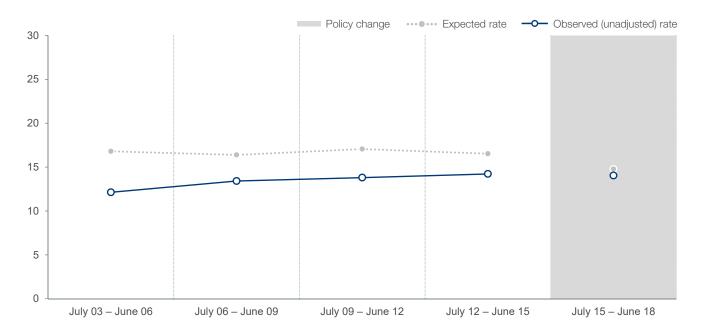


30-day readmission following hospitalisation for acute myocardial infarction, July 2015 – June 2018

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	544	16,435
Average length of stay (days)	7.6	7.3
Patients transferred in from acute care in another hospital	39	1,916
Discharge destination		
Home	301	8,688
Other	243	7,747

Age profile for index hospitalisations (years)⁴

				■15-44 ■45-64	65–74 75–84 85+		
This hospital	5.5	21.5	21.0	32.9	19.1		
NSW		20.0	23.5	30.4	22.4		
			% i	ndex cases			

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

Weight loss							3.3			
Other neurological disorders						1.9)			
Liver disease						1.5				
Solid tumour without metastasis						0.9				
Coagulopathy						0.7				
Lymphoma						0.1				
Diabetes, complicated					-0.1					
Cardiac arrhythmia					-0.5					
Congestive heart failure					-0.5					
Deficiency anaemia					-0.8					
Fluid and electrolyte disorders				-1	.5					
-	20	-15	-10	-5	()	5	10	15	20
			% differe	ence from NS	W (inde	x cases v	vith factor r	ecorded)		

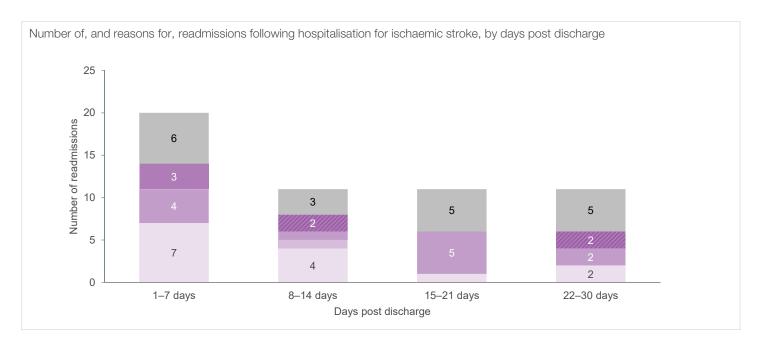
30-day readmission following hospitalisation for ischaemic stroke, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for ischaemic stroke	53	1,638
Returns to acute care	20	505
Readmitted following hospital discharge	33	1,133
Readmitted to the same hospital where acute care was completed	29	868
Readmitted to a different hospital	4	265
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

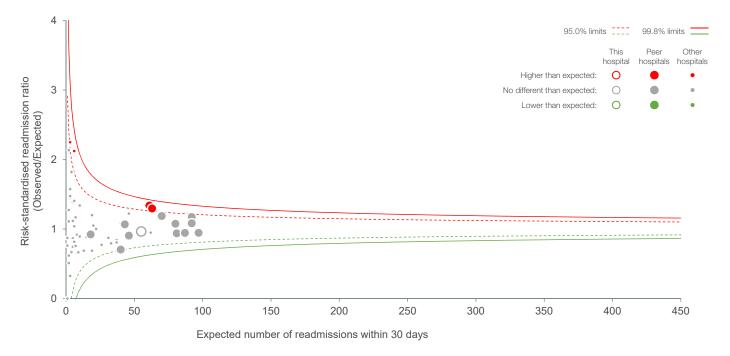
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of r	easons for readm	ission								
This hospital	27.8			22.2	5	5.6 7.4		35.2		
NSW	18.2	8.8		20.5	5.4	12.8		34.3		
0	10	20	30	40 % R	50 eadmissi	60 ions	70	80	90	10

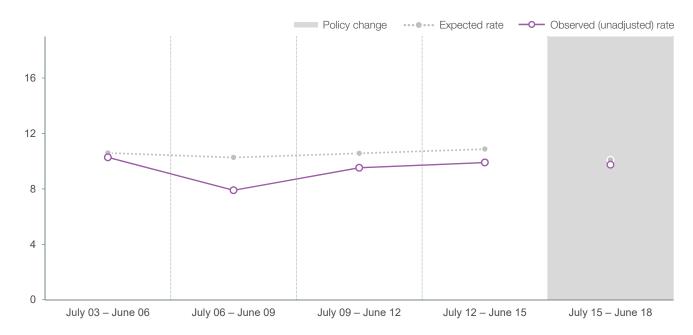


30-day readmission following hospitalisation for ischaemic stroke, July 2015 – June 2018

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}

	This hospital	NSW
Fotal index cases for congestive heart failure	1,120	33,686
Average length of stay (days)	5.9	6.0
Patients transferred in from acute care in another hospital	292	2,723
Discharge destination		
Home	956	29,025
Other	164	4,661

Age profile for index hospitalisations (years)⁴

			■ 15-44	■45–64	■65–74	■75–84	85+
This hospital	12.8	16.5	33.6		35.5		
NSW	10.8	18.9	33.6		34.9)	
			% index cases				

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

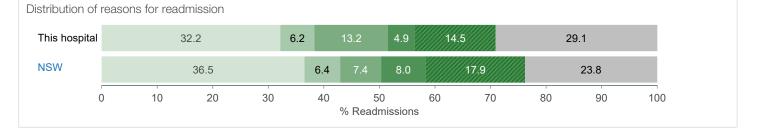
Cardiac arrhythmia					1	10.8	
Fluid and electrolyte disorders	;				7.6		
Previous congestive heart failure admission	1				1.8		
Coagulopathy	,				1.0		
Metastatic cancer	-			-0.6			
Renal failure	•			-1.3			
Deficiency anaemia	1		-	·1.8			
Chronic pulmonary disease	•		-3.8				
Diabetes, complicated	I		-5.1				
	-30	-20	-10	0	10	20	30
		%	difference from NS	SW (index	cases with factor rec	corded)	

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	227	7,465
Returns to acute care	12	309
Readmitted following hospital discharge	215	7,156
Readmitted to the same hospital where acute care was completed	193	5,843
Readmitted to a different hospital	22	1,313
To an urban public hospital	14	
To a regional or rural public hospital	7	
To a private hospital	1	

Reasons for and time to readmission⁸

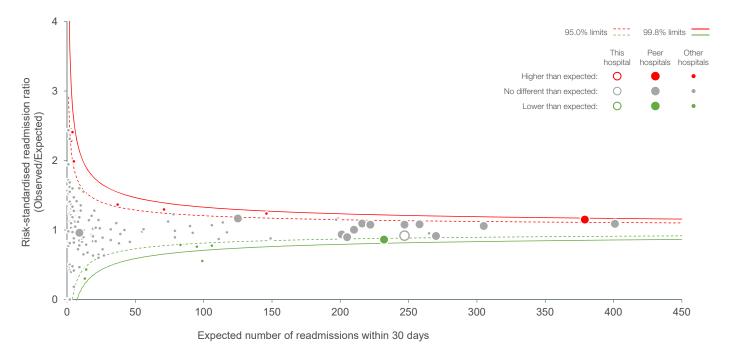
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions



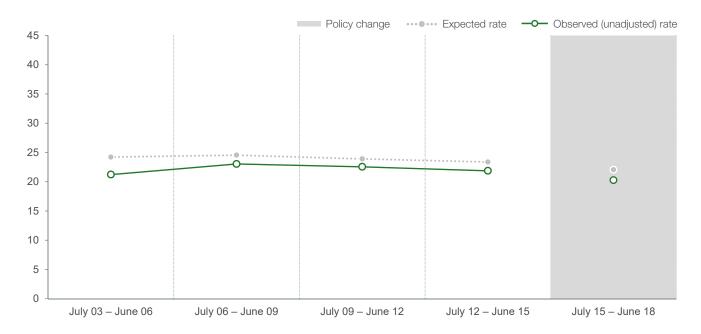


30-day readmission following hospitalisation for congestive heart failure, July 2015 – June 2018

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).
- 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}

	This hospital	NSW
Total index cases for pneumonia	1,258	48,855
Average length of stay (days)	5.2	5.1
Patients transferred in from acute care in another hospital	36	3,190
Discharge destination		
Home	1,065	42,535
Other	193	6,320

Age profile for index hospitalisations (years)⁴

					■ 18–44	45-64	65-74	75-84	85+		
This hospital	11.0	17.1	16.5	16.5 27.0					28.5		
NSW	11.1	19.9	19.9	19.9 26.1				23.0			
				% index	cases						

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

Weight loss	5.1
Cardiac arrhythmia	4.0
Female	2.9
Renal failure	1.9
Liver disease	1.7
Previous pneumonia admission	1.5
Congestive heart failure	1.4
Hypertension	1.4
Fluid and electrolyte disorders	1.0
Solid tumour without metastasis	0.8
Abuse drug/alcohol/psychoses	0.7
Depression	0.7
Peripheral vascular disorder	0.5
Paralysis	0.4
Rheumatoid arthritis/collagen	0.4
Metastatic cancer	0.3
Deficiency anaemia	0.1
Lymphoma	0.0
Coagulopathy	0.0
Diabetes, complicated	-1.7
Chronic pulmonary disease	-2.1

Performance Profile: Prince of Wales Hospital

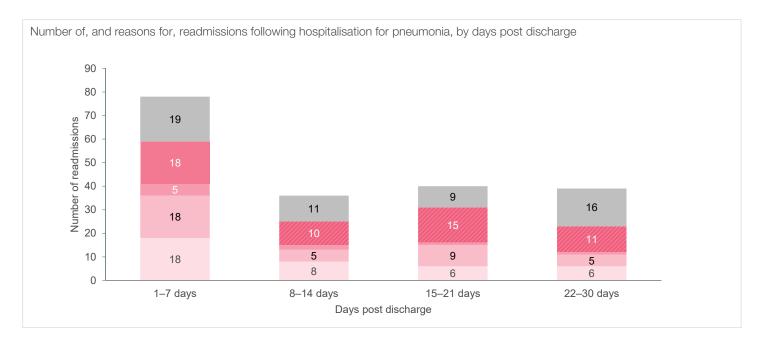
30-day readmission following hospitalisation for pneumonia, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for pneumonia	193	6,704
Returns to acute care	8	325
Readmitted following hospital discharge	185	6,379
Readmitted to the same hospital where acute care was completed	162	5,201
Readmitted to a different hospital	23	1,178
To an urban public hospital	17	
To a regional or rural public hospital	2	
To a private hospital	4	

Reasons for and time to readmission⁸

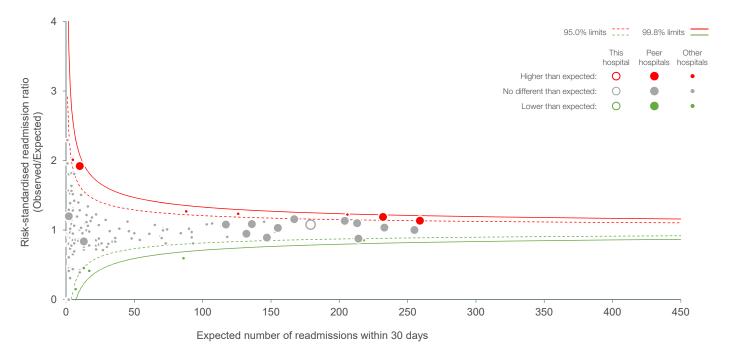
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of	reasons for re	eadmission								
This hospital	19.3		19.8	4.6	9.6	18.8		2	27.9	
NSW	19.5		20.0	7.8	7.5	14.2		31.	.1	
	0 10	20	30	40 % F	50 Readmissi	60 ons	70	80	90	10

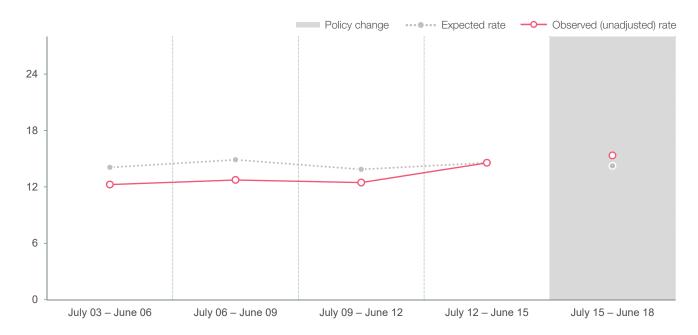


30-day readmission following hospitalisation for pneumonia, July 2015 – June 2018

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
otal index cases for chronic obstructive pulmonary disease	999	48,336
Average length of stay (days)	4.7	4.8
Patients transferred in from acute care in another hospital	18	2,330
Discharge destination		
Home	906	43,932
Other	93	4,404

Age profile for index hospitalisations (years)⁴

				45-64	65-74	7 5-	-84	85+
This hospital	15.7	28.1		35.1			21.0	
NSW	21.2	31.7		32	2.0		1	15.1
			% index cas	ses				

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

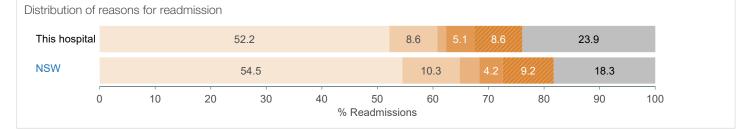
Deficiency anaemia Depression		 	-0	-0.1		 	
Solid tumour without metastasis					0.5		
Hypertension	,	 			0.5	 	
Abuse drug/alcohol/psychoses		 			0.7		
Peripheral vascular disorder		 			0.7	 	
Cardiac arrhythmia		 			1.2	 	
Fluid and electrolyte disorders Renal failure		 			1.8 1.5	 	
Dementia		 			2.3	 	
Previous COPD admission		 			2.9	 	
Weight loss					3.4		
Pulmonary circulation disorders					3.7		

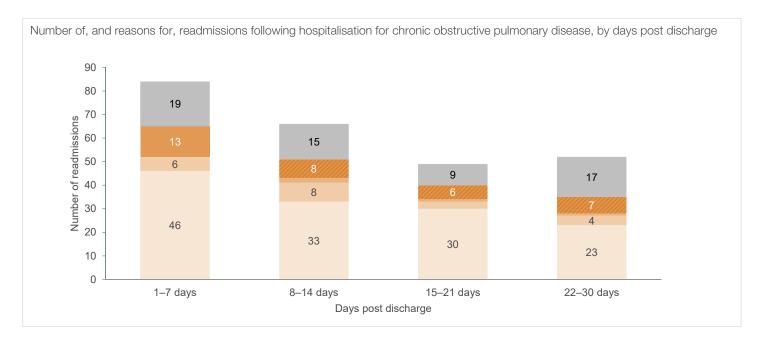
30-day readmission following hospitalisation for chronic obstructive pulmonary disease, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for chronic obstructive pulmonary disease	251	10,241
Returns to acute care	9	233
Readmitted following hospital discharge	242	10,008
Readmitted to the same hospital where acute care was completed	221	8,472
Readmitted to a different hospital	21	1,536
To an urban public hospital	15	
To a regional or rural public hospital	6	
To a private hospital	0	

Reasons for and time to readmission⁸

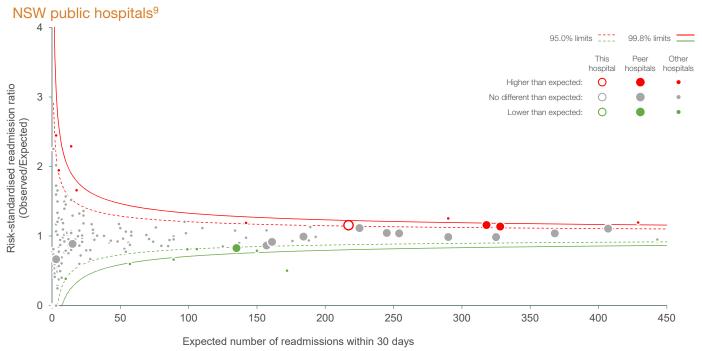
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)</p>
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other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



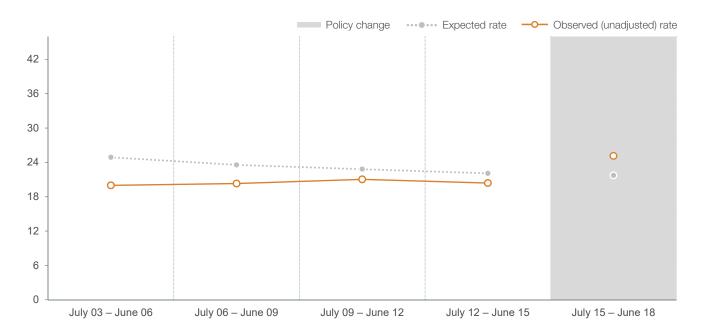


30-day readmission following hospitalisation for chronic obstructive pulmonary disease, July 2015 – June 2018

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 nospital	NSW
479	14,895
10.2	9.7
14	2,030
142	4,404
337	10,491
	10.2 14 142 337

Age profile for index hospitalisations (years)⁴

				50-64	65-74	75-84	85+
This hospital	6.5	15.2	30.7		47.6		
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							3.4			
Congestive heart failure							2.4			
Chronic pulmonary disease						-	1.9			
Cardiac arrhythmia						1.	5			
Liver disease						1.0				
Depression						0.9				
Female						0.0				
AIDS/HIV						0.0				
Diabetes, complicated					-1.0					
Other neurological disorders				-	1.1					
Dementia				-	1.4					
-20)	-15	-10	-5	C)	5	10	15	20
			% differ	ence from NS	W (inde	x cases	with factor r	ecorded)		

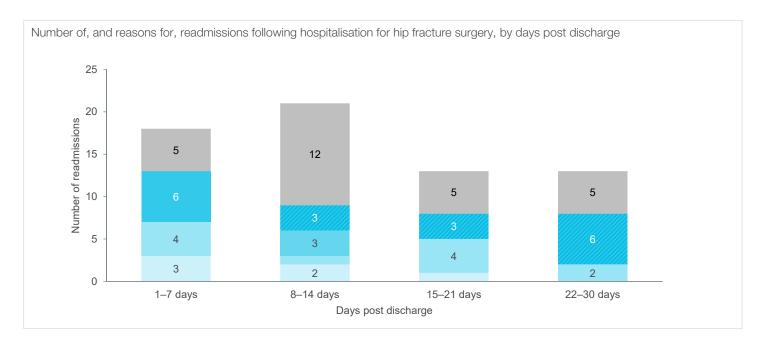
30-day readmission following hospitalisation for hip fracture surgery, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for hip fracture surgery	65	1,617
Returns to acute care	30	677
Readmitted following hospital discharge	35	940
Readmitted to the same hospital where acute care was completed	34	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

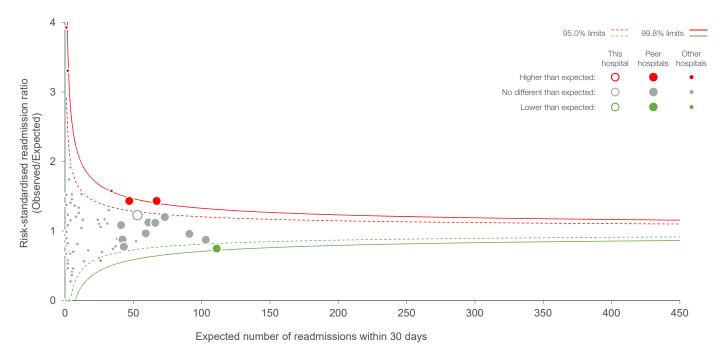
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Orthopaedic complications
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of reasons for readmission This hospital 9.2 16.9 4.6 41.5 NSW 6.3 14.6 36.3 7.0 24.4 0 10 20 30 40 50 60 70 80 90 100 % Readmissions

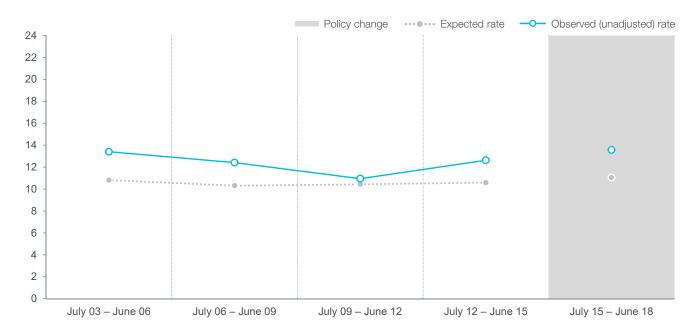


30-day readmission following hospitalisation for hip fracture surgery, July 2015 – June 2018

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
otal index cases for total hip replacement	400	8,985
Average length of stay (days)	5.2	4.7
Discharge destination		
Home	380	7,472
Other	20	1,513

Age profile for index hospitalisations (years)⁴

				1 8–44	45-64	65-74	75-84	85+
This hospital	15.8	40.3					17.0	
NSW		35.2	3			2	23.3	
			% index cases					

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

Rheumatoid arthritis/collagen						1.4				
Abuse drug/alcohol/psychoses						0.4				
Cardiac arrhythmia						0.4				
Depression						0.4				
Metastatic cancer						0.2				
Weight loss						0.1				
Other neurological disorders						0.1				
Chronic pulmonary disease					-0.4					
Coagulopathy					-0.9					
Diabetes, complicated					-1.1					
Diabetes, uncomplicated				-3.7						
	-20	-15	-10	-5	()	5	10	15	20
			% differe	ence from	NSW (inde	x 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	27	949
Returns to acute care	1	107
Readmitted following hospital discharge	26	842
Readmitted to the same hospital where acute care was completed	14	499
Readmitted to a different hospital	12	343
To an urban public hospital	11	
To a regional or rural public hospital	0	
To a private hospital	1	

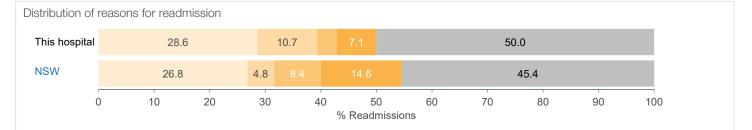
Reasons for and time to readmission⁸

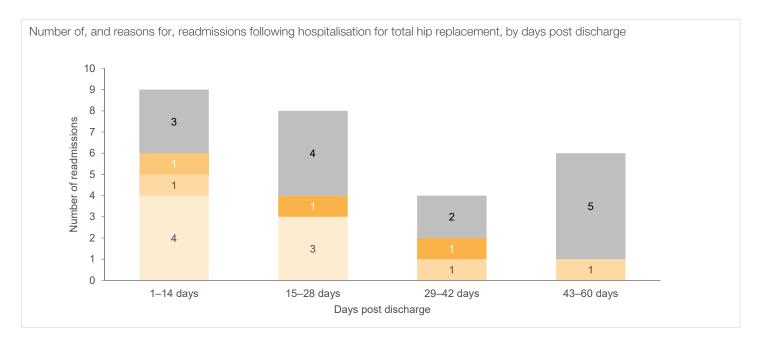
Orthopaedic complications (within time specified)

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

Other conditions

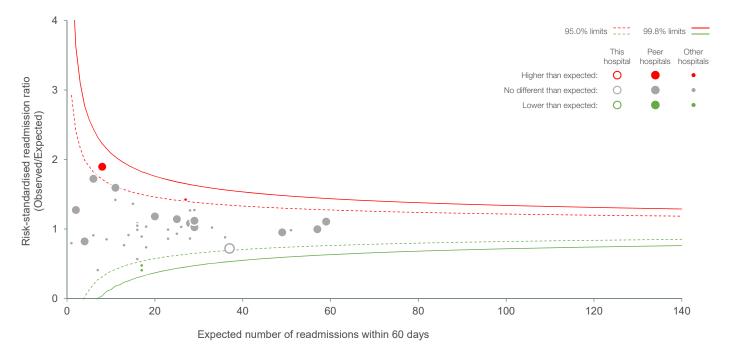
 Potentially related to hospital care (within time specified)



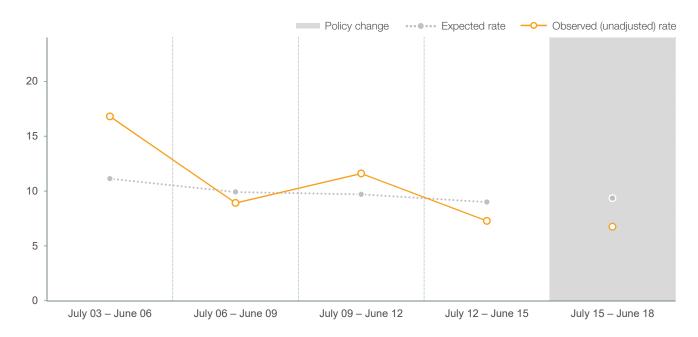


60-day readmission following hospitalisation for total hip replacement, July 2015 – June 2018

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	449	15,940
Average length of stay (days)	7.1	4.9
Discharge destination		
Home	404	13,175
Other	45	2,765

Age profile for index hospitalisations (years)⁴

		■ 18–44	45-6	4 65-74	■75–84	85+
This hospital	29.6	37.4		29.0		
NSW	30.9	40.1		25	i.3	

% index cases

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

Fluid and electrolyte disorders							4.5			
Female							3.0			
Coagulopathy						1.2				
Renal failure						1.0				
Abuse drug/alcohol/psychoses						0.8				
Cardiac arrhythmia						0.8				
Diabetes, complicated						0.6				
Weight loss						0.3				
Chronic pulmonary disease						0.3				
Blood loss anaemia					-0.1					
Lymphoma					-0.1					
-2	20	-15	-10	-5	()	5	10	15	20
			% differe	nce from N	SW (inde	x cases \	vith factor r	ecorded)		

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	57	1,892
Returns to acute care	4	152
Readmitted following hospital discharge	53	1,740
Readmitted to the same hospital where acute care was completed	37	1,052
Readmitted to a different hospital	16	688
To an urban public hospital	10	
To a regional or rural public hospital	1	
To a private hospital	5	

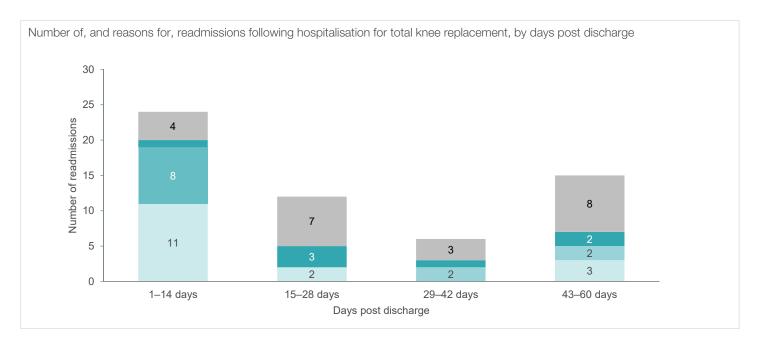
Reasons for and time to readmission⁸

 Orthopaedic complications (within time specified)

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

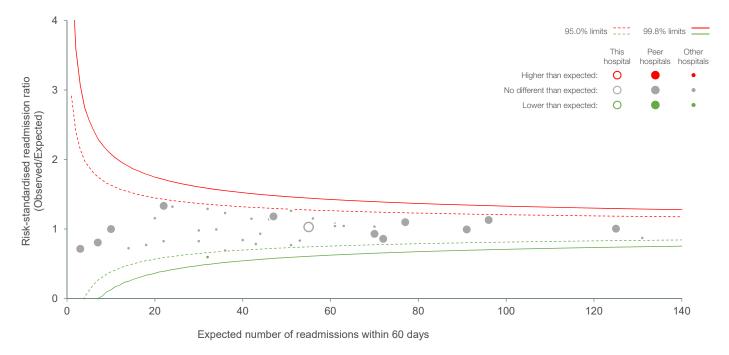
 Potentially related to hospital care (within time specified)

Distribution of r	reasons	s for readr	mission									
This hospital	27.4			6.5	6.5 12.9		11.3	41.9				
NSW	32.2				6.1	8.6	12.1		41.1			
C	0	10	20	30		40 % R	50 eadmissions	60	70	80	90	10

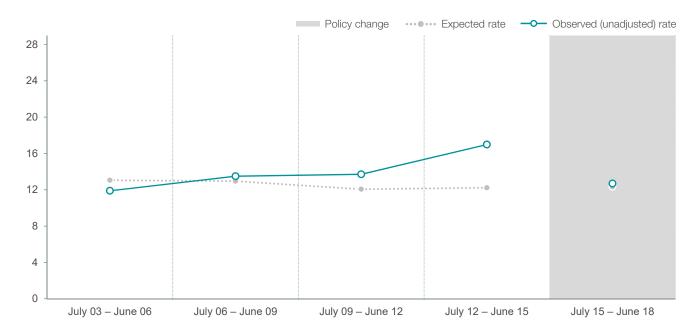


60-day readmission following hospitalisation for total knee replacement, July 2015 – June 2018

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).
- 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.*