# 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.

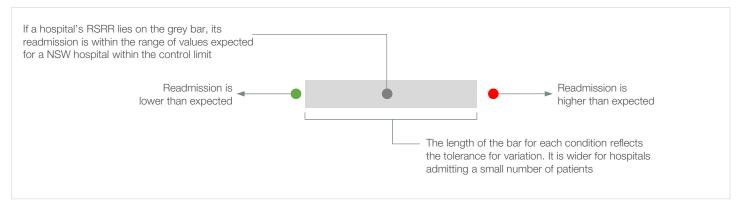
For each hospital, the RSRR compares the 'observed' number of readmissions to any hospital, within 30 days of discharge for a specific clinical condition or within 60 days for specified surgical procedures, with the 'expected' number of readmissions. The expected number of readmissions is calculated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

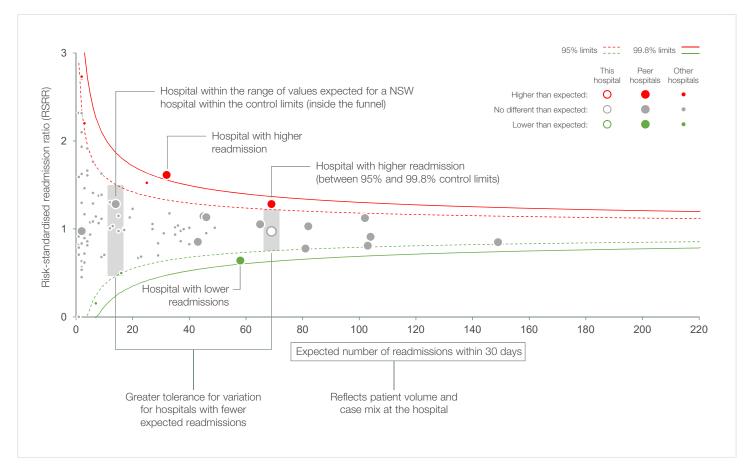
Condition	RSRR		J	uly 201	5 – Jur	ne 2018			F	SRRs fo	r three-y	ear perio				
		0.0	0.5	1.0	1.5	2.0	2.5	3.0	July 03 – June 06	July 06 – June 09	July 09 – June 12	July 12 – June 15				
Acute myocardial infarction	1.08								•	•	•	•	•			
lschaemic stroke	1.34				•				•	•	•	•	•			
Congestive heart failure	1.06								•	•	•	•	•			
Pneumonia	1.13								•	•	•	•	•			
Chronic obstructive pulmonary disease	1.16			•					•	•	•	•	•			
Hip fracture surgery	1.09			•					•	•	•	•	•			
Total hip replacement	1.90					•			0	0	•	•	•			
Total knee replacement			< 5		hospita s not sh	alisation 10wn	s,		0	0	•	•	0			
— Readmiss	ion this period	No	wer than ex different th gher than e>	an expect	ed	95%	6 control I	imits	No	atistically sig significant o 0 cases	nificant resu lifference	. <u> </u>	<u>'</u>			

#### 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<sup>1,2,3</sup>

This hospital	NSW
1,114	28,583
6.1	5.2
427	9,182
1,049	25,477
65	3,106
	This hospital           1,114           6.1           427           1,049           65

### Age profile for index hospitalisations (years)<sup>4</sup>

				•	15–44	■45–64	■65–74	■75–84	85+
This hospital	6.6	40.2		2	25.6		18.5		9.1
NSW	4.8	34.2		24.1		2	21.9	1	5.0
			%	index cases					

#### Patient factors associated with 30-day acute myocardial infarction readmission<sup>5,6</sup>

Cardiac arrhythmia						5.8							
Fluid and electrolyte disorders						5.7							
Hypertension						1.7							
Coagulopathy						1.4							
Diabetes, complicated						0.9							
Abuse drug/alcohol/psychoses						0.6							
Deficiency anaemia						0.1							
Lymphoma					(	0.1							
Peripheral vascular disorder					-0.2								
Depression				-	0.4								
Solid tumour without metastasis				-	0.6								
Congestive heart failure				-1	.0								
Chronic pulmonary disease				-1.	2								
Previous AMI admission				-1.6									
Female			-6	.2									
-1	20	-15	-10	-5	0	5 10	15	20					
		% difference from NSW (index cases with factor recorded)											

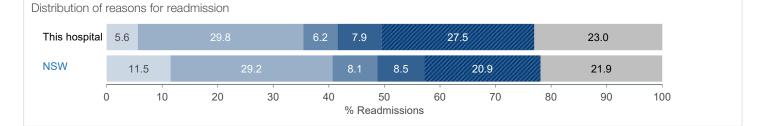
% difference from NSW (index cases with factor recorded)

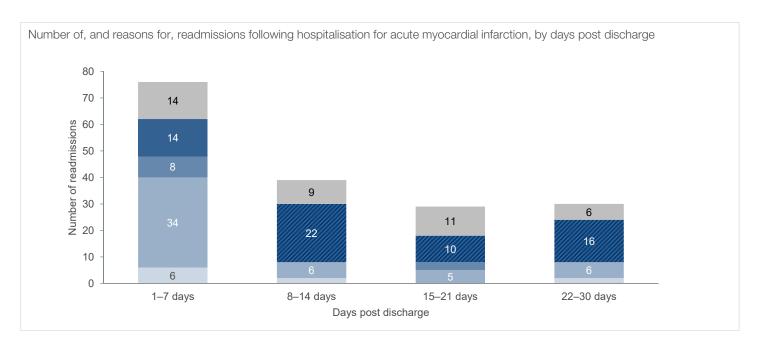
# 30-day readmission following hospitalisation for acute myocardial infarction, July 2015 – June 2018

ocation of readmissions <sup>7</sup>	This hospital	NSW
Total readmissions following index hospitalisation for acute myocardial infarction	174	4,250
Returns to acute care	7	159
Readmitted following hospital discharge	167	4,091
Readmitted to the same hospital where acute care was completed	84	2,815
Readmitted to a different hospital	83	1,276
To an urban public hospital	61	
To a regional or rural public hospital	22	
To a private hospital	0	

### Reasons for and time to readmission<sup>8</sup>

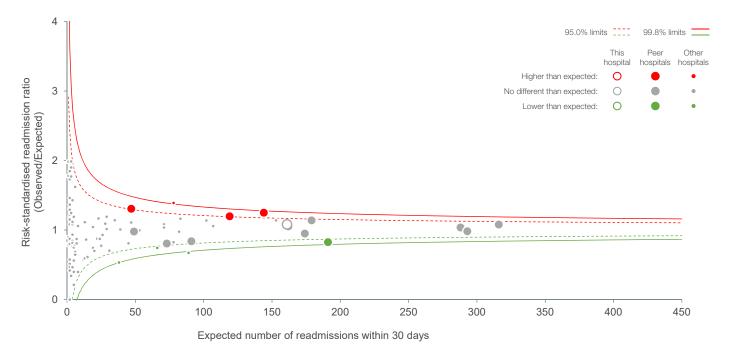
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)</li>
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other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



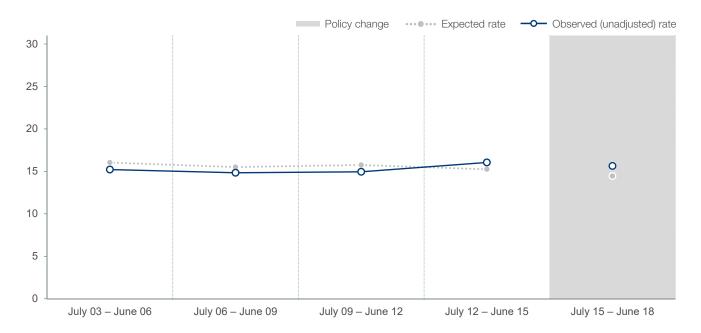


# 30-day readmission following hospitalisation for acute myocardial infarction, July 2015 – June 2018

Acute myocardial infarction risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals<sup>9</sup>



# Acute myocardial infarction, this hospital's expected **readmission rates**<sup>10</sup> 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.</li>
- 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<sup>1,2,3</sup>

This hospital	NSW
617	16,435
6.2	7.3
39	1,916
334	8,688
283	7,747
	This hospital           617           6.2           39           334           283

### Age profile for index hospitalisations (years)<sup>4</sup>

					■15-44	■45–64	■65–74	₹75–84	85+	
This hospital	5.4	21.2	26.6			27.2		19.6		
NSW		20.0	23.5		30.4			22.4		
% index cases										

#### Patient factors associated with 30-day ischaemic stroke readmission<sup>5,6</sup>

Cardiac arrhythmia						1.7	,			
Weight loss						1.1				
Liver disease						0.9				
Coagulopathy						0.8				
Lymphoma						0.2				
Deficiency anaemia					-0.3					
Other neurological disorders				-	0.6					
Solid tumour without metastasis				-	0.6					
Diabetes, complicated				-	0.6					
Fluid and electrolyte disorders				-(	0.7					
Congestive heart failure				-1.4	4					
-	20	-15	-10	-5	C	)	5	10	15	20
			% differe	nce from NSV	V (inde	x cases \	with factor r	ecorded)		

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

Location of readmissions <sup>7</sup>	This hospital	NSW	
Total readmissions following index hospitalisation for ischaemic stroke	82	1,638	
Returns to acute care	24	505	
Readmitted following hospital discharge	58	1,133	
Readmitted to the same hospital where acute care was completed	46	868	
Readmitted to a different hospital	12	265	
To an urban public hospital	9		
To a regional or rural public hospital	3		
To a private hospital	0		

### Reasons for and time to readmission<sup>8</sup>

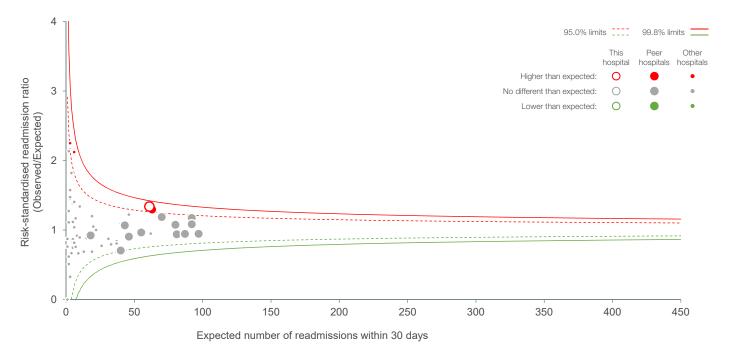
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of reasons for readmission										
This hospital	15.7	9.6	2'	1.7	4.8	16.9		31.	3	
NSW	18.2	8.8	2	20.5		12.8		34.3		
C	10	20	30	40 %	50 Readmissio	60 Ins	70	80	90	10

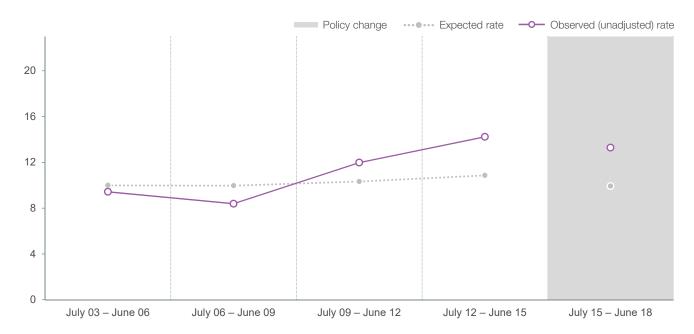


30-day readmission following hospitalisation for ischaemic stroke, July 2015 – June 2018

Ischaemic stroke risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals<sup>9</sup>







### **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.</li>
- 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

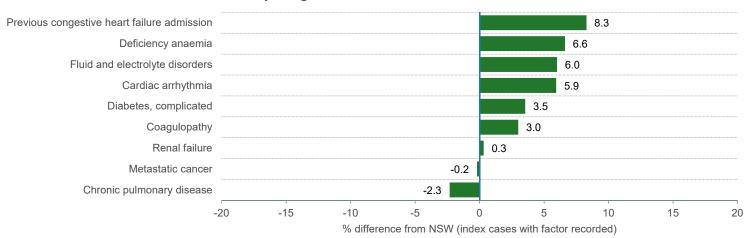
### Patient cohort, index hospitalisations<sup>1,2,3</sup>

This hospital	NSW
1,332	33,686
6.5	6.0
87	2,723
1,184	29,025
148	4,661
	This hospital           1,332           6.5           87           1,184           148

### Age profile for index hospitalisations (years)<sup>4</sup>

						∎ 15-44	■45–64	■65–74	■75–84	85+
This hospital	14.0	)	19.9		34.7	28.5				
NSW	10.8		18.9		33.6	34.9				
					% index cases					

#### Patient factors associated with 30-day congestive heart failure readmission<sup>5,6</sup>

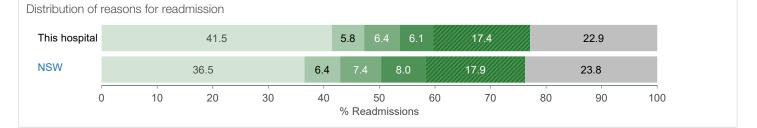


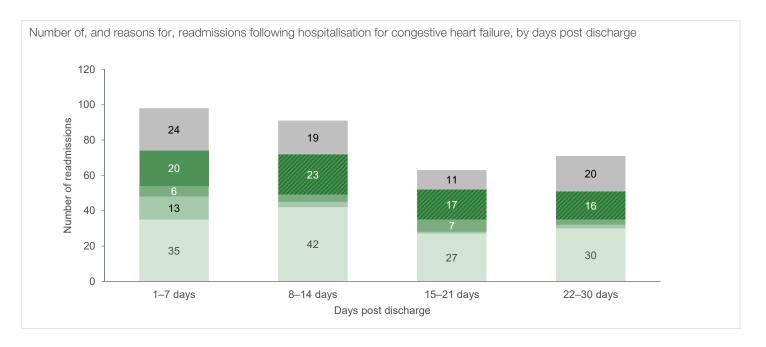
### 30-day readmission following hospitalisation for congestive heart failure, July 2015 – June 2018

Location of readmissions <sup>7</sup>	This hospital	NSW
Total readmissions following index hospitalisation for congestive heart failure	323	7,465
Returns to acute care	10	309
Readmitted following hospital discharge	313	7,156
Readmitted to the same hospital where acute care was completed	256	5,843
Readmitted to a different hospital	57	1,313
To an urban public hospital	52	
To a regional or rural public hospital	4	
To a private hospital	1	

#### Reasons for and time to readmission<sup>8</sup>

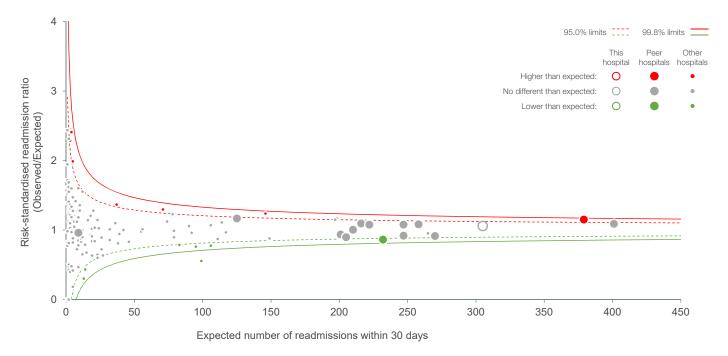
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)</p>
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other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



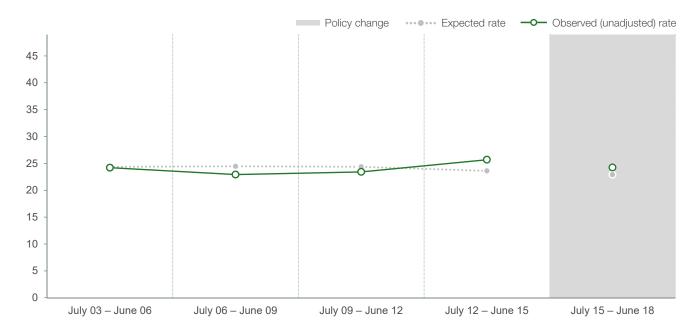


30-day readmission following hospitalisation for congestive heart failure, July 2015 – June 2018

Congestive heart failure risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals<sup>9</sup>



# Congestive heart failure, this hospital's expected **readmission rates**<sup>10</sup> 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.</li>
- 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<sup>1,2,3</sup>

	This hospital	NSW
Total index cases for pneumonia	1,513	48,855
Average length of stay (days)	5.8	5.1
Patients transferred in from acute care in another hospital	68	3,190
Discharge destination		
Home	1,339	42,535
Other	174	6,320

### Age profile for index hospitalisations (years)<sup>4</sup>

					■18–44	45-64	65-74	75-84	85+	
This hospital	16.0	21.9	1.9 17.7		24.1			20.3		
NSW	11.1	19.9	19.9		26.1			23.0		
			<u> </u>							

% index cases

#### Patient factors associated with 30-day pneumonia readmission<sup>5,6</sup>

Abuse drug/alcohol/psychoses	s 3.1	
Cardiac arrhythmia	a 2.3	
Liver disease	e 2.2	
Coagulopathy	2.1	
Diabetes, complicated	2.0	
Deficiency anaemia	a 1.9	
Weight loss	s 1.7	
Renal failure	e 1.5	
Lymphoma	a <b>1</b> .2	
Depressior	n 0.5	
Rheumatoid arthritis/collager	n 0.4	
Congestive heart failure	0.3	
Paralysis	s 0.3	
Peripheral vascular disorder	r 0.2	
Previous pneumonia admissior	n 0.2	
Fluid and electrolyte disorders	s -0.1	
Hypertensior	n -0.7	
Female	-2.3	
Metastatic cance	r -2.3	
Solid tumour without metastasis	-2.8 <b>-</b> 2.8	
Chronic pulmonary disease	e -4.8	

Performance Profile: Royal Prince Alfred Hospital

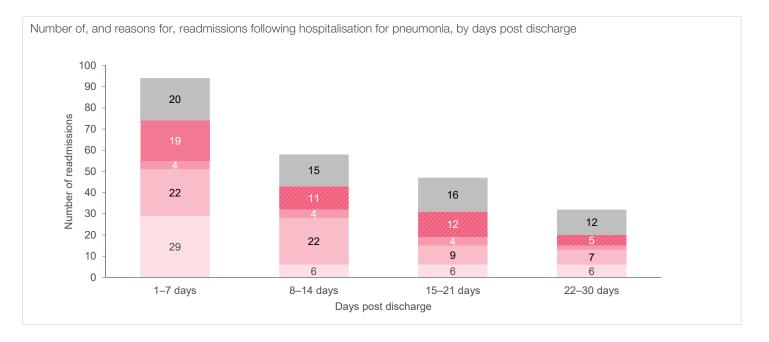
### 30-day readmission following hospitalisation for pneumonia, July 2015 – June 2018

Location of readmissions <sup>7</sup>	This hospital	NSW
Total readmissions following index hospitalisation for pneumonia	231 19 212 180 32 25 4	6,704
Returns to acute care		325
Readmitted following hospital discharge		6,379
Readmitted to the same hospital where acute care was completed	180	5,201
Readmitted to a different hospital	32	1,178
To an urban public hospital		
To a regional or rural public hospital	4	
To a private hospital	3	

#### Reasons for and time to readmission<sup>8</sup>

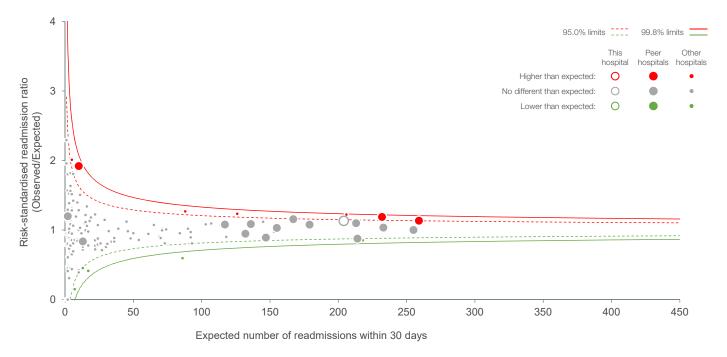
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of r	reasons for read	dmission								
This hospital	20.0		26.0		6.0	8.5	12.3	2	27.2	
NSW	19.5		20.0	7.8	7.5	14.2		31	.1	
C	) 10	20	30	40 % F	50 Readmissi	60 ions	70	80	90	10

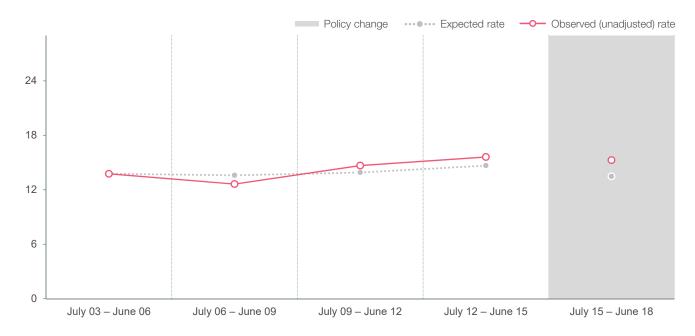


30-day readmission following hospitalisation for pneumonia, July 2015 – June 2018

Pneumonia risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals<sup>9</sup>



# Pneumonia, this hospital's expected **readmission rates**<sup>10</sup> 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.</li>
- 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<sup>1,2,3</sup>

This hospital	NSW
1,454	48,336
5.6	4.8
24	2,330
1,360	43,932
94	4,404
	This hospital           1,454           5.6           24           1,360           94

### Age profile for index hospitalisations (years)<sup>4</sup>

			<b>■</b> 45–64 <b>■</b> 65–74 <b>■</b> 7	5-84 85+					
This hospital	23.7	31.8	28.5	16.0					
NSW	21.2	31.7	32.0	15.1					
	% index cases								

#### Patient factors associated with 30-day chronic obstructive pulmonary disease readmission<sup>5,6</sup>

Weight loss							5.9		
Previous COPD admission						4	.8		
Abuse drug/alcohol/psychoses						2.9			
Deficiency anaemia						2.1			
Peripheral vascular disorder						0.9			
Diabetes, complicated						0.6			
Fluid and electrolyte disorders						0.6			
Renal failure						0.0			
Depression					-0.1				
Cardiac arrhythmia					-0.1				
Solid tumour without metastasis				-	-0.2				
Pulmonary circulation disorders				-	0.4				
Dementia				-(	0.5 📕				
Hypertension				-1.	1				
Diabetes, uncomplicated				-1.2	2				
Congestive heart failure				-2.6					
Female				-3.0					
-2	20	-15	-10	-5	0	5	10	15	20
			% differe	nce from NSW	(inde	x cases with fac	tor recorded)		

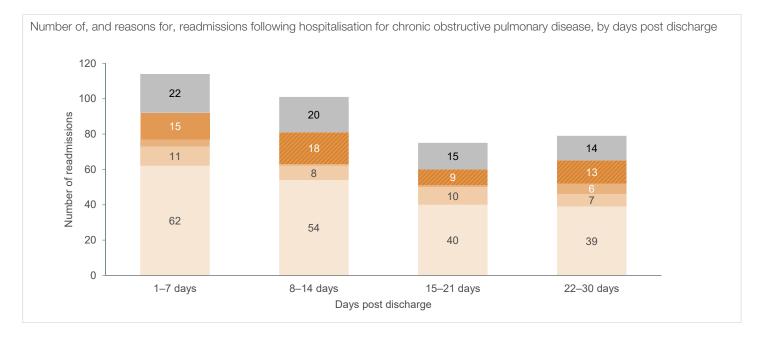
# 30-day readmission following hospitalisation for chronic obstructive pulmonary disease, July 2015 – June 2018

Location of readmissions <sup>7</sup>	This hospital	NSW
Total readmissions following index hospitalisation for chronic obstructive pulmonary disease	369	10,241
Returns to acute care	2	233
Readmitted following hospital discharge	367	10,008
Readmitted to the same hospital where acute care was completed	313	8,472
Readmitted to a different hospital	54	1,536
To an urban public hospital	44	
To a regional or rural public hospital	8	
To a private hospital	2	

#### Reasons for and time to readmission<sup>8</sup>

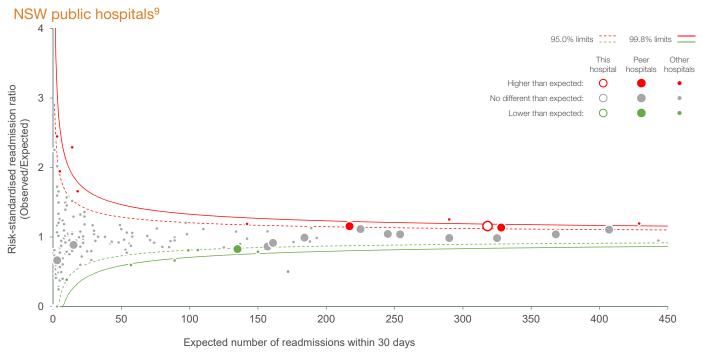
- Same principal diagnosis
- Potentially related to hospital care (time sensitive, <7 days post discharge)</p>
- Condition related to principal diagnosis
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other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

This hospital       53.0       10.0       4.0       10.8       19.1         NSW       54.5       10.3       4.2       9.2       18.3	Distribution of	of re	easons for re	eadmissior	l						
NSW 54.5 10.3 4.2 9.2 18.3	This hospital	al			53.0		10.0	4.0	10.8	19.1	
	NSW				54.5		10.3	4.2	9.2	18.3	
0 10 20 30 40 50 60 70 80 90 % Readmissions		0	10	20	30			70	80	90	100

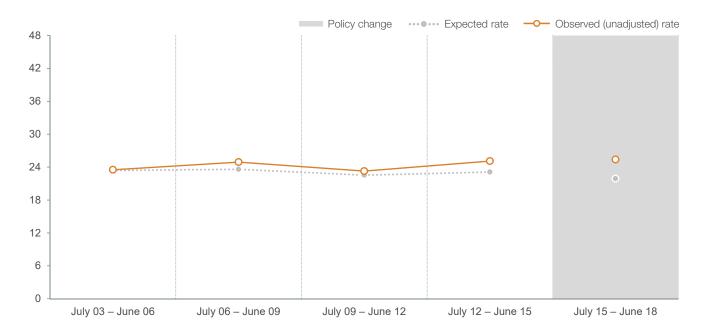


# 30-day readmission following hospitalisation for chronic obstructive pulmonary disease, July 2015 – June 2018

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



# Chronic obstructive pulmonary disease, this hospital's expected **readmission rates**<sup>10</sup> 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.</li>
- 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<sup>1,2,3</sup>

	This hospital	NSW
Fotal index cases for hip fracture surgery	378	14,895
Average length of stay (days)	10.9	9.7
Patients transferred in from acute care in another hospital	8	2,030
Discharge destination		
Home	80	4,404
Other	298	10,491

### Age profile for index hospitalisations (years)<sup>4</sup>

							<b>50–64</b>	65-74	■75–84	85+
This hospital	10.9	16.9	)	32.5		39.7				
NSW	6.8	13.9	31.6			47.8				
	% index cases									

#### Patient factors associated with 30-day hip fracture surgery readmission<sup>5,6</sup>

Diabetes, complicated							3.1			
Cardiac arrhythmia						1.	.8			
Congestive heart failure						1.0				
Liver disease						1.0				
Other neurological disorders						0.8				
Chronic pulmonary disease						0.5				
AIDS/HIV						0.2				
Fluid and electrolyte disorders					-0.2					
Depression					-0.2					
Female				-3.2						
Dementia			-6	.0						
-	-20	-15	-10	-5	(	)	5	10	15	20
			% differe	nce from NS	W (inde	x cases	with factor r	ecorded)		

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

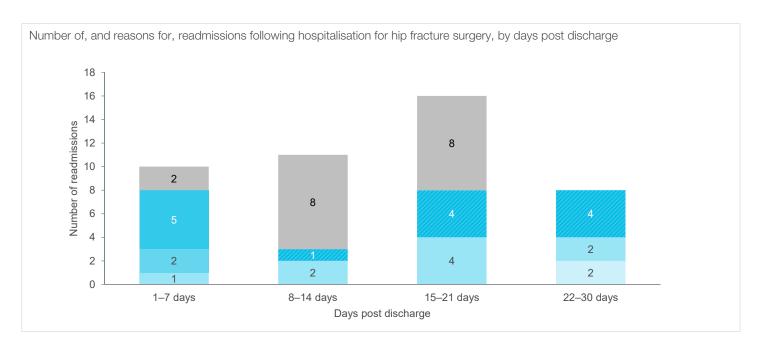
Location of readmissions <sup>7</sup>	This hospital	NSW
Total readmissions following index hospitalisation for hip fracture surgery	45	1,617
Returns to acute care	32	677
Readmitted following hospital discharge	13	940
Readmitted to the same hospital where acute care was completed	11	696
Readmitted to a different hospital	2	244
To an urban public hospital	2	
To a regional or rural public hospital	0	
To a private hospital	0	

### Reasons for and time to readmission<sup>8</sup>

Same principal diagnosis

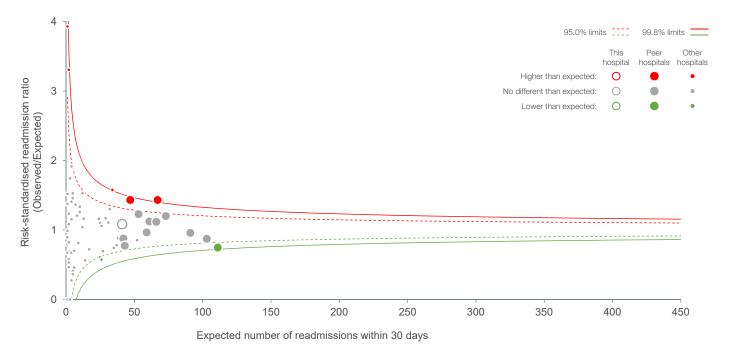
- Potentially related to hospital care (time sensitive, ≤7 days post discharge)
- Orthopaedic complications
- Potentially related to hospital care (time sensitive, 8–30 days post discharge)
- Potentially related to hospital care (not time sensitive)
- Other conditions

Distribution of reasons for readmission This hospital 4.4 19.6 4.4 41.3 NSW 14.6 6.3 36.3 7.0 24.4 0 10 20 30 40 50 60 70 80 90 100 % Readmissions

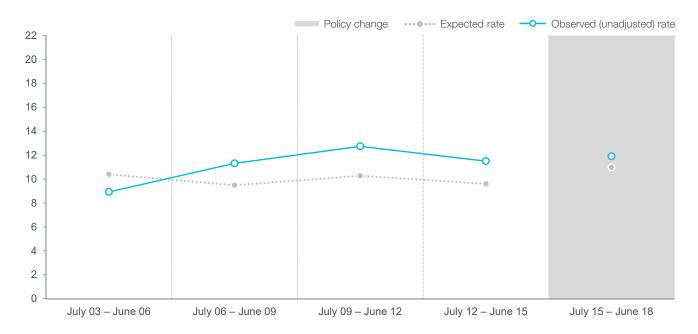


### 30-day readmission following hospitalisation for hip fracture surgery, July 2015 – June 2018

# Hip fracture surgery risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals<sup>9</sup>



# Hip fracture surgery, this hospital's expected **readmission rates**<sup>10</sup> 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.</li>
- 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<sup>1,2,3</sup>

	This hospital	NSW
otal index cases for total hip replacement	55	8,985
Average length of stay (days)	9.5	4.7
Discharge destination		
Home	32	7,472
Other	23	1,513

### Age profile for index hospitalisations (years)<sup>4</sup>

				<b>18–44</b>	45-64	65-74	75-84	85+
This hospital	16.4	36.4		23.0			18.2	5.5
NSW		35.2				23	3.3	
	% index cases							

#### Patient factors associated with 60-day total hip replacement readmission<sup>5,6</sup>

Diabetes, complicated						18.1	
Abuse drug/alcohol/psychoses					12.2	2	
Diabetes, uncomplicated					10.1		
Cardiac arrhythmia					7.8		
Weight loss				-	7.4		
Chronic pulmonary disease				4.9			
Metastatic cancer				3.1			
Other neurological disorders				3.0			
Depression				2.8			
Coagulopathy				2.5			
Rheumatoid arthritis/collagen			-1.1				
-30	-20	-10	0		10	20	30
	9	6 difference from	NSW (index	cases with fac	tor recorded	(b	

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

Location of readmissions <sup>7</sup>	This hospital	NSW
Total readmissions following index hospitalisation for total hip replacement	15	949
Returns to acute care	5	107
Readmitted following hospital discharge	10	842
Readmitted to the same hospital where acute care was completed	5	499
Readmitted to a different hospital	5	343
To an urban public hospital	3	
To a regional or rural public hospital	1	
To a private hospital	1	

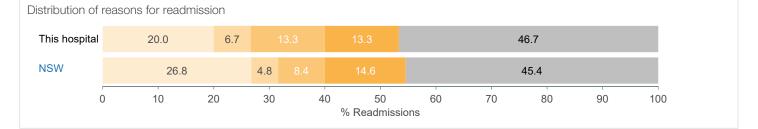
#### Reasons for and time to readmission<sup>8</sup>

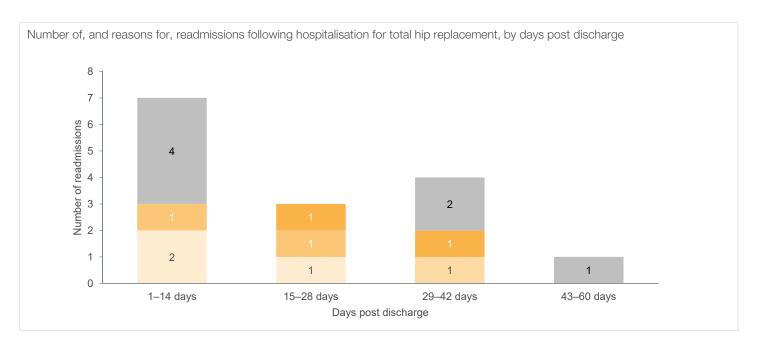
Orthopaedic complications (within time specified)

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

Other conditions

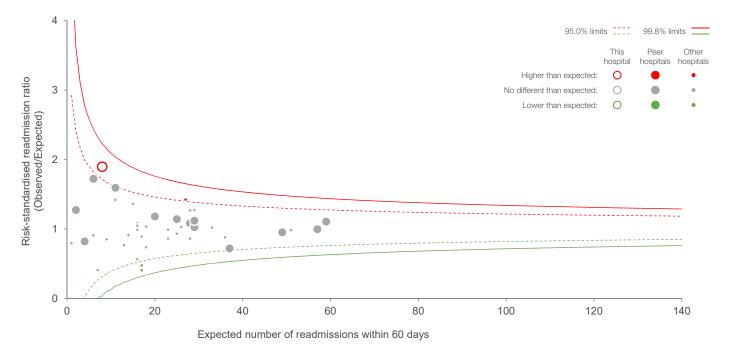
 Potentially related to hospital care (within time specified)



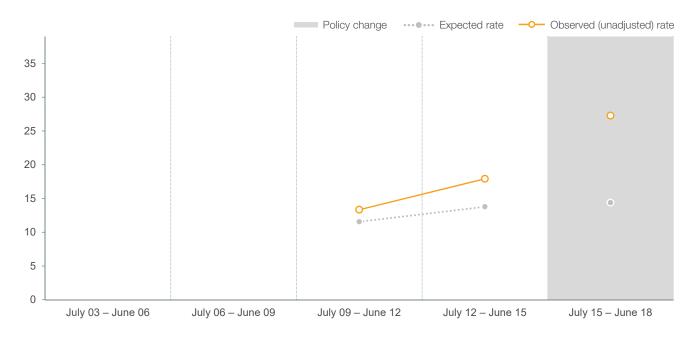


60-day readmission following hospitalisation for total hip replacement, July 2015 – June 2018

Total hip replacement risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals<sup>9</sup>



# Total hip replacement, this hospital's expected **readmission rates**<sup>10</sup> 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.</li>
- 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.

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60-day return to acute care following hospitalisation for total knee replacement

# <50 index hospitalisations, results not shown