

RPAH Institute of Rheumatology & Orthopaedics

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 non-acute care.

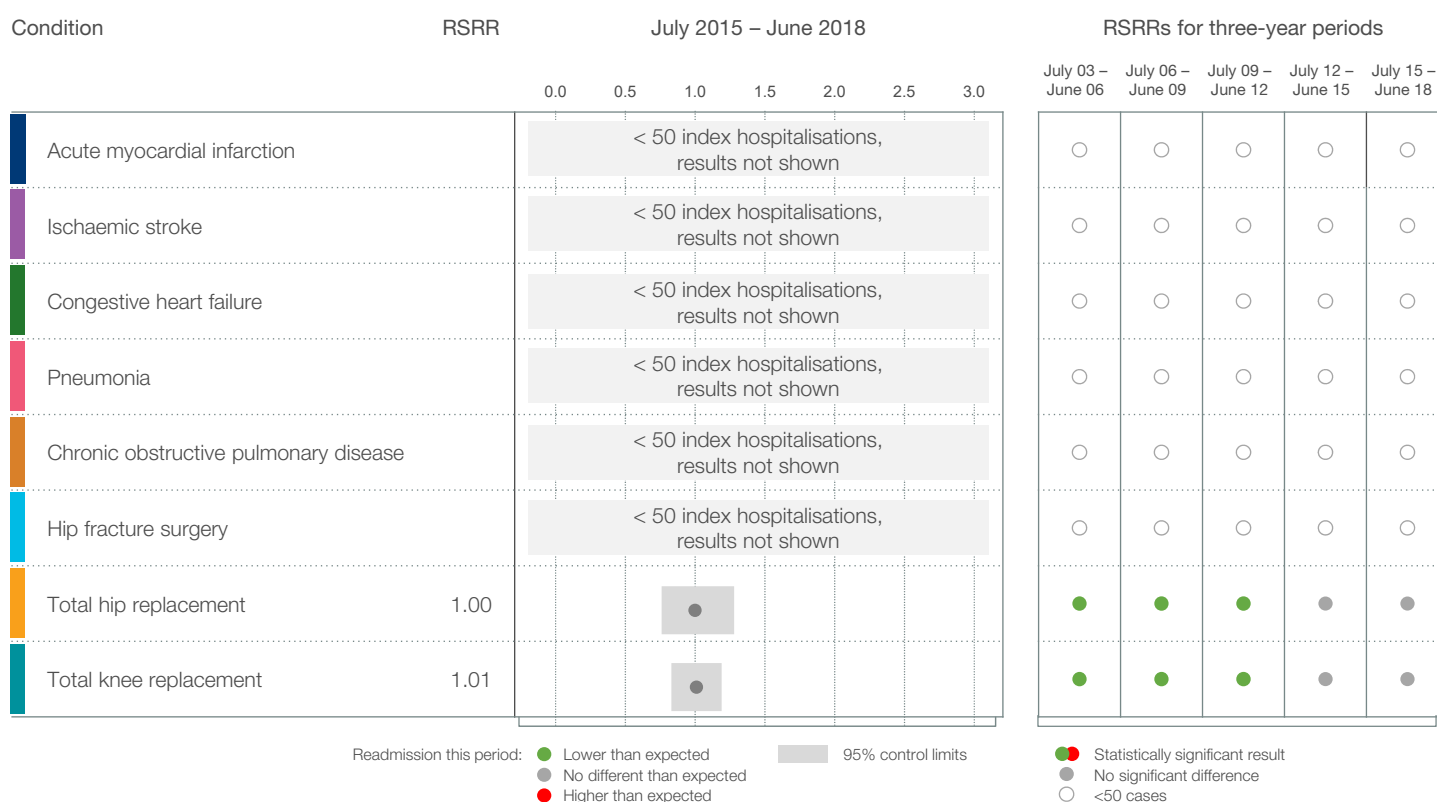
The RSRR differs from other readmission indicators principally because it is risk-adjusted and it takes into account readmission to any, rather than just the same, hospital. This includes readmissions to all hospitals, public and private, and provides a more meaningful and accurate reflection of readmissions, 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.

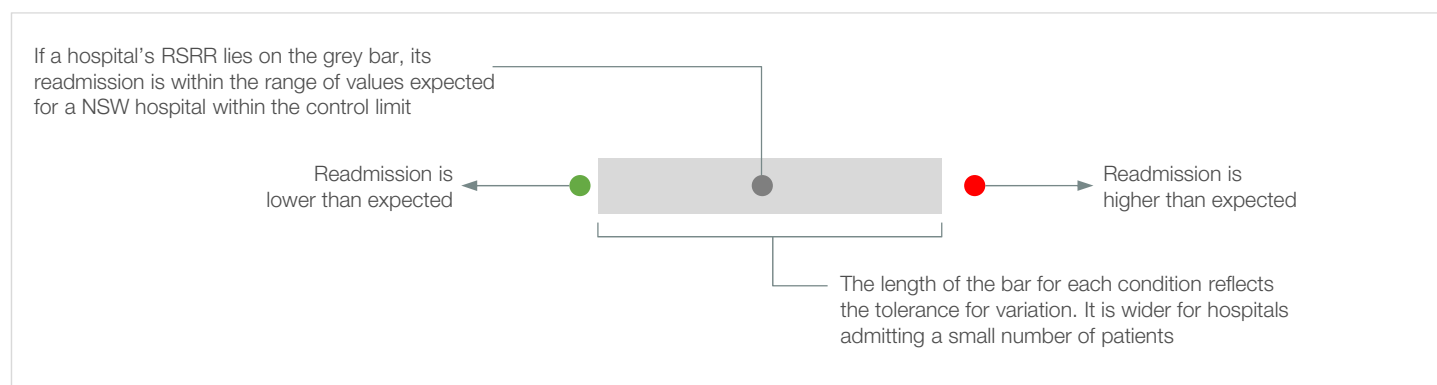
The RSRR is a ratio. A ratio of less than 1.0 indicates that readmission was lower than expected to that hospital, whereas a ratio higher than 1.0 indicates higher readmission. Small deviations from 1.0 are not considered meaningful. The RSRR is not designed to compare hospitals to each other. Rather 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



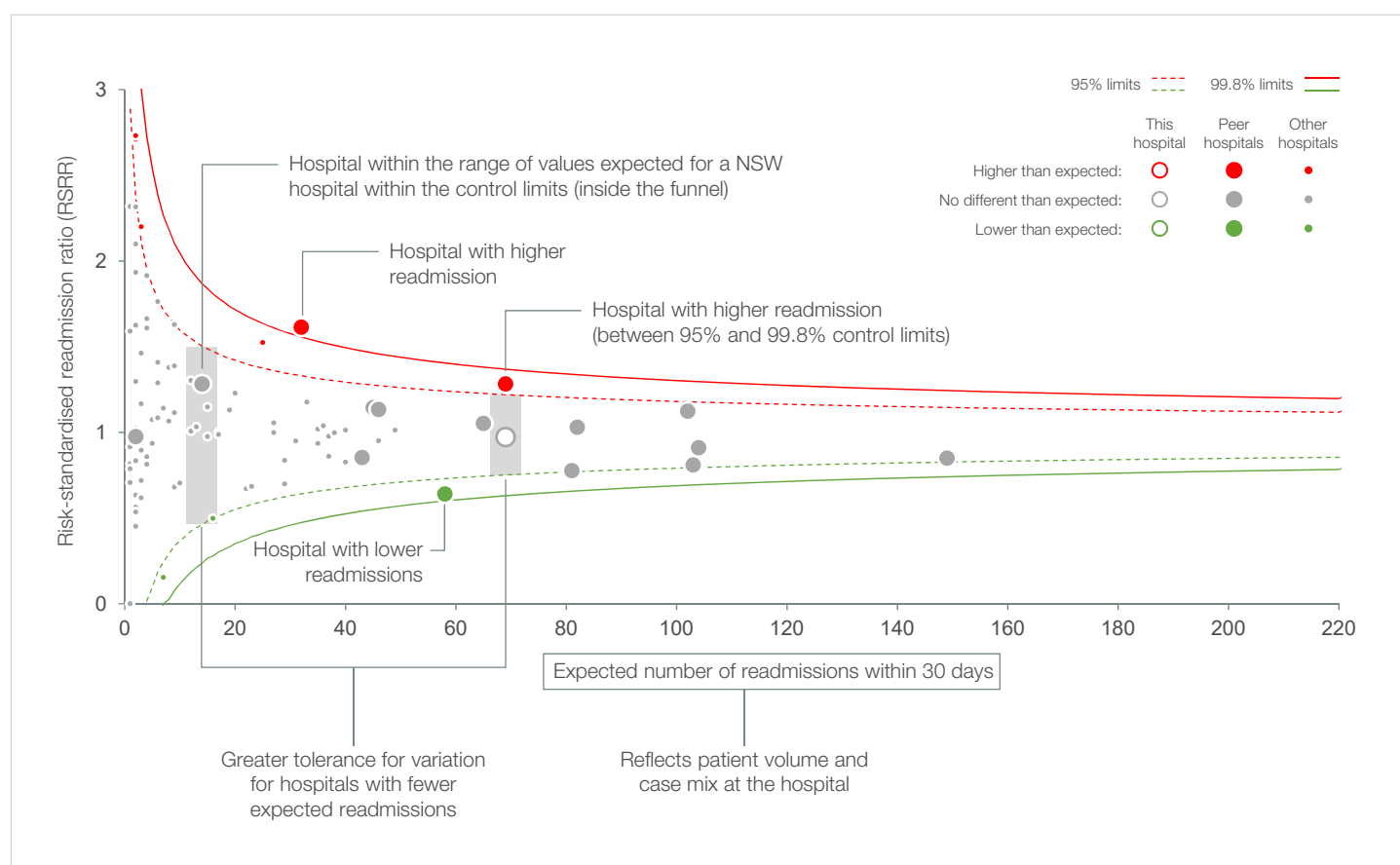
In June 2017, the NSW Health Admission Policy was released, stating that a patient treated in and discharged from an emergency department (ED) only, should not be recorded as an admitted patient. As a result, patients who attended an ED, but were not transferred to an inpatient ward, were not included in BHI readmission analyses from July 2015 onwards and comparison of results before and after this time should be made with caution. For more information, see the *Technical Supplement – Readmission and returns to acute care following hospitalisation for eight clinical conditions, July 2015-June 2018*.

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.



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30-day return to acute care following hospitalisation for acute myocardial infarction

<50 index hospitalisations,
results not shown

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30-day return to acute care following hospitalisation for ischaemic stroke

<50 index hospitalisations,
results not shown

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30-day return to acute care following hospitalisation for congestive heart failure

<50 index hospitalisations,
results not shown

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30-day return to acute care following hospitalisation for pneumonia

<50 index hospitalisations,
results not shown

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30-day return to acute care following hospitalisation for chronic obstructive pulmonary disease

<50 index hospitalisations,
results not shown

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30-day return to acute care following hospitalisation for hip fracture surgery

<50 index hospitalisations,
results not shown

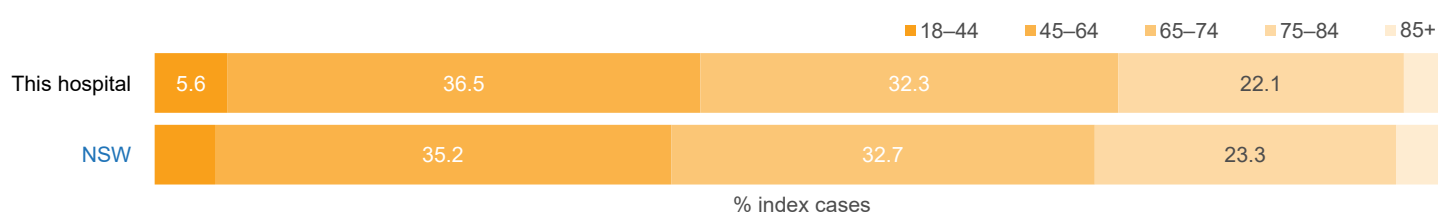
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60-day readmission following hospitalisation for total hip replacement, July 2015 – June 2018

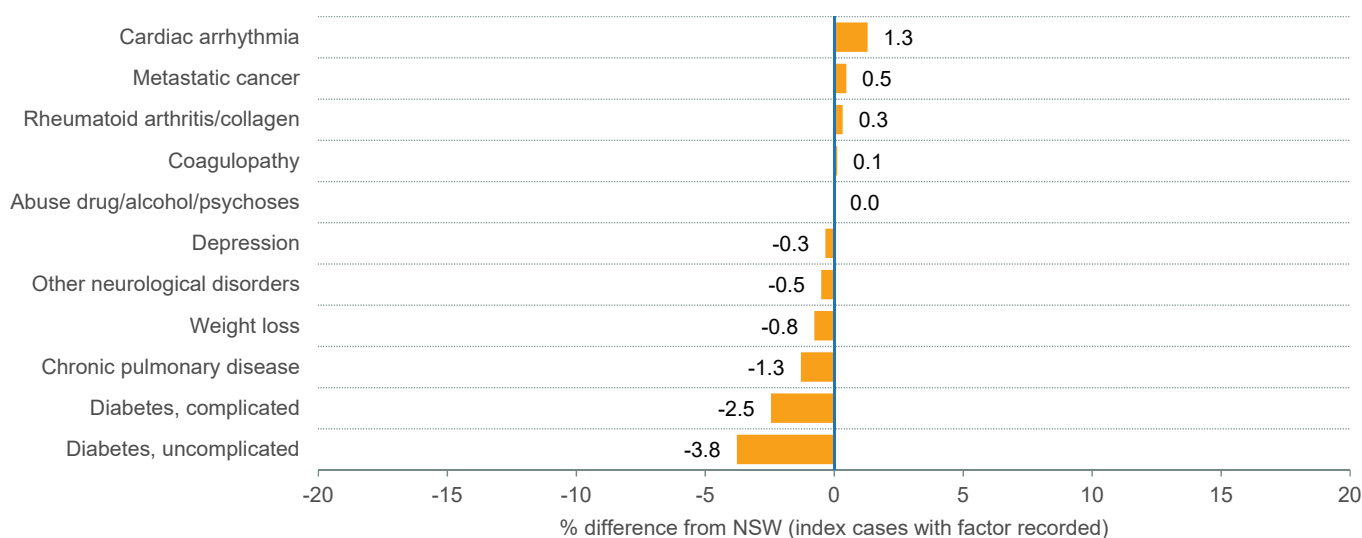
Patient cohort, index hospitalisations^{1,2,3}

	This hospital	NSW
Total index cases for total hip replacement	567	8,985
Average length of stay (days)	5.0	4.7
Discharge destination		
Home	437	7,472
Other	130	1,513

Age profile for index hospitalisations (years)⁴



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



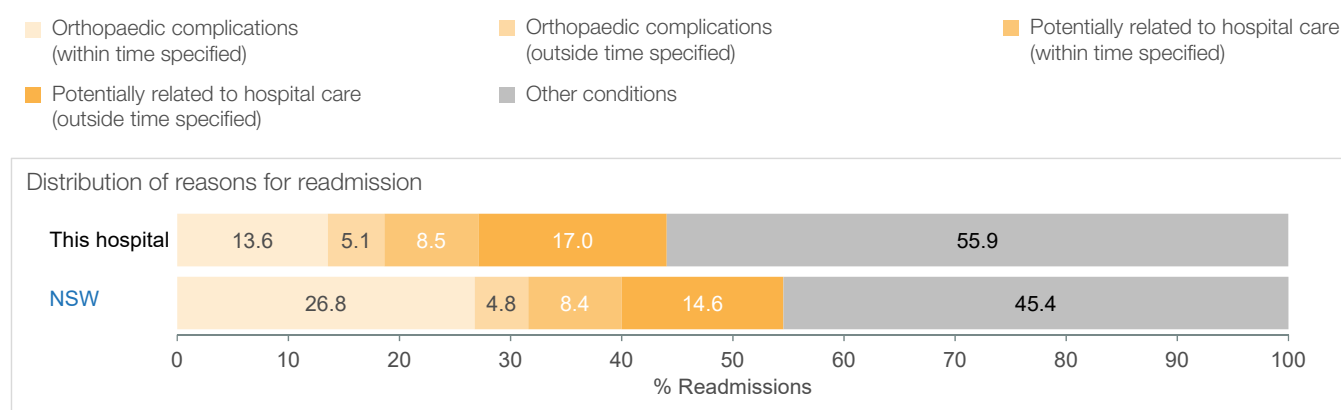
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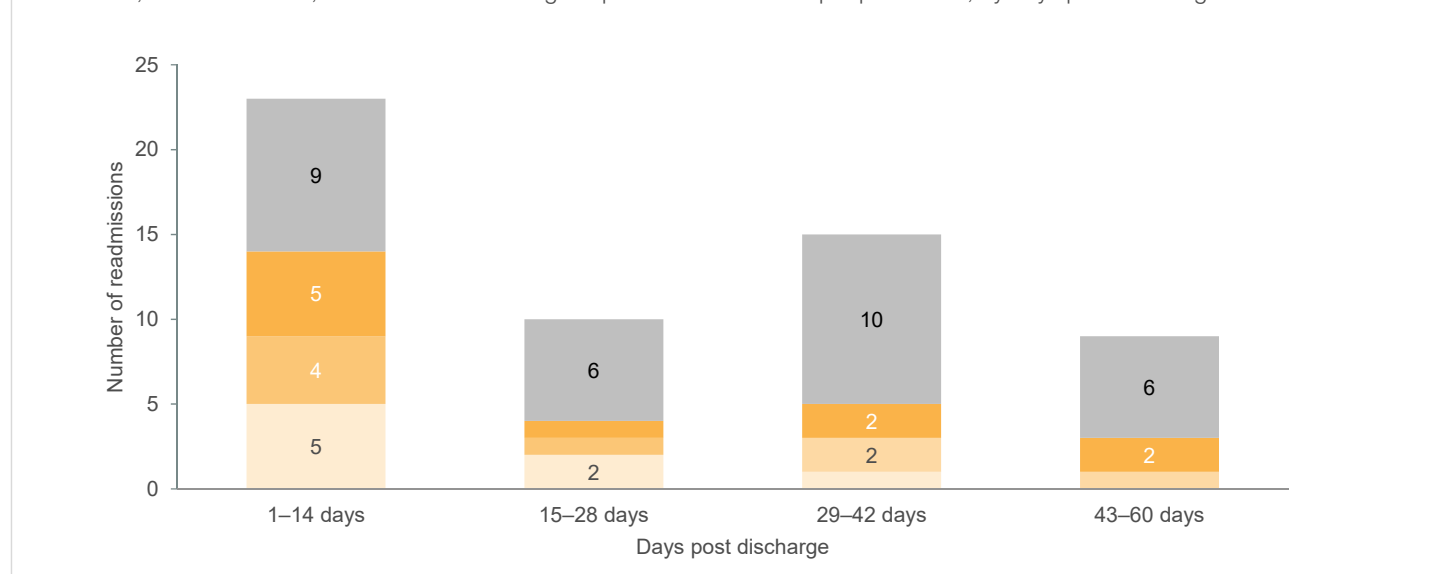
Location of readmissions⁷

	This hospital	NSW
Total readmissions following index hospitalisation for total hip replacement	57	949
Returns to acute care	10	107
Readmitted following hospital discharge	47	842
Readmitted to the same hospital where acute care was completed	1	499
Readmitted to a different hospital	46	343
To an urban public hospital	42	
To a regional or rural public hospital	0	
To a private hospital	4	

Reasons for and time to readmission⁸



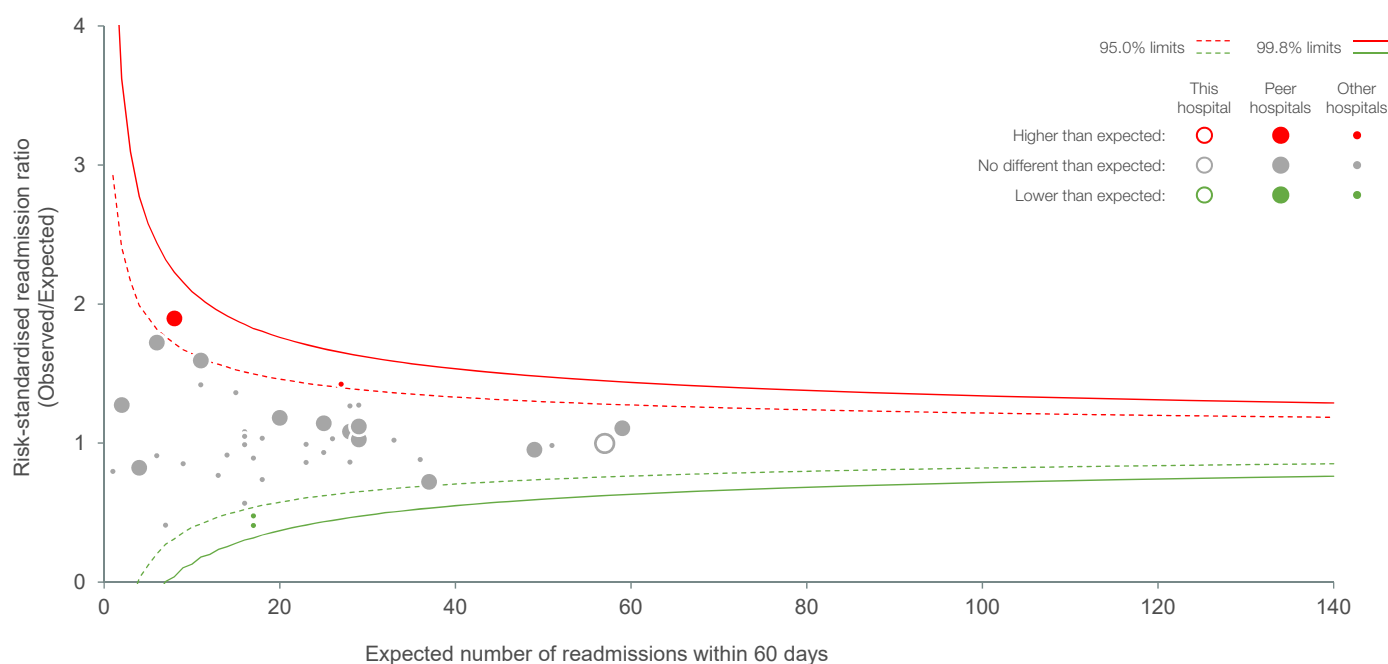
Number of, and reasons for, readmissions following hospitalisation for total hip replacement, by days post discharge



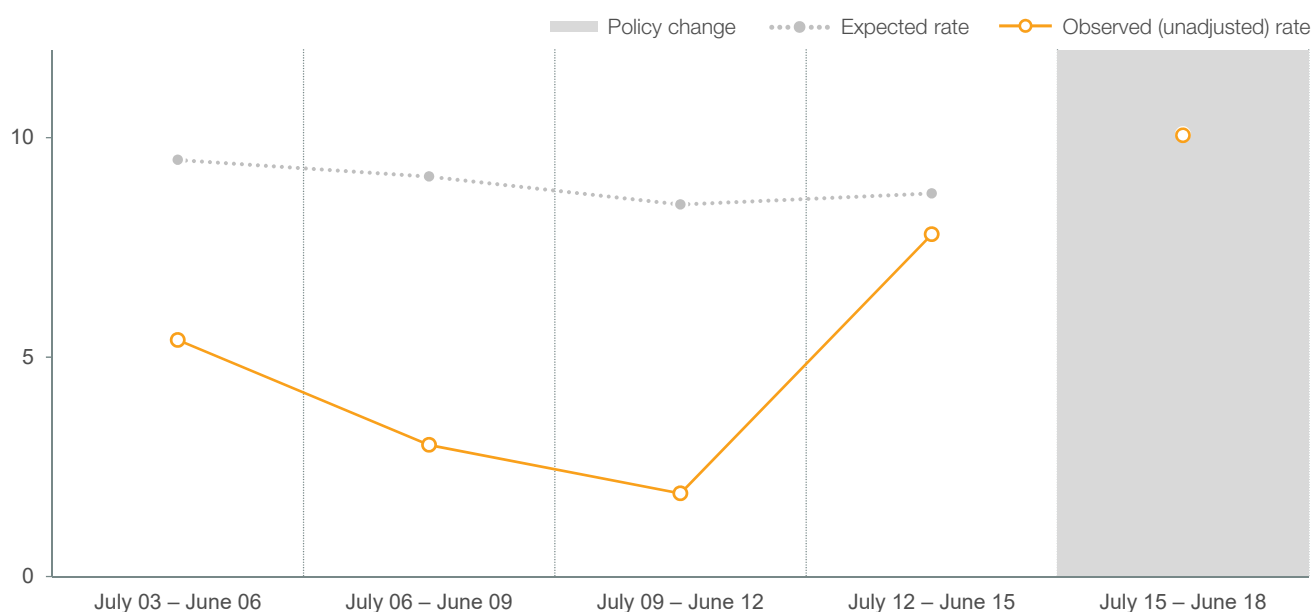
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60-day readmission following hospitalisation for total hip replacement, July 2015 – June 2018

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



In June 2017, the NSW Health Admission Policy was released, stating that a patient treated in and discharged from an emergency department (ED) only, should not be recorded as an admitted patient. As a result, patients who attended an ED, but were not transferred to an inpatient ward, were not included in BHI readmission analyses from July 2015 onwards and comparison of results before and after this time should be made with caution. For more information, see the *Technical Supplement – Readmission and returns to acute care following hospitalisation for eight clinical conditions, July 2015-June 2018*.

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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).
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.
5. 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.
7. 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*.

Data source: BHI analyses of Hospital Performance Dataset, NSW Ministry of Health Secure Analytics for Population Health Research and Intelligence.

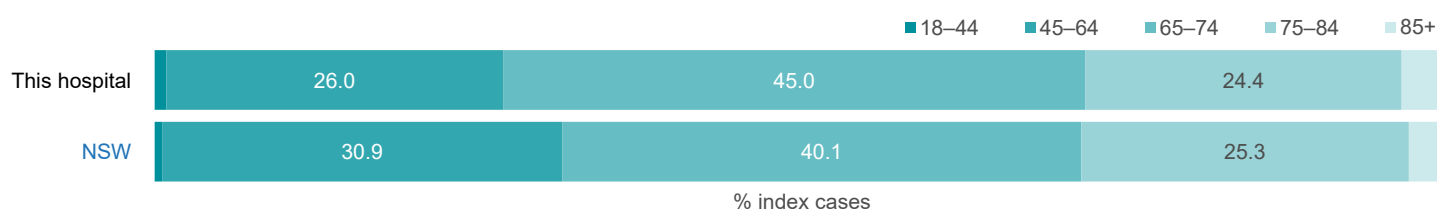
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60-day readmission following hospitalisation for total knee replacement, July 2015 – June 2018

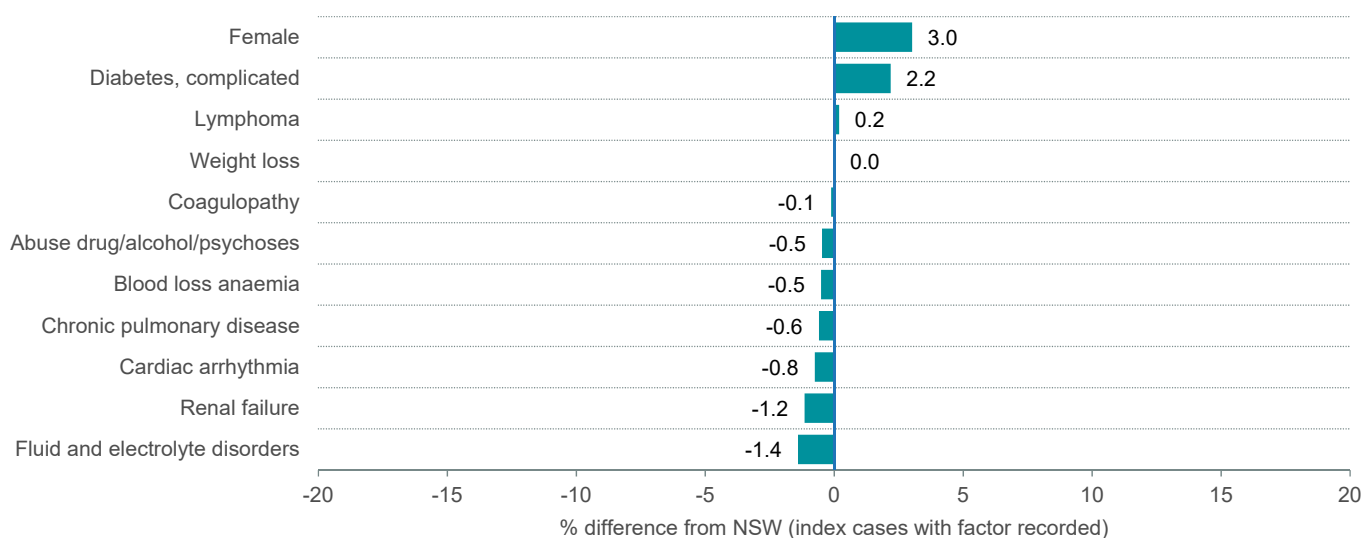
Patient cohort, index hospitalisations^{1,2,3}

	This hospital	NSW
Total index cases for total knee replacement	1,085	15,940
Average length of stay (days)	5.2	4.9
Discharge destination		
Home	863	13,175
Other	222	2,765

Age profile for index hospitalisations (years)⁴



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



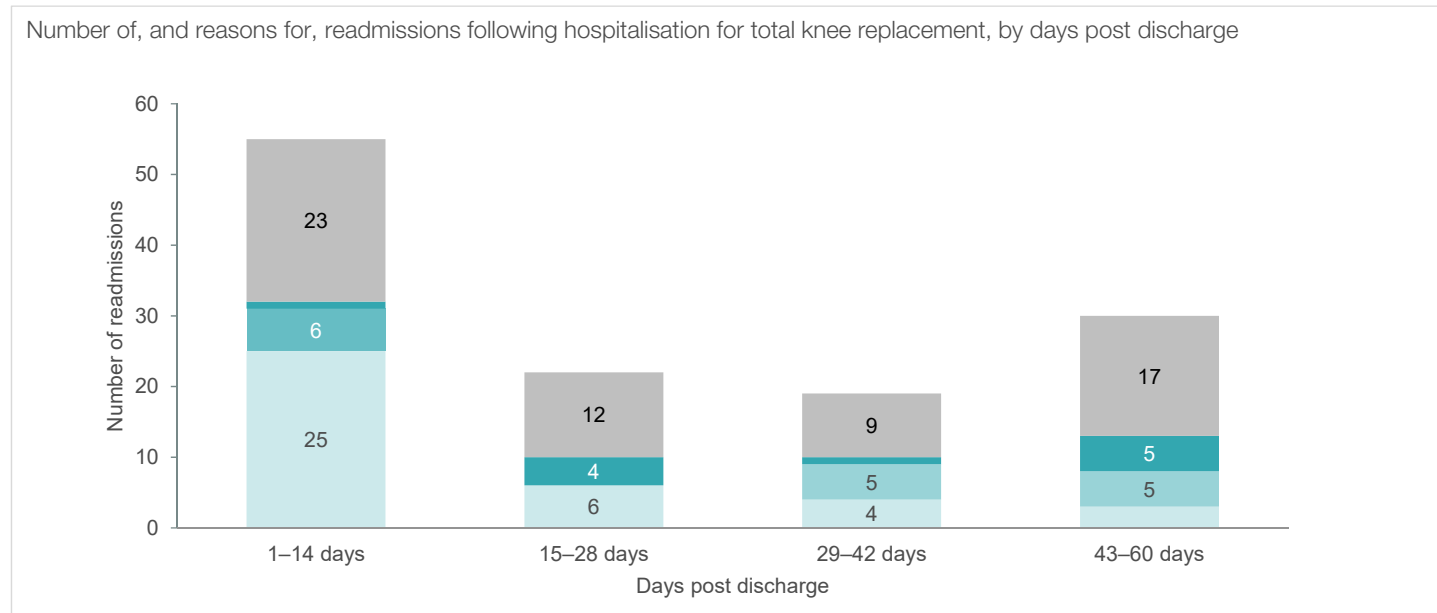
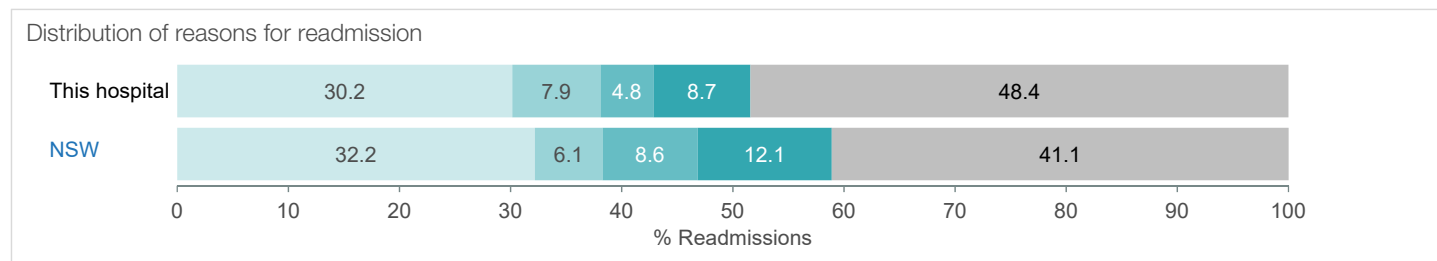
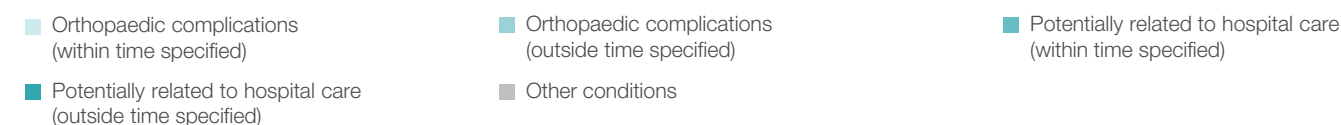
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60-day readmission following hospitalisation for total knee replacement, July 2015 – June 2018

Location of readmissions⁷

	This hospital	NSW
Total readmissions following index hospitalisation for total knee replacement	126	1,892
Returns to acute care	6	152
Readmitted following hospital discharge	120	1,740
Readmitted to the same hospital where acute care was completed	11	1,052
Readmitted to a different hospital	109	688
To an urban public hospital	100	
To a regional or rural public hospital	4	
To a private hospital	5	

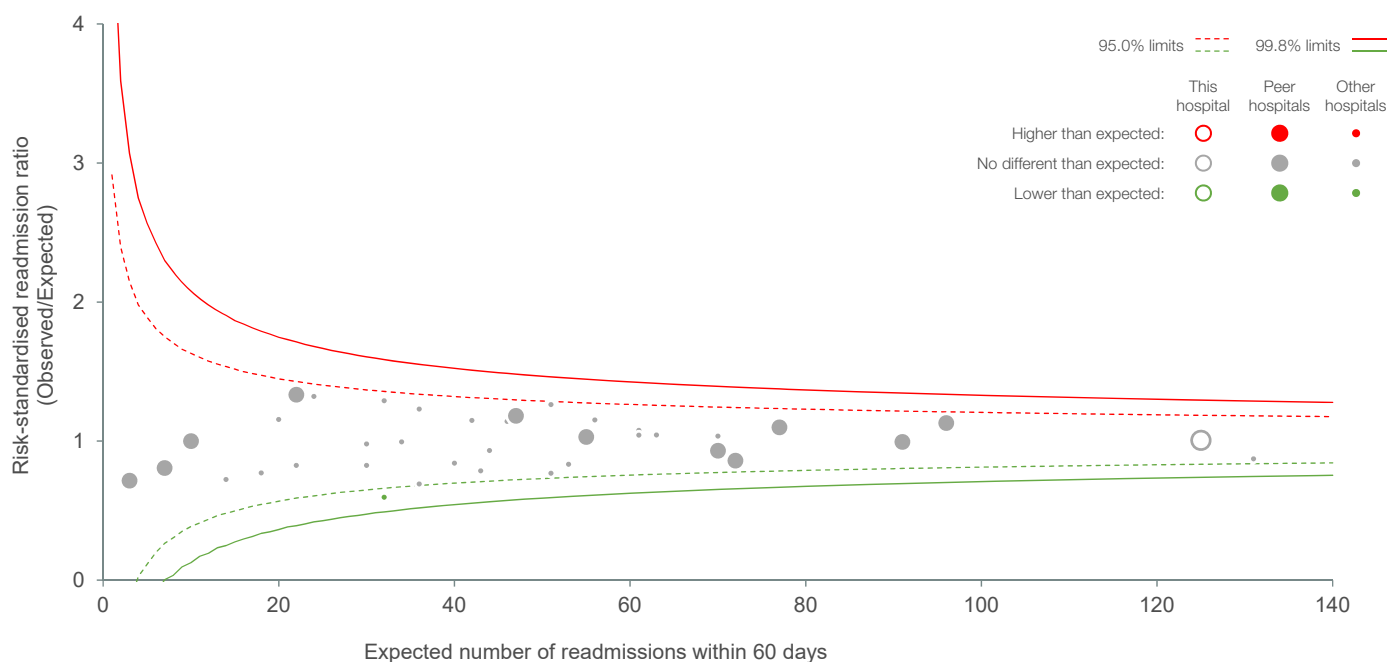
Reasons for and time to readmission⁸



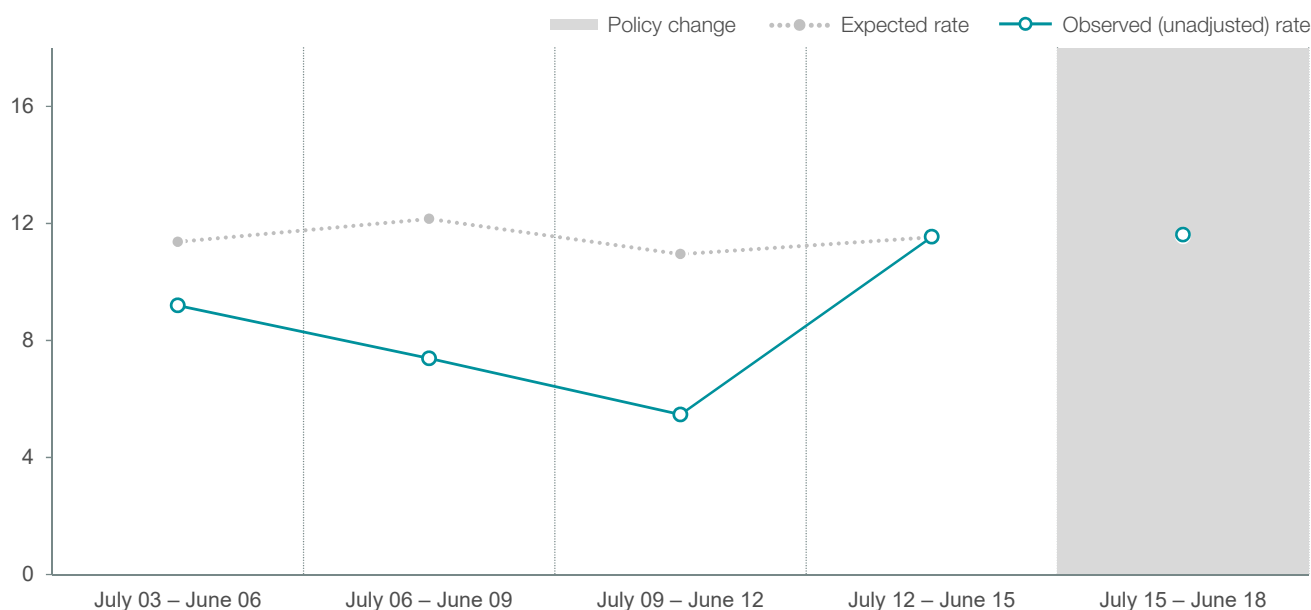
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Total knee replacement risk-standardised **readmission ratios** by number of expected readmissions, NSW public hospitals⁹



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