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.

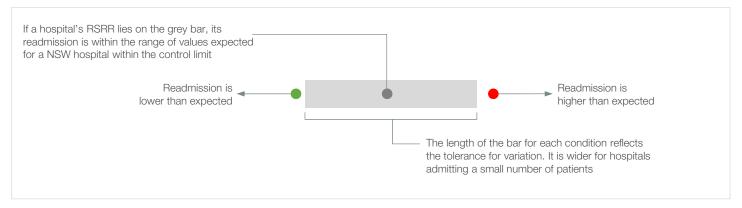
For each hospital, the RSRR compares the 'observed' number of readmissions to any hospital, within 30 days of discharge for a specific clinical condition or within 60 days for specified surgical procedures, with the 'expected' number of readmissions. The expected number of readmissions is calculated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

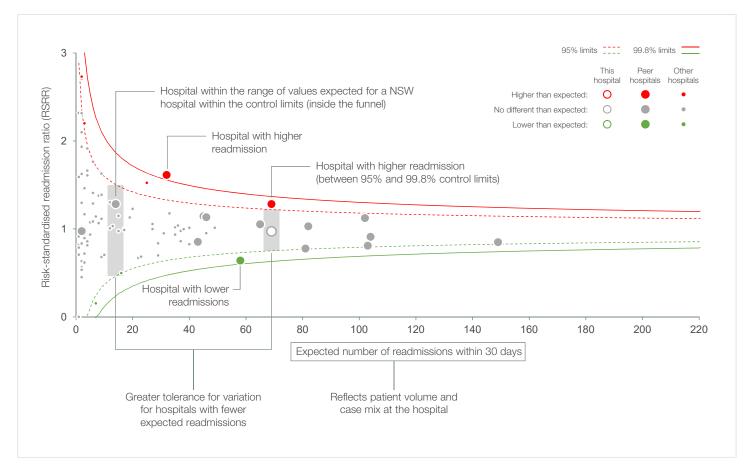
Condition	RSRR	July 2015 – June 2018								RSRRs for three-year periods					
		0.0	0.5	1	.0	1.5	2.0	2.5	3.0	July 03 – June 06	July 06 – June 09	July 09 – June 12	July 12 – June 15	July 15 – June 18	
Acute myocardial infarction	0.81			•						•	•	•	•	•	
lschaemic stroke	0.70			•						•	•	•	•	•	
Congestive heart failure	0.94			•						•	•	•	•	•	
Pneumonia	0.89			•						•	•	•	•	•	
Chronic obstructive pulmonary disease	0.83			•						•	•	•	•	•	
Hip fracture surgery	0.77			•						•	•	•	•	•	
Total hip replacement	1.59					•				•	•	•	•	•	
Total knee replacement	1.33				•					•	•	•	•	•	
Readmiss	ion this period	No	ver than different her than	than ex	kpected	i I	95	% control	limits	No	atistically sig significant o 0 cases	nificant resu difference	lt		

How to interpret the dashboard



How to interpret a funnel plot

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



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

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

This hospital	NSW
520	28,583
6.3	5.2
145	9,182
479	25,477
41	3,106
	This hospital 520 6.3 145 479 41

Age profile for index hospitalisations (years)⁴

				■15-44	■45–64	■65–74	■75–84	85+
This hospital	6.0	47.1		2	2.3	17	7.7	6.9
NSW	4.8	34.2	24.1		21.	9	15.	0
			% index cas	ses				

......

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

Cardiac arrhythmia					13.2		
Abuse drug/alcohol/psychoses				4.6			
Fluid and electrolyte disorders				3.4			
Coagulopathy				2.9			
Hypertension				2.8			
Depression				0.6			
Peripheral vascular disorder				0.1			
Lymphoma			-0.1				
Deficiency anaemia			-1.0				
Solid tumour without metastasis			-1.0				
Congestive heart failure			-1.2				
Diabetes, complicated			-1.8				
Chronic pulmonary disease			-2.3				
Previous AMI admission			-4.3				
Female		-13.1					
	30 -20	-10	0	10		20	30
		% difference fro	om NSW (index	x cases with factor	recorded)		

% difference from NSW (index cases with factor recorded)

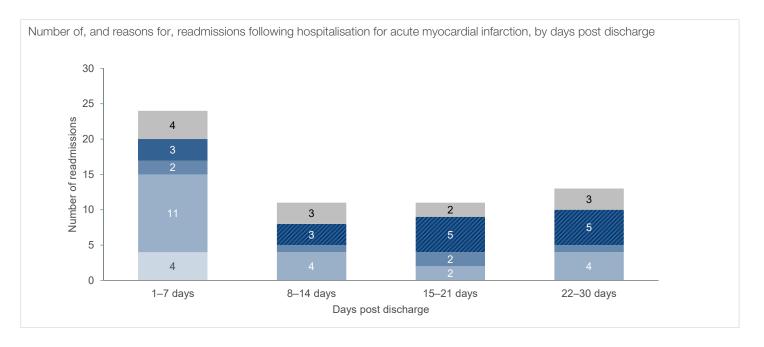
30-day readmission following hospitalisation for acute myocardial infarction, July 2015 – June 2018

ocation of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for acute myocardial infarction	59	4,250
Returns to acute care	1	159
Readmitted following hospital discharge	58	4,091
Readmitted to the same hospital where acute care was completed	32	2,815
Readmitted to a different hospital	26	1,276
To an urban public hospital	19	
To a regional or rural public hospital	7	
To a private hospital	0	

Reasons for and time to readmission⁸

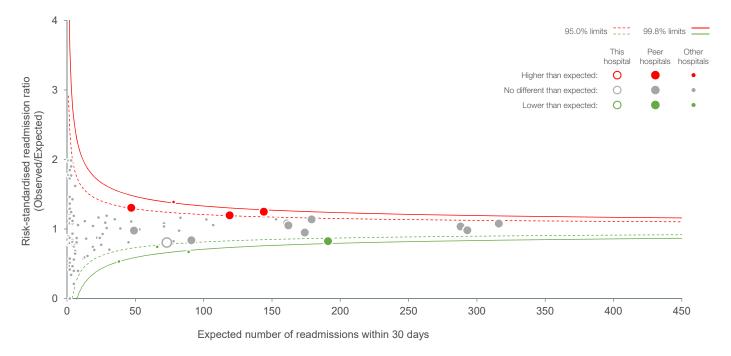
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of r	reasons	for read	mission									
This hospital	6.8		35.0	6		10.	2 5.1		22.0		20.3	
NSW	11.	5	29	9.2		8.1	8.5		20.9		21.9	
C)	10	20	30	40		50 dmission	60 s	70	80	90	10

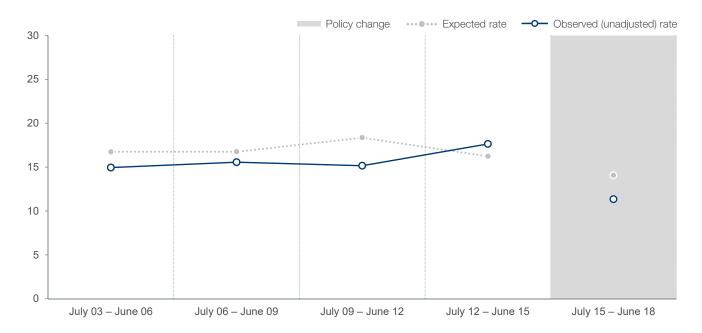


30-day readmission following hospitalisation for acute myocardial infarction, July 2015 – June 2018

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	405	16,435
Average length of stay (days)	7.4	7.3
Patients transferred in from acute care in another hospital	31	1,916
Discharge destination		
Home	217	8,688
Other	188	7,747

Age profile for index hospitalisations (years)⁴

				■15-44	■45–64	■65–74	■75–84	85+
This hospital	6.7	21.5	22.5	26.7			22.7	
NSW		20.0	23.5	30.4			22.4	
			0/ :					

% index cases

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

Cardiac arrhythmia								8.3		
Other neurological disorders							3.6			
Liver disease						1.4				
Coagulopathy						0.6				
Lymphoma						0.5				
Solid tumour without metastasis						0.4				
Congestive heart failure					-0.1					
Deficiency anaemia					-0.1					
Weight loss				-	0.6					
Fluid and electrolyte disorders				-2.2						
Diabetes, complicated			-8.1							
	20	-15	-10	-5	0		5	10	15	20
			% differer	nce from NSV	V (inde>	x cases w	vith factor r	ecorded)		

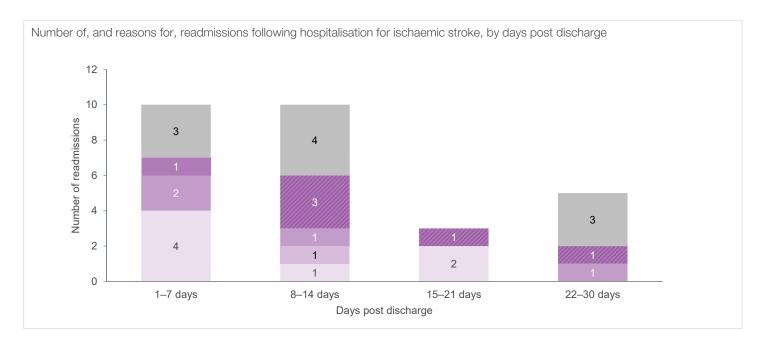
30-day readmission following hospitalisation for ischaemic stroke, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for ischaemic stroke	28	1,638
Returns to acute care	6	505
Readmitted following hospital discharge	22	1,133
Readmitted to the same hospital where acute care was completed	16	868
Readmitted to a different hospital	6	265
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

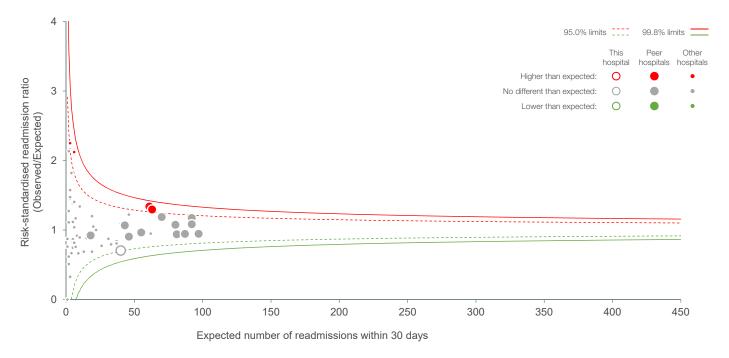
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of	reasoi	ns for readmi	ssion									
This hospital		24.1		1:	3.8	6.9		17.2		34.5		
NSW		18.2	8.8		20.5		5.4	12.8		34.3		
C)	10	20	30	40	% Re	50 admiss	60 ions	70	80	90	10

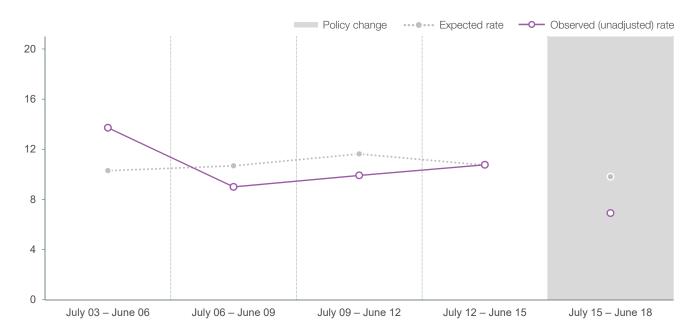


30-day readmission following hospitalisation for ischaemic stroke, July 2015 – June 2018

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

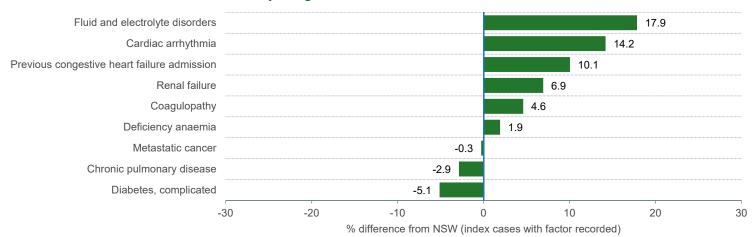
Patient cohort, index hospitalisations^{1,2,3}

861	33,686
8.5	6.0
87	2,723
741	29,025
120	4,661
	8.5 87 741 120

Age profile for index hospitalisations (years)⁴

					■ 15-44	■ 45–64	■65–74	■75–84	85+
This hospital	7.1		25.4	17.7	21.3			28.6	
NSW	10.8 18.9		33.6	34.9					
	% index cases								

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



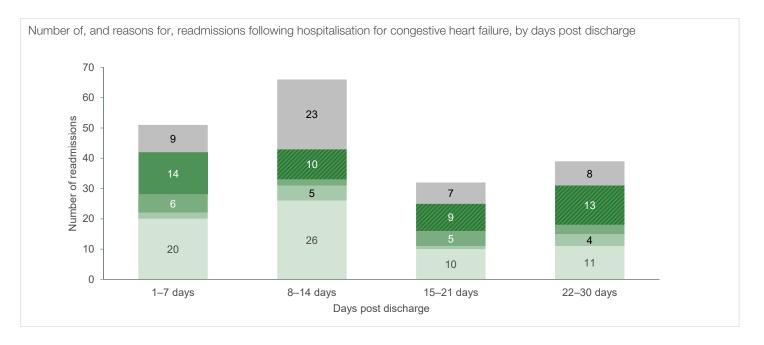
30-day readmission following hospitalisation for congestive heart failure, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for congestive heart failure	188	7,465
Returns to acute care	10	309
Readmitted following hospital discharge	178	7,156
Readmitted to the same hospital where acute care was completed	114	5,843
Readmitted to a different hospital	64	1,313
To an urban public hospital	53	
To a regional or rural public hospital	8	
To a private hospital	3	

Reasons for and time to readmission⁸

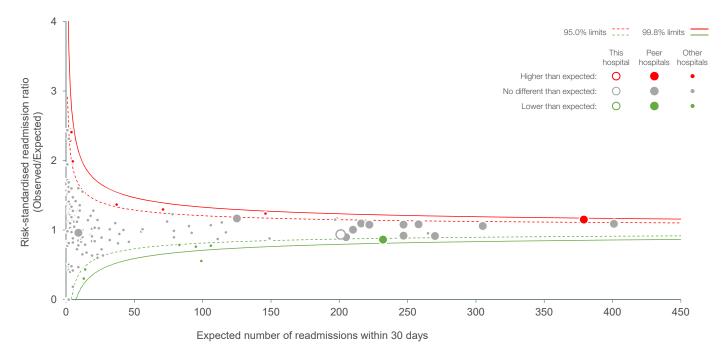
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of I	reasons f	or readm	ission									
This hospital		3	5.5		6.4	9.0	7.4		16.9		24.9	
NSW		:	36.5		6.4	7.4	8.0		17.9		23.8	
C)	10	20	30	40	50 % Readm		60	70	80	90	10

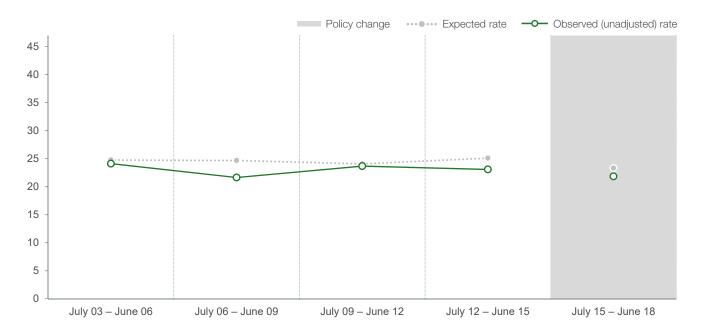


30-day readmission following hospitalisation for congestive heart failure, July 2015 – June 2018

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
1,058	48,855
6.0	5.1
42	3,190
922	42,535
136	6,320
	This hospital 1,058 6.0 42 922 136

Age profile for index hospitalisations (years)⁴

					■ 18–44	45-64	65-74	75-84	85+
This hospital	15.8	28.	28.8		19.4	16.6		19.4	
NSW	11.1	19.9	19.9 26		26.	1		23.0	
	% index cases								

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

Abuse drug/alcohol/psychoses	8.1
Hypertension	5.7
Liver disease	5.4
Cardiac arrhythmia	3.6
Weight loss	2.9
Renal failure	2.8
Deficiency anaemia	2.6
Previous pneumonia admission	2.5
Fluid and electrolyte disorders	2.1
Depression	2.1
Congestive heart failure	1.6
Lymphoma	1.3
Coagulopathy	1.2
Paralysis	0.0
Solid tumour without metastasis	-0.5
Diabetes, complicated	-0.7
Peripheral vascular disorder	-0.7
Rheumatoid arthritis/collagen	-0.8
Metastatic cancer	-0.9
Chronic pulmonary disease	-2.7
Female	-4.0

Performance Profile: St Vincent's Hospital Sydney

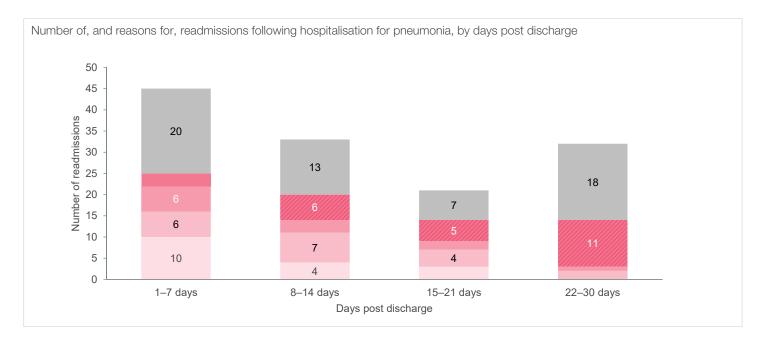
30-day readmission following hospitalisation for pneumonia, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for pneumonia	131	6,704
Returns to acute care	2	325
Readmitted following hospital discharge	129	6,379
Readmitted to the same hospital where acute care was completed	106	5,201
Readmitted to a different hospital	23	1,178
To an urban public hospital	18	
To a regional or rural public hospital	5	
To a private hospital	0	

Reasons for and time to readmission⁸

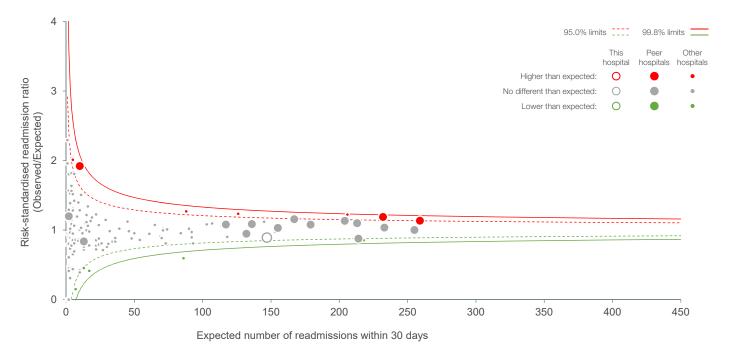
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of reasons for readmission This hospital 13.0 14.5 44.3 NSW 20.0 14.2 31.1 19.5 0 10 20 30 40 50 60 70 80 90 100 % Readmissions

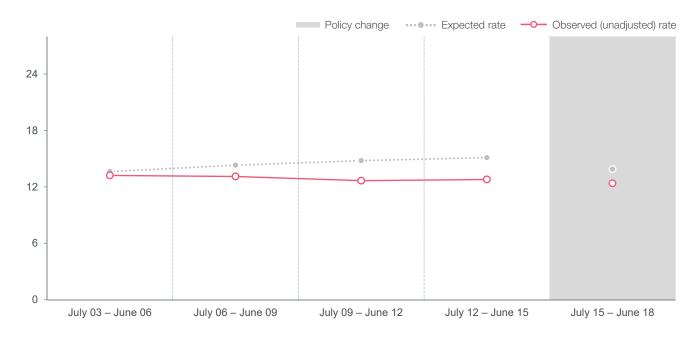


30-day readmission following hospitalisation for pneumonia, July 2015 – June 2018

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
Total index cases for chronic obstructive pulmonary disease	596	48,336
Average length of stay (days)	6.3	4.8
Patients transferred in from acute care in another hospital	11	2,330
Discharge destination		
Home	527	43,932
Other	69	4,404

Age profile for index hospitalisations (years)⁴

				■45–64	65-74	75-84	85+		
This hospital	38.8		27.0		20.1		14.1		
NSW	21.2	31.7		32.0			15.1		
	% index cases								

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

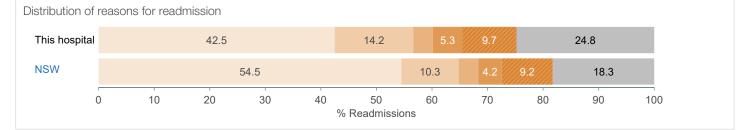
Abuse drug/alcohol/psychoses					11.3		
Cardiac arrhythmia					7.0		
Pulmonary circulation disorders					6.1		
Hypertension					6.0		
Fluid and electrolyte disorders				5	5.1		
Depression				3.6			
Diabetes, uncomplicated				3.6			
Weight loss				2.7			
Previous COPD admission				2.0			
Peripheral vascular disorder				1.0			
Dementia				1.0			
Deficiency anaemia				0.9			
Solid tumour without metastasis				0.7			
Diabetes, complicated				0.5			
Congestive heart failure				0.0			
Renal failure			-0.7				
Female		-8.0					
-30	-20	-10	(0	10	20	30
	9	6 difference from I	NSW (inde	ex cases with	n factor recorde	d)	

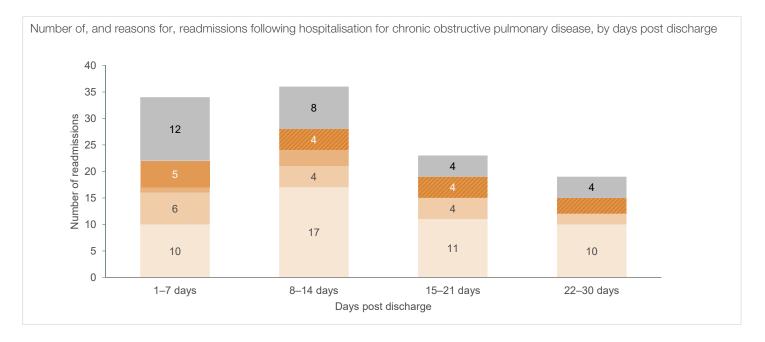
30-day readmission following hospitalisation for chronic obstructive pulmonary disease, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for chronic obstructive pulmonary disease	112	10,241
Returns to acute care	4	233
Readmitted following hospital discharge	108	10,008
Readmitted to the same hospital where acute care was completed	87	8,472
Readmitted to a different hospital	21	1,536
To an urban public hospital	19	
To a regional or rural public hospital	1	
To a private hospital	1	

Reasons for and time to readmission⁸

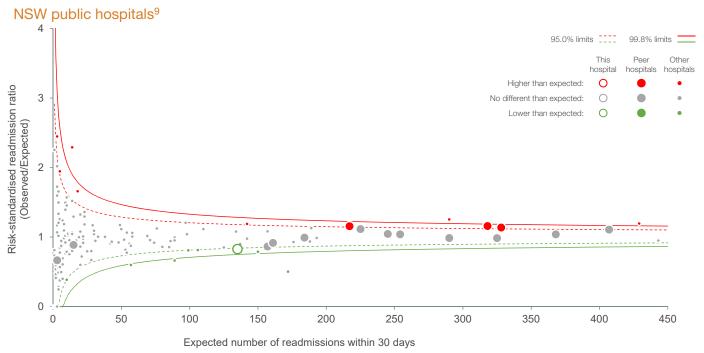
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)</p>
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other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



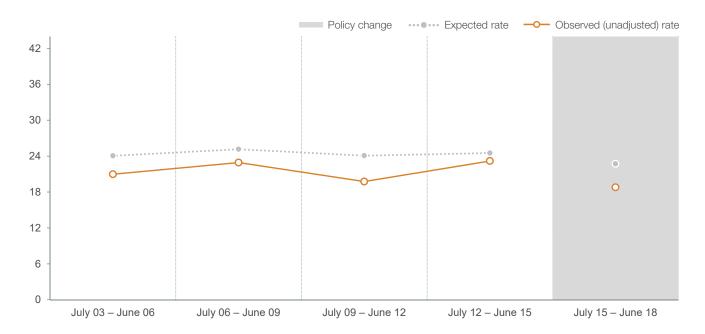


30-day readmission following hospitalisation for chronic obstructive pulmonary disease, July 2015 – June 2018

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 hospital	NSW
Total index cases for hip fracture surgery	388	14,895
Average length of stay (days)	11.0	9.7
Patients transferred in from acute care in another hospital	7	2,030
Discharge destination		
Home	96	4,404
Other	292	10,491

Age profile for index hospitalisations (years)⁴

					50-64	65-74	75-84	85+	
This hospital	11.1	16.8	3	25.8	46.4				
NSW	6.8	13.9	31.6			47.8			
		% index cases							

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

Fluid and electrolyte disorders							5.0			
Cardiac arrhythmia							2.2			
Congestive heart failure						1	.8			
Depression						1.3	3			
Liver disease						1.2	2			
AIDS/HIV						0.2				
Other neurological disorders					-0.2					
Chronic pulmonary disease					-0.2					
Female				-1	.3					
Dementia				-1.	6					
Diabetes, complicated				-3.0						
-	-20	-15	-10	-5	C)	5	10	15	20
			% differe	nce from NS	N (inde	x cases	with factor r	ecorded)		

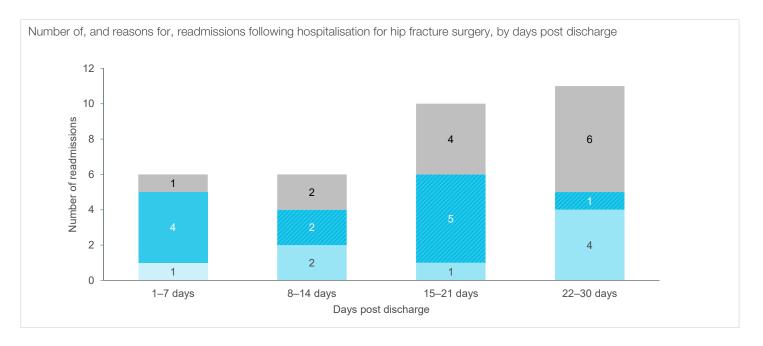
30-day readmission following hospitalisation for hip fracture surgery, July 2015 – June 2018

Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for hip fracture surgery	33	1,617
Returns to acute care	11	677
Readmitted following hospital discharge	22	940
Readmitted to the same hospital where acute care was completed	17	696
Readmitted to a different hospital	5	244
To an urban public hospital	4	
To a regional or rural public hospital	1	
To a private hospital	0	

Reasons for and time to readmission⁸

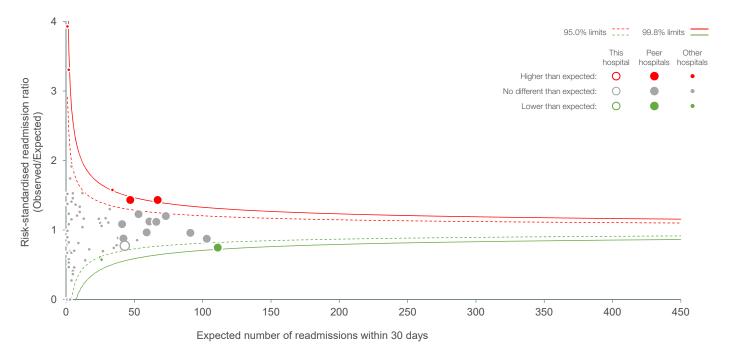
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)</p>
- Orthopaedic complications
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of reasons for readmission This hospital 21.2 39.4 NSW 6.3 36.3 7.0 14.6 24.4 0 10 20 30 40 50 60 70 80 90 100 % Readmissions

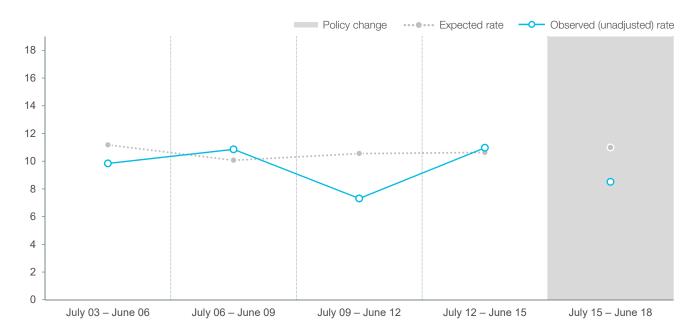


30-day readmission following hospitalisation for hip fracture surgery, July 2015 – June 2018

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.
- 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	106	8,985
Average length of stay (days)	6.3	4.7
Discharge destination		
Home	76	7,472
Other	30	1,513

Age profile for index hospitalisations (years)⁴

				1 8–44	45-64	65-74	75-84	85+
This hospital	9.4	40.6		26.4		20.8		
NSW		35.2				23.3		
			% inde	x cases				

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

Other neurological disorders							3.1			
Abuse drug/alcohol/psychoses						2.4	1			
Diabetes, complicated						1.1				
Depression						1.0				
Metastatic cancer						0.4				
Cardiac arrhythmia					-0.1					
Coagulopathy					-0.2					
Rheumatoid arthritis/collagen					-1.1					
Chronic pulmonary disease				•	·1.4					
Weight loss				-	1.7					
Diabetes, uncomplicated				-4.2						
	-20	-15	-10	-5	0	1	5	10	15	20
			% differe	ence from N	SW (inde	x cases wi	th factor r	ecorded)		

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

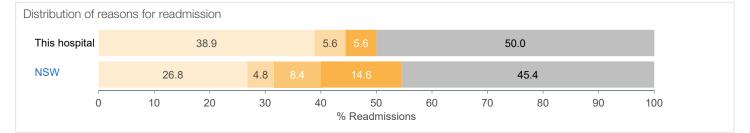
Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for total hip replacement	17	949
Returns to acute care	0	107
Readmitted following hospital discharge	17	842
Readmitted to the same hospital where acute care was completed	14	499
Readmitted to a different hospital	3	343
To an urban public hospital	3	
To a regional or rural public hospital	0	
To a private hospital	0	

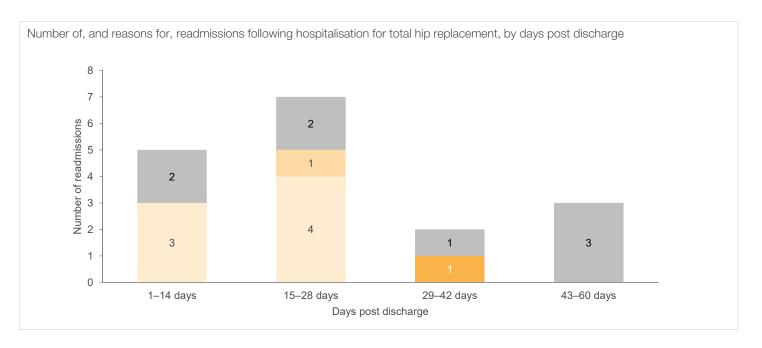
Reasons for and time to readmission⁸

 Orthopaedic complications (within time specified)

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

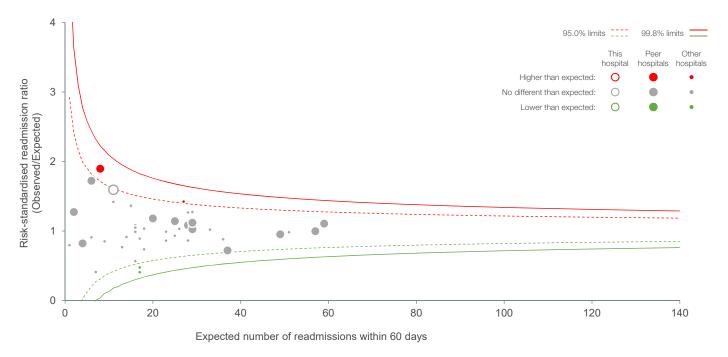
 Potentially related to hospital care (within time specified)



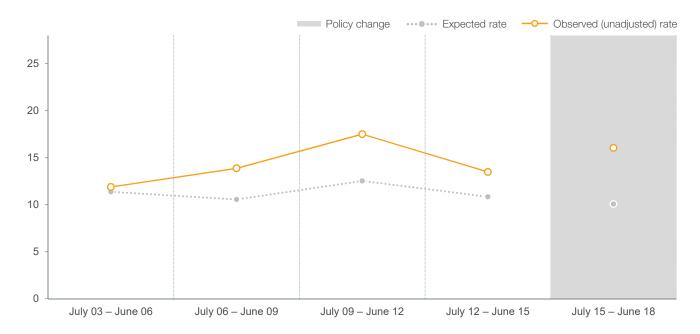


60-day readmission following hospitalisation for total hip replacement, July 2015 – June 2018

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	175	15,940
Average length of stay (days)	6.1	4.9
Discharge destination		
Home	124	13,175
Other	51	2,765

Age profile for index hospitalisations (years)⁴

		■18-44 ■45-6	65–74 75–84 85	+
This hospital	33.1	38.9	24.0	
NSW	30.9	40.1	25.3	

% index cases

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

Fluid and electrolyte disorders							7.5		
Abuse drug/alcohol/psychoses						3.8			
Cardiac arrhythmia						2.6			
Coagulopathy						0.9			
Renal failure						0.8			
Lymphoma					-0.1				
Chronic pulmonary disease					-0.3				
Blood loss anaemia					-0.5				
Weight loss					-0.6				
Diabetes, complicated				-	1.1				
Female			-	5.7					
	-20	-15	-10	-5	0	5	10	15	20
			% differe	ence from NS	W (index	cases with fa	ctor recorded)	

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

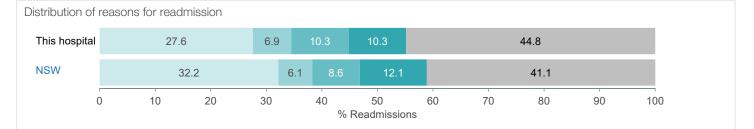
Location of readmissions ⁷	This hospital	NSW
Total readmissions following index hospitalisation for total knee replacement	29	1,892
Returns to acute care	3	152
Readmitted following hospital discharge	26	1,740
Readmitted to the same hospital where acute care was completed	17	1,052
Readmitted to a different hospital	9	688
To an urban public hospital	5	
To a regional or rural public hospital	2	
To a private hospital	2	

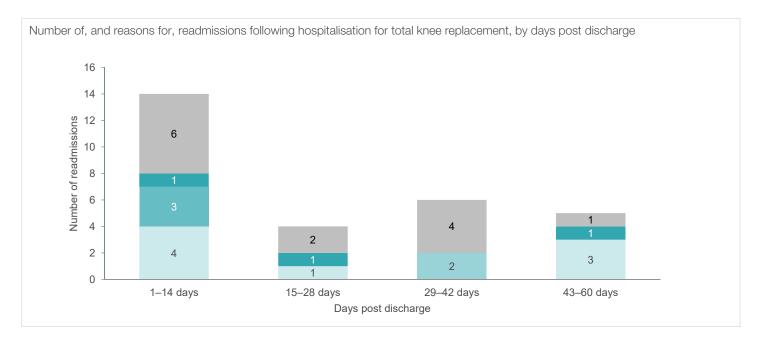
Reasons for and time to readmission⁸

 Orthopaedic complications (within time specified)

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

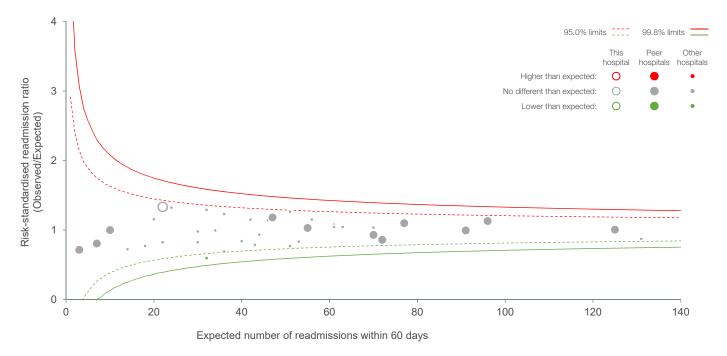
 Potentially related to hospital care (within time specified)



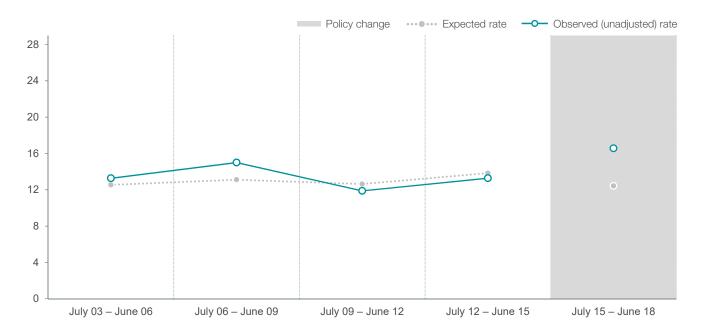


60-day readmission following hospitalisation for total knee replacement, July 2015 – June 2018

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.