bureau of health information

Ryde Hospital

30-day mortality following hospitalisation for seven conditions

Measures that assess how healthcare affects patient outcomes, such as risk-standardised mortality ratios (RSMRs), 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 each hospital, the RSMR compares the 'observed' number of deaths within 30 days of admission for a specific clinical condition, with the 'expected'* number of deaths, which is calculated based on all patients admitted with that condition to any NSW hospital.

The RSMR calculation takes into account the volume and types of patients treated in each hospital (known as the case mix), as different hospitals provide care to patients who may be more or less likely, on admission, to die within 30 days.

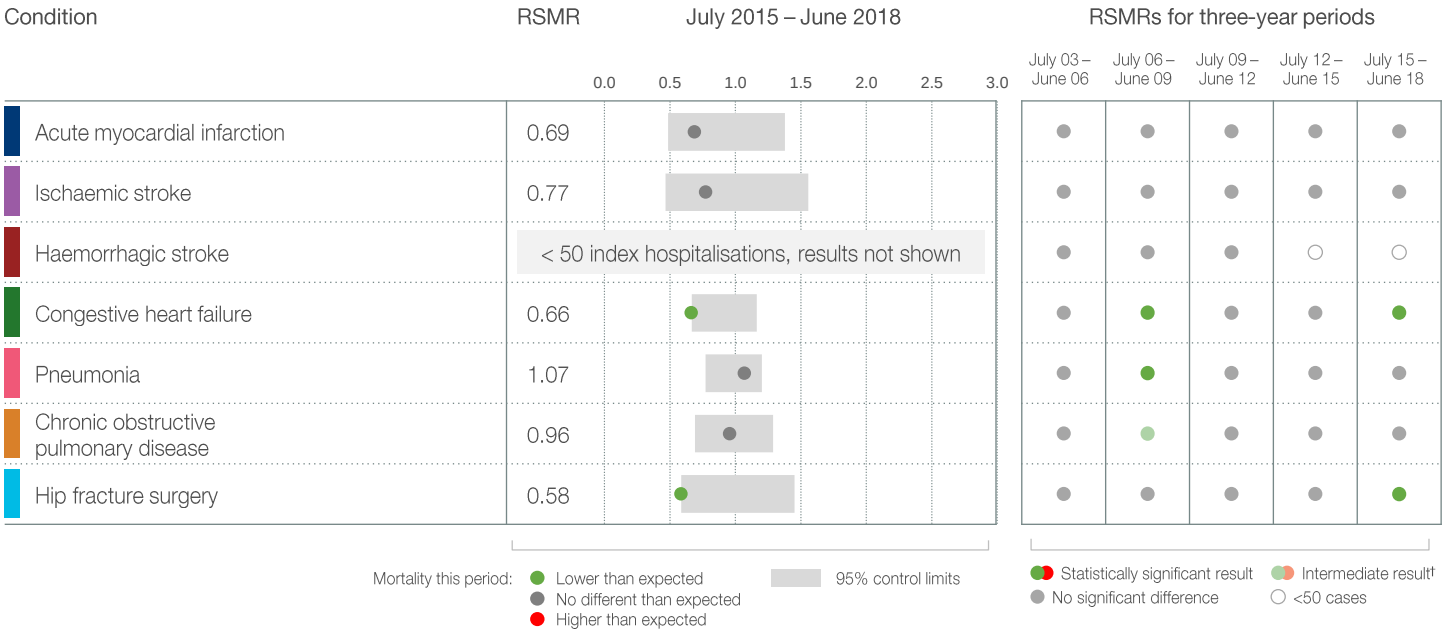
The RSMR is a ratio. A ratio of less than 1.0 indicates that mortality is lower than expected in the hospital, while a ratio of greater than 1.0 indicates that mortality is higher than expected in the hospital. Small deviations from 1.0 are not considered meaningful.

When the ratio is statistically significantly lower than 1.0 it is shaded green, and this indicates that mortality is lower than expected in the hospital. When the ratio is statistically significantly higher than 1.0 it is shaded red, and this indicates that mortality is higher than expected in the hospital.

Funnel plots with 95% and 99.8% control limits around the NSW ratio of 1.0 are used to identify outlier hospitals, which are shaded green or red.

The RSMR is not designed to compare hospitals to each other. Rather it compares each hospital's outcomes with what may have been expected given its particular case mix.

Risk-standardised mortality ratios (RSMRs) for seven conditions



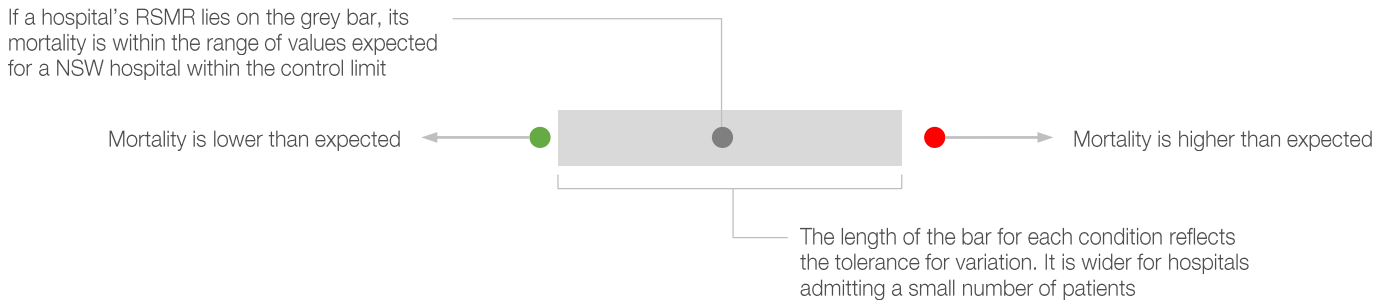
* Data refer to patients who were discharged between July 2015 and June 2018 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care, for an acute and emergency hospitalisation for the relevant condition. Deaths are from any cause, in or out of hospital, within 30 days of the hospitalisation admission date. The 'expected' number of deaths is calculated using a statistical model. Details of analyses are available in *Spotlight on Measurement: Measuring 30-day mortality following hospitalisation, 2nd edition* and the Technical Supplement to *Mortality following hospitalisation for seven clinical conditions, July 2015 – June 2018*.

† RSMR outliers between July 2012 – June 2018 used control limits of 95% and 99.8%. Periods between July 2000 and June 2012 used control limits of 90% and 95%. Historical results that were outside the 90% control limits but did not reach significance at the 95% level are categorised as 'intermediate' results.

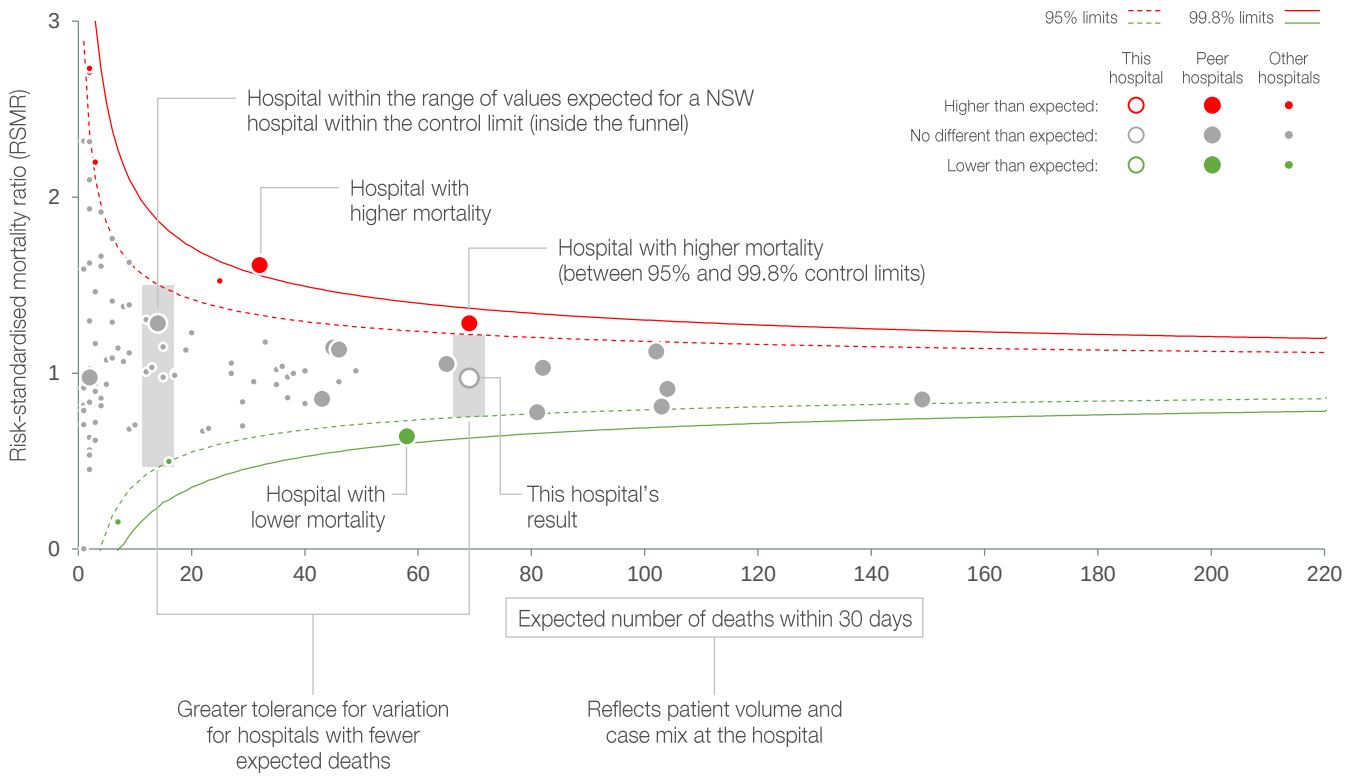
Notes: In June 2017, the *NSW Health Admission Policy* was released, stating that a patient treated in and discharged from an emergency department (ED) only, should not be recorded as an admitted patient. As a result, ED-only attendances were not included in BHI mortality analyses for the July 2015 – June 2018 period, and comparison of results before and after this time should be made with caution. For more information, see the Technical Supplement to *Mortality following hospitalisation for seven 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.

How to interpret the dashboard



How to interpret a funnel plot

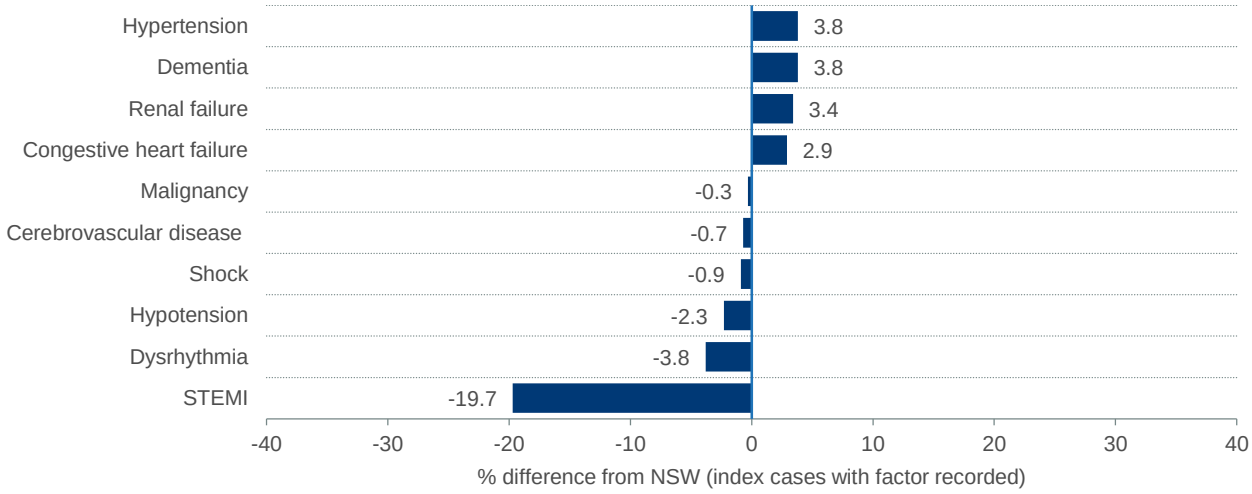


Ryde Hospital

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

	This hospital	NSW
Total acute myocardial infarction hospitalisations	245	35,843
Acute myocardial infarction patients		
Presenting patients (index cases)*	222	30,560
Patients transferred to another hospital within 30 days†	153	12,749
Percentage of patients aged 65+ years‡	77.5%	62.2%
Percentage of patients aged 75+ years‡	55.9%	38.0%

Significant patient factors and comorbidities, this hospital, index cases§



* Data refer to patients who were discharged between July 2015 and June 2018 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care, for an acute and emergency hospitalisation with acute myocardial infarction as principal diagnosis (ICD-10-AM codes I21, excluding I21.9). Deaths are from any cause, in or out of hospital within 30 days of the hospitalisation admission date.

† Includes transfers for diagnostic tests, procedures and ongoing care.

‡ Age at admission date. Age was a statistical factor in the final model of 30-day mortality following hospitalisation for acute myocardial infarction.

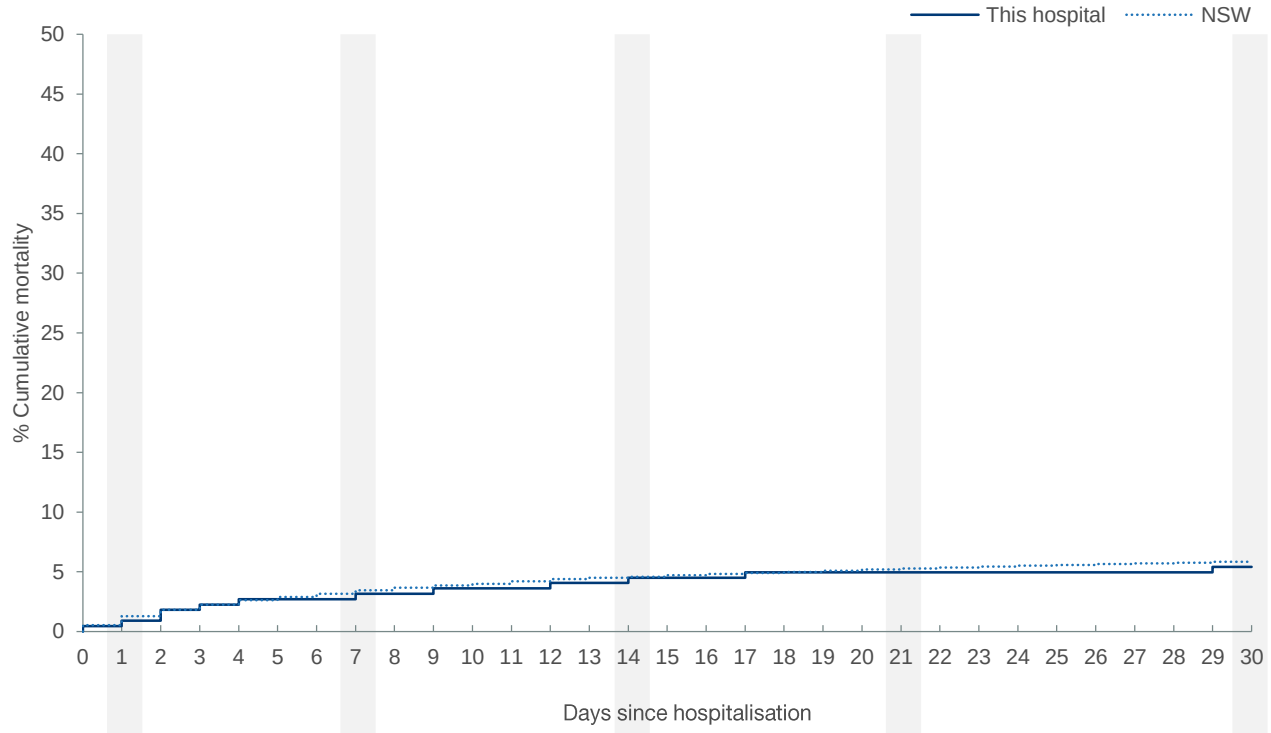
§ Comorbidities as recorded on patient record, with one-year look-back from the admission date of the index case. The Australian Commission on Safety and Quality in Healthcare comorbidity list was used for acute myocardial infarction, ischaemic stroke, haemorrhagic stroke, pneumonia and hip fracture surgery. The Elixhauser comorbidity list was used for congestive heart failure and chronic obstructive pulmonary disease. STEMI refers to ST-elevation myocardial infarction. Only those conditions that were shown to have a significant impact on mortality (P<0.05) are shown.

Ryde Hospital

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

	This hospital	NSW
Mortality (all causes) among 222 acute myocardial infarction index cases	12 (5.4%)	1,792 (5.9%)
Percentages: index cases who died within 30 days of hospitalisation		
Where deaths occurred:		
Percentage in this hospital	50.0%	61.0%
Percentage in another hospital following transfer	0.0%	2.1%
Percentage after discharge	50.0%	36.8%
When deaths occurred:		
Percentage on day of admission	8.3%	8.8%
Percentage within seven days	58.3%	58.8%

Cumulative mortality following hospitalisation for acute myocardial infarction, this hospital and NSW*



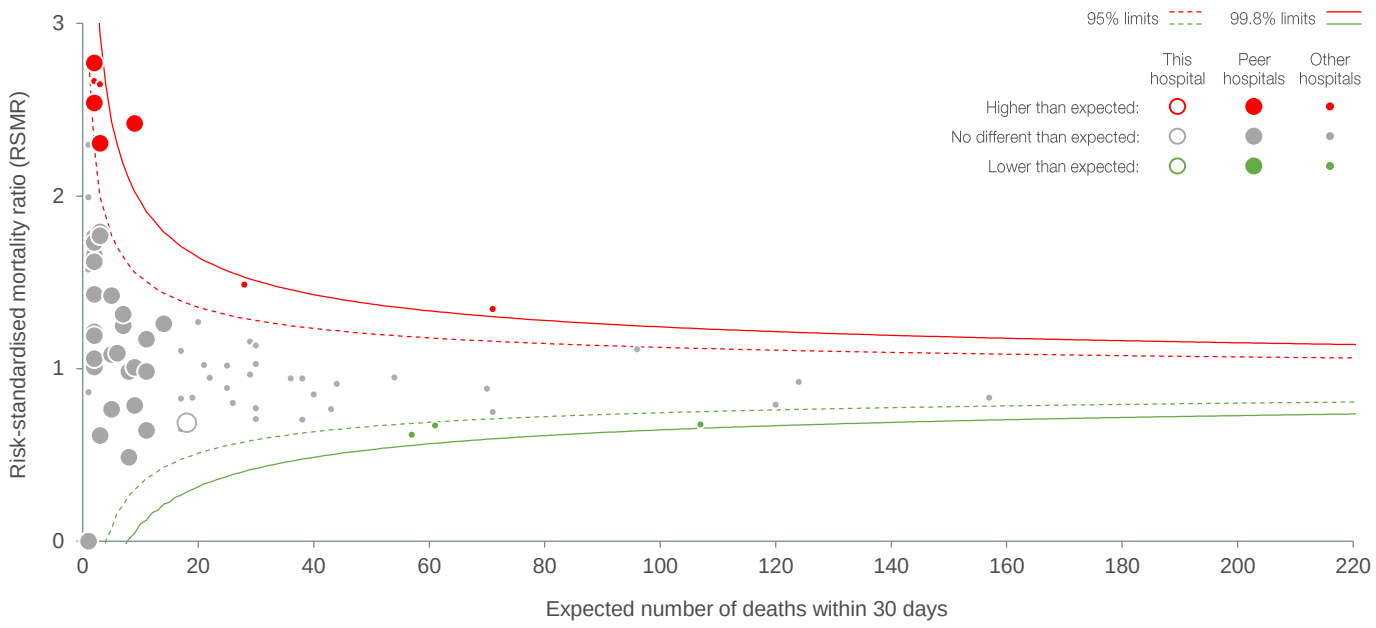
This hospital	Day 1	Day 7	Day 14	Day 21	Day 30
Cumulative number of deaths	2	7	10	11	12
Patients still alive	220	215	212	211	210

* Cumulative percentage of deaths over the 30 days following admission to hospital for the relevant condition.

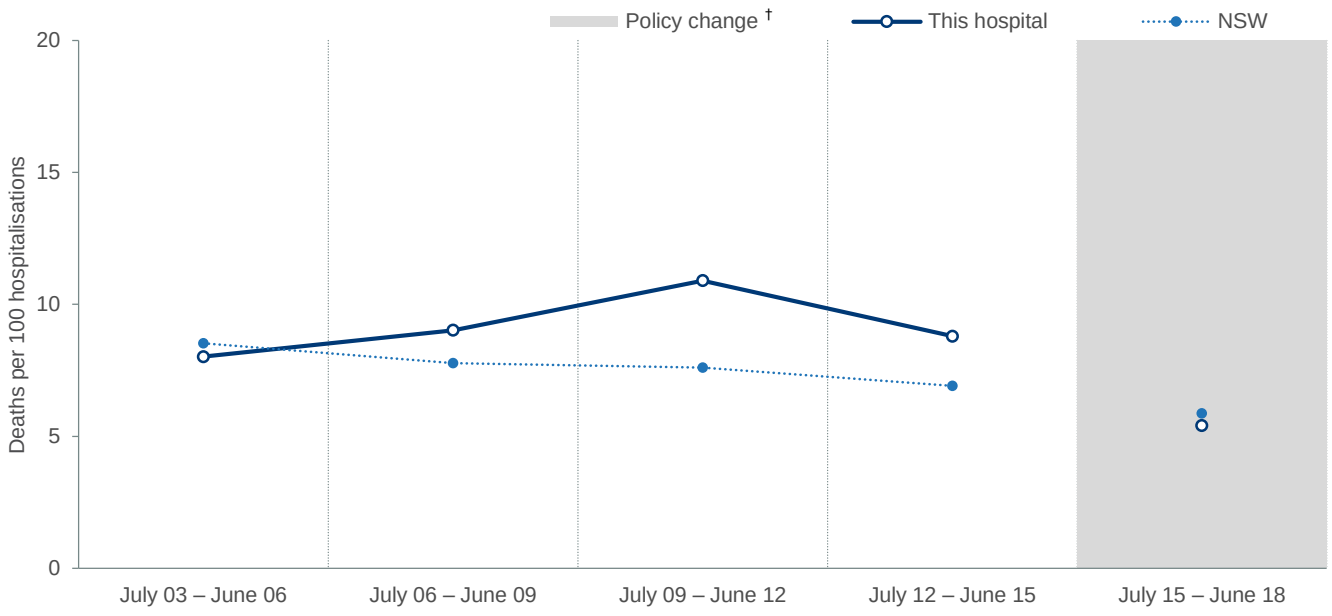
Ryde Hospital

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

Acute myocardial infarction **risk-standardised** mortality ratio by number of expected deaths, NSW public hospitals*



Acute myocardial infarction, **observed (unadjusted)** mortality rates, this hospital and NSW, July 2003 – June 2018



* Results for hospitals with expected deaths <1 are not shown. Peer hospitals are identified according to the NSW Ministry of Health's peer grouping as of January 2018.

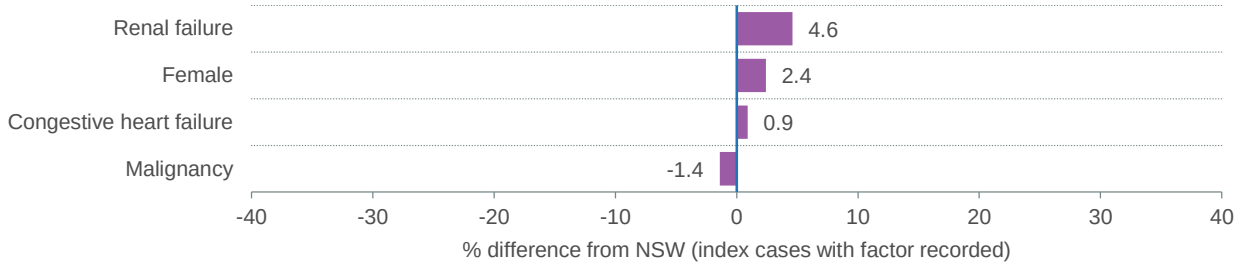
† In June 2017, the *NSW Health Admission Policy* was released, stating that a patient treated in and discharged from an emergency department only, should not be recorded as an admitted patient. As a result, ED-only attendances were not included in BHI mortality analyses from July 2015 onwards and comparison of results before and after this time should be made with caution. For more information, see the Technical Supplement to *Mortality following hospitalisation for seven clinical conditions, July 2015 – June 2018*.

Ryde Hospital

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

	This hospital	NSW
Total ischaemic stroke hospitalisations	102	18,676
Ischaemic stroke patients		
Presenting patients (index cases)*	92	17,415
Patients transferred to another hospital within 30 days†	20	4,381
Percentage of patients aged 65+ years‡	87.0%	77.4%
Percentage of patients aged 75+ years‡	72.8%	54.5%

Significant patient factors and comorbidities, this hospital, index cases§



* Data refer to patients who were discharged between July 2015 and June 2018 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care, for an acute and emergency hospitalisation with ischaemic stroke as principal diagnosis (ICD-10-AM code I63). Deaths are from any cause, in or out of hospital within 30 days of the hospitalisation admission date.

† Includes transfers for diagnostic tests, procedures and ongoing care.

‡ Age at admission date. Age was a statistical factor in the final model of 30-day mortality following hospitalisation for ischaemic stroke.

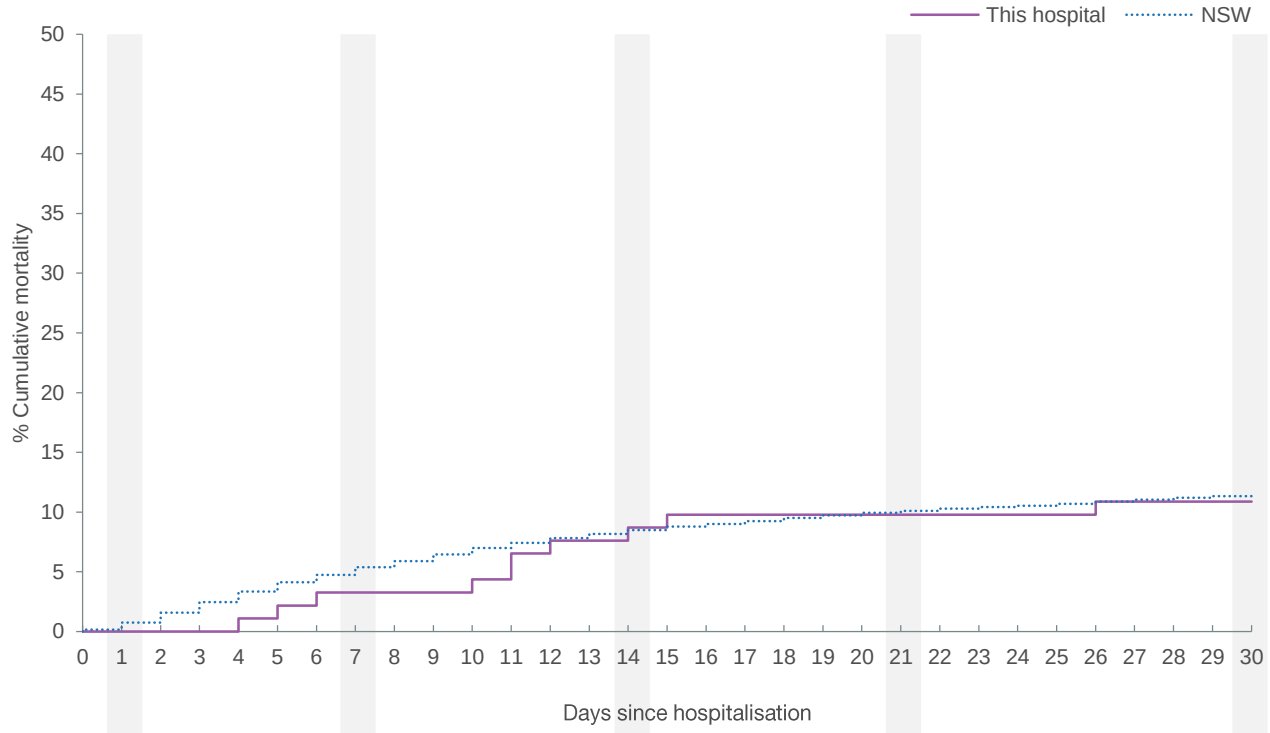
§ Comorbidities as recorded on patient record, with one-year look-back from the admission date of the index case. The Australian Commission on Safety and Quality in Healthcare comorbidity list was used for acute myocardial infarction, ischaemic stroke, haemorrhagic stroke, pneumonia and hip fracture surgery. The Elixhauser comorbidity list was used for congestive heart failure and chronic obstructive pulmonary disease. STEMI refers to ST-elevation myocardial infarction. Only those conditions that were shown to have a significant impact on mortality ($P<0.05$) are shown.

Ryde Hospital

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

	This hospital	NSW
Mortality (all causes) among 92 ischaemic stroke index cases	10 (10.9%)	1,996 (11.5%)
Percentages: index cases who died within 30 days of hospitalisation		
Where deaths occurred:		
Percentage in this hospital	20.0%	49.1%
Percentage in another hospital following transfer	0.0%	1.3%
Percentage after discharge	80.0%	49.6%
When deaths occurred:		
Percentage on day of admission	0.0%	1.3%
Percentage within seven days	30.0%	46.8%

Cumulative mortality following hospitalisation for ischaemic stroke, this hospital and NSW*



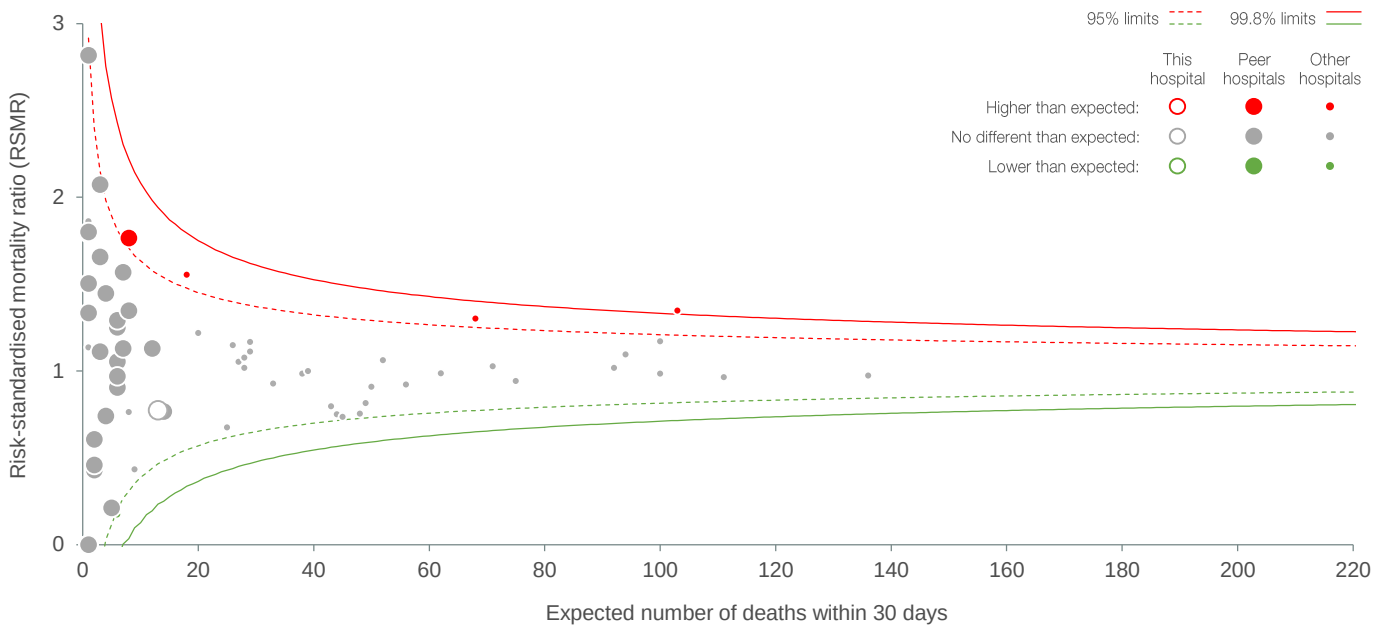
This hospital	Day 1	Day 7	Day 14	Day 21	Day 30
Cumulative number of deaths	0	3	8	9	10
Patients still alive	92	89	84	83	82

* Cumulative percentage of deaths over the 30 days following admission to hospital for the relevant condition.

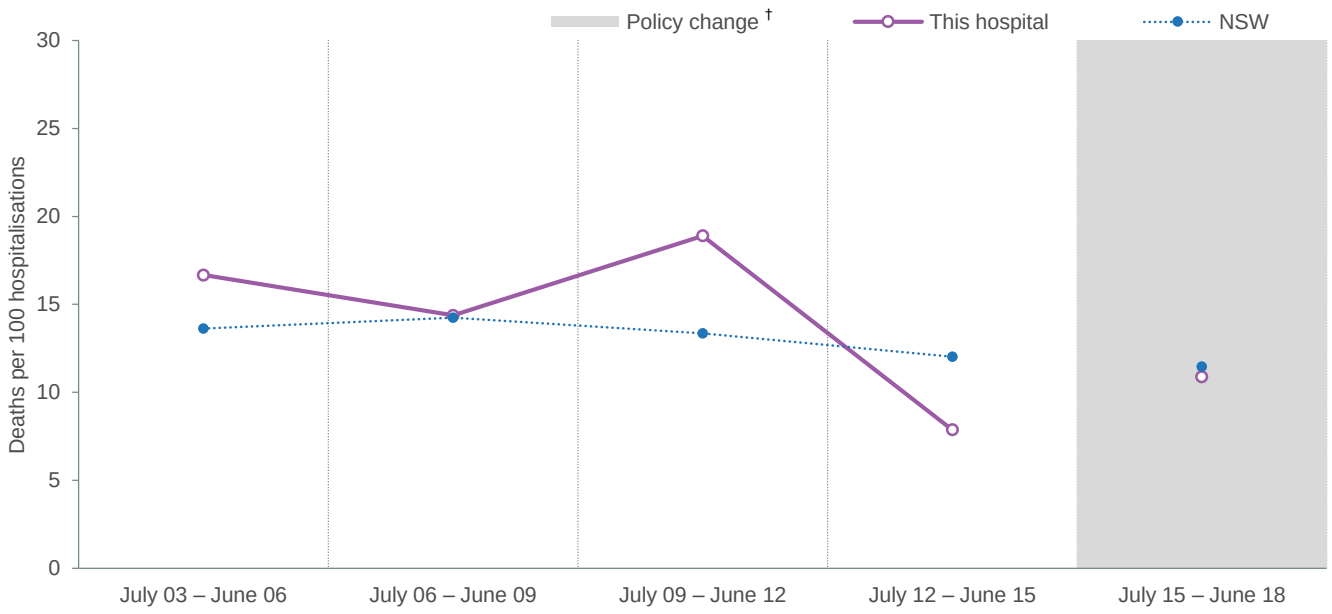
Ryde Hospital

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

Ischaemic stroke **risk-standardised** mortality ratio by number of expected deaths, NSW public hospitals*



Ischaemic stroke, **observed (unadjusted)** mortality rates, this hospital and NSW, July 2003 – June 2018



* Results for hospitals with expected deaths <1 are not shown. Peer hospitals are identified according to the NSW Ministry of Health's peer grouping as of January 2018.

† In June 2017, the *NSW Health Admission Policy* was released, stating that a patient treated in and discharged from an emergency department only, should not be recorded as an admitted patient. As a result, ED-only attendances were not included in BHI mortality 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 to *Mortality following hospitalisation for seven clinical conditions, July 2015 – June 2018*.

Ryde Hospital

30-day mortality following hospitalisation for haemorrhagic stroke, July 2015 – June 2018

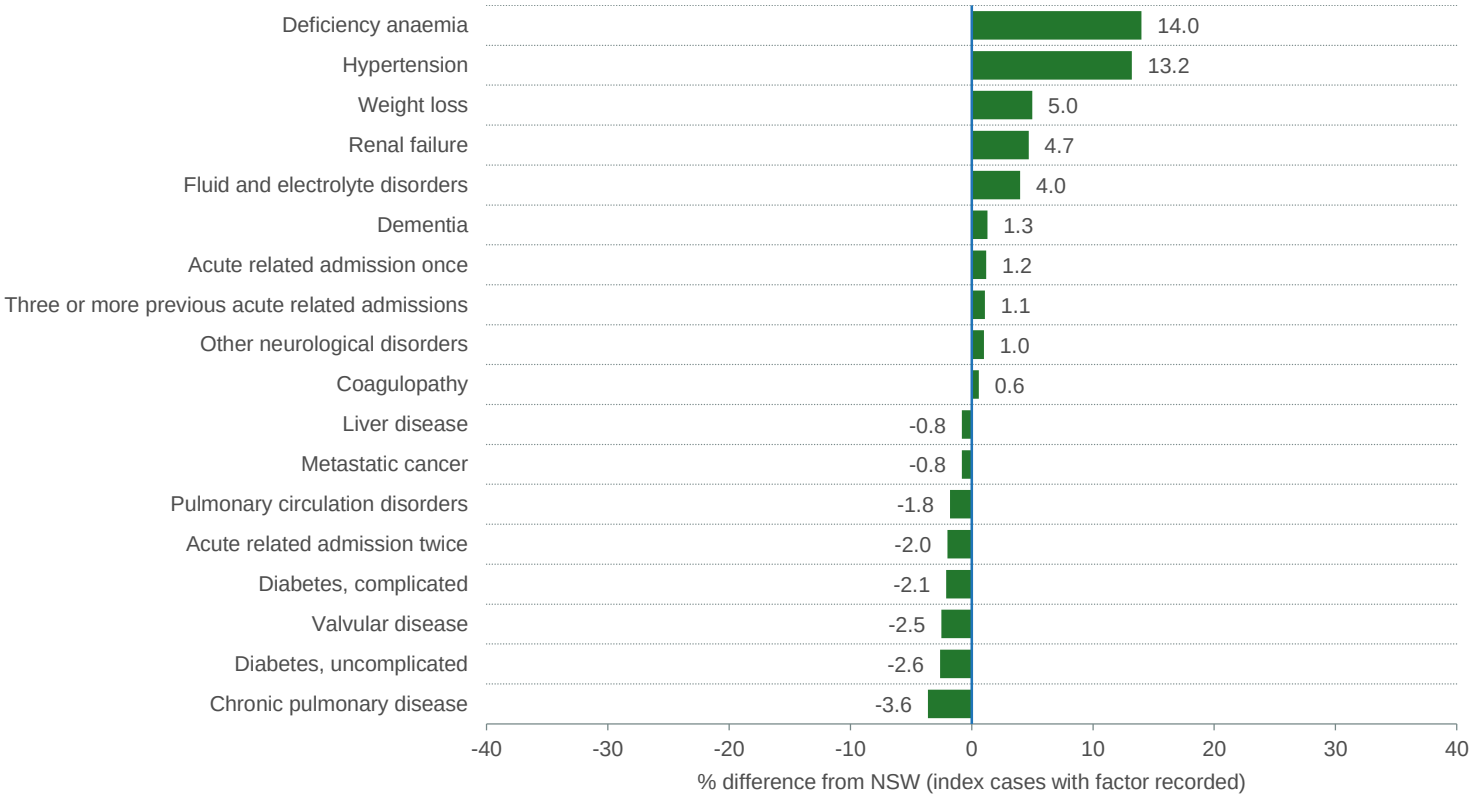
<50 index hospitalisations, results not shown

Ryde Hospital

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

	This hospital	NSW
Total congestive heart failure hospitalisations	512	41,161
Congestive heart failure patients		
Presenting patients (index cases)*	345	28,514
Patients transferred to another hospital within 30 days†	50	3,865
Percentage of patients aged 65+ years‡	96.2%	90.1%
Percentage of patients aged 75+ years‡	86.7%	72.0%

Significant patient factors and comorbidities, this hospital, index cases§



* Data refer to patients who were discharged between July 2015 and June 2018 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care, for an acute and emergency hospitalisation with congestive heart failure as principal diagnosis (ICD-10-AM codes I11.0, I13.0, I13.2, I50.0, I50.1, I50.9). Deaths are from any cause, in or out of hospital within 30 days of the hospitalisation admission date.

† Includes transfers for diagnostic tests, procedures and ongoing care.

‡ Age at admission date. Age was a statistical factor in the final model of 30-day mortality following hospitalisation for congestive heart failure.

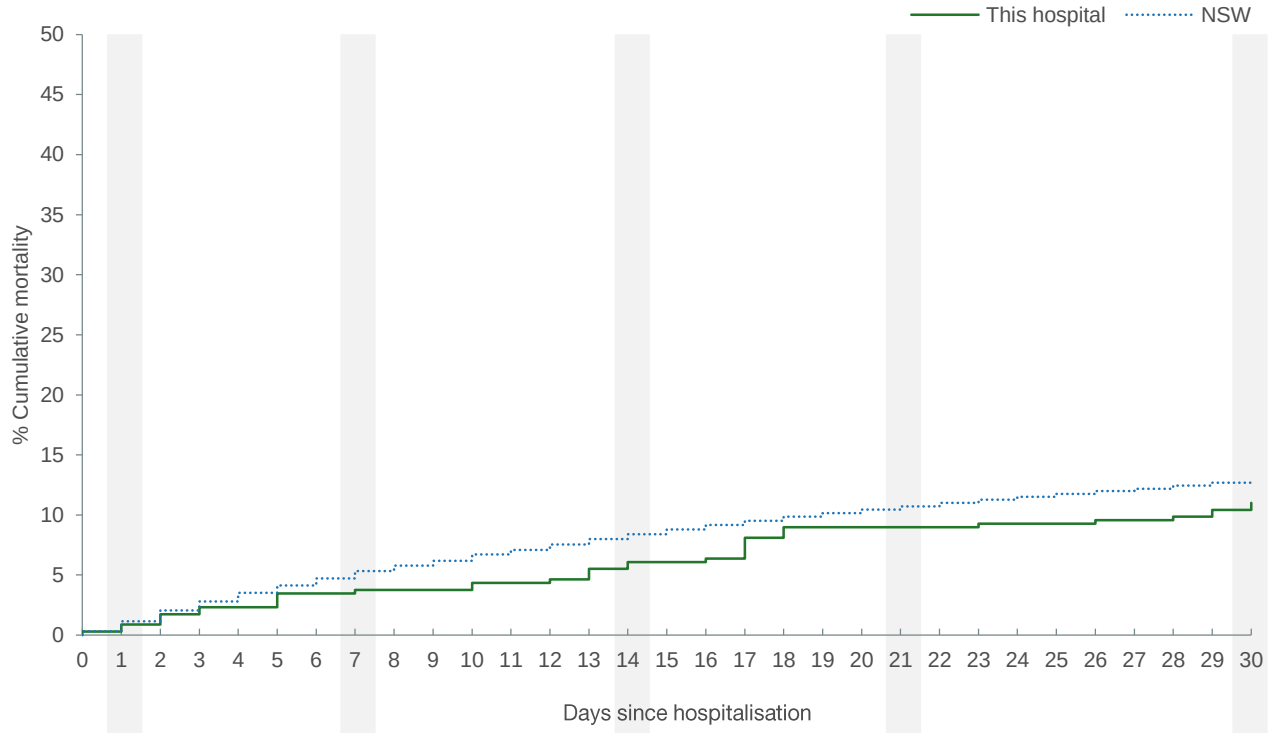
§ Comorbidities as recorded on patient record, with one-year look-back from the admission date of the index case. The Australian Commission on Safety and Quality in Healthcare comorbidity list was used for acute myocardial infarction, ischaemic stroke, haemorrhagic stroke, pneumonia and hip fracture surgery. The Elixhauser comorbidity list was used for congestive heart failure and chronic obstructive pulmonary disease. STEMI refers to ST-elevation myocardial infarction. Only those conditions that were shown to have a significant impact on mortality (P<0.05) are shown.

Ryde Hospital

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

	This hospital	NSW
Mortality (all causes) among 345 congestive heart failure index cases	38 (11.0%)	3,683 (12.9%)
Percentages: index cases who died within 30 days of hospitalisation		
Where deaths occurred:		
Percentage in this hospital	36.8%	51.8%
Percentage in another hospital following transfer	0.0%	0.8%
Percentage after discharge	63.2%	47.4%
When deaths occurred:		
Percentage on day of admission	2.6%	2.6%
Percentage within seven days	34.2%	41.2%

Cumulative mortality following hospitalisation for congestive heart failure, this hospital and NSW*



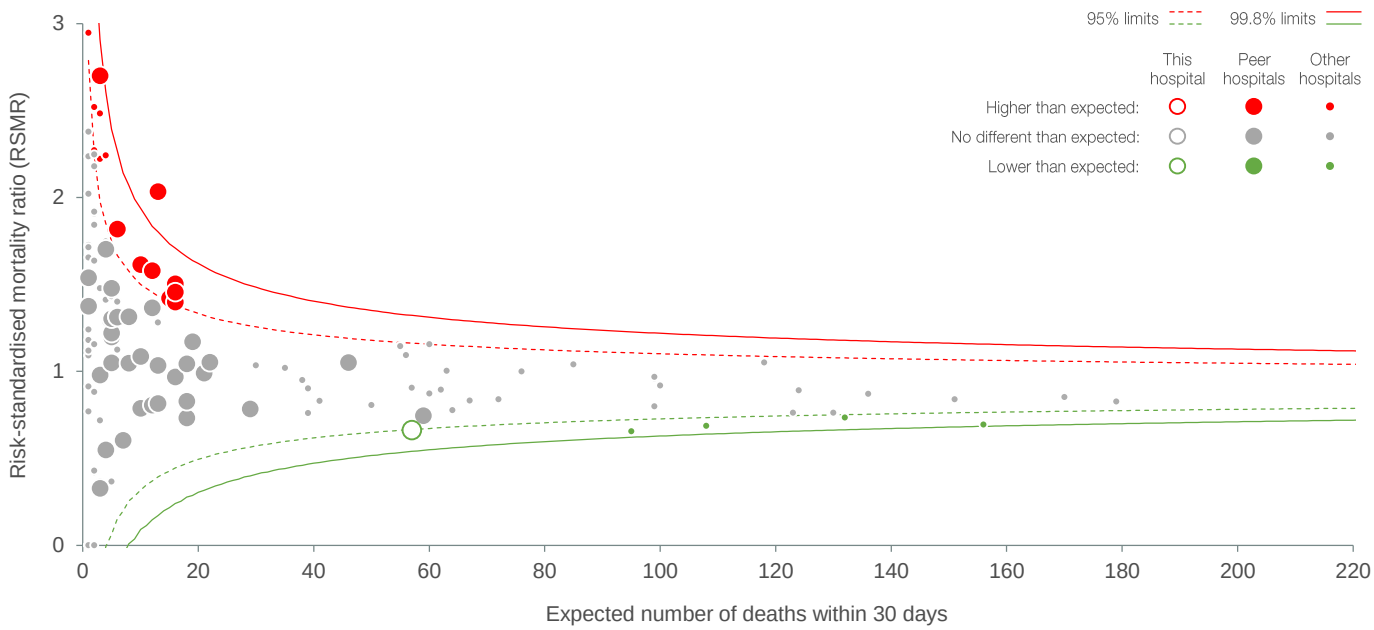
This hospital	Day 1	Day 7	Day 14	Day 21	Day 30
Cumulative number of deaths	3	13	21	31	38
Patients still alive	342	332	324	314	307

* Cumulative percentage of deaths over the 30 days following admission to hospital for the relevant condition.

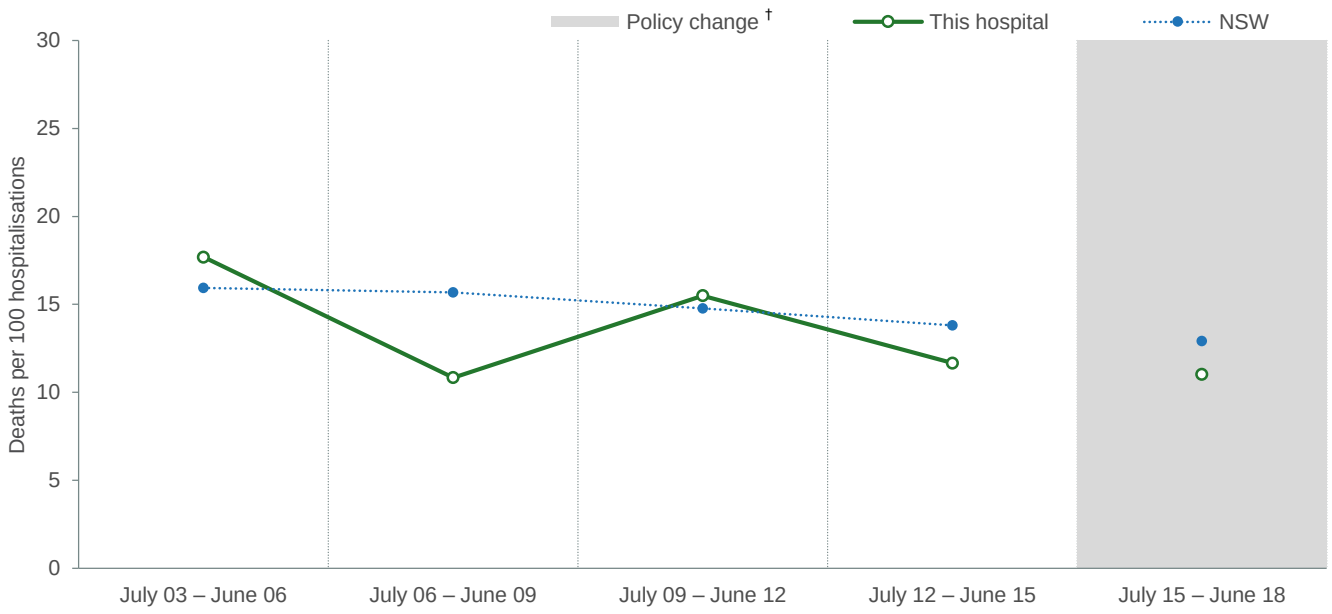
Ryde Hospital

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

Congestive heart failure **risk-standardised** mortality ratio by number of expected deaths, NSW public hospitals*



Congestive heart failure, **observed (unadjusted)** mortality rates, this hospital and NSW, July 2003 – June 2018



* Results for hospitals with expected deaths <1 are not shown. Peer hospitals are identified according to the NSW Ministry of Health's peer grouping as of January 2018.

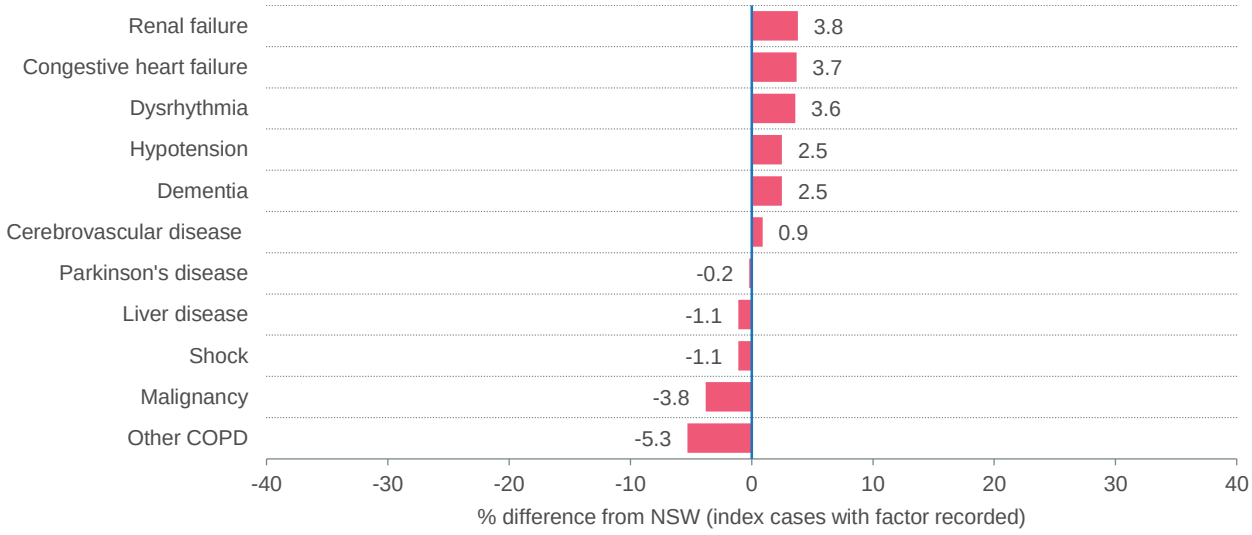
† In June 2017, the *NSW Health Admission Policy* was released, stating that a patient treated in and discharged from an emergency department only, should not be recorded as an admitted patient. As a result, ED-only attendances were not included in BHI mortality analyses from July 2015 onwards and comparison of results before and after this time should be made with caution. For more information, see the Technical Supplement to *Mortality following hospitalisation for seven clinical conditions, July 2015 – June 2018*.

Ryde Hospital

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

	This hospital	NSW
Total pneumonia hospitalisations	800	56,247
Pneumonia patients		
Presenting patients (index cases)*	712	49,810
Patients transferred to another hospital within 30 days†	128	5,260
Percentage of patients aged 65+ years‡	79.5%	69.4%
Percentage of patients aged 75+ years‡	69.4%	50.1%

Significant patient factors and comorbidities, this hospital, index cases§



* Data refer to patients who were discharged between July 2015 and June 2018 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care, for an acute and emergency hospitalisation with pneumonia as principal diagnosis (ICD-10-AM codes J13, J14, J15, J16, J18). Deaths are from any cause, in or out of hospital within 30 days of the hospitalisation admission date.

† Includes transfers for diagnostic tests, procedures and ongoing care.

‡ Age at admission date. Age was a statistical factor in the final model of 30-day mortality following hospitalisation for pneumonia.

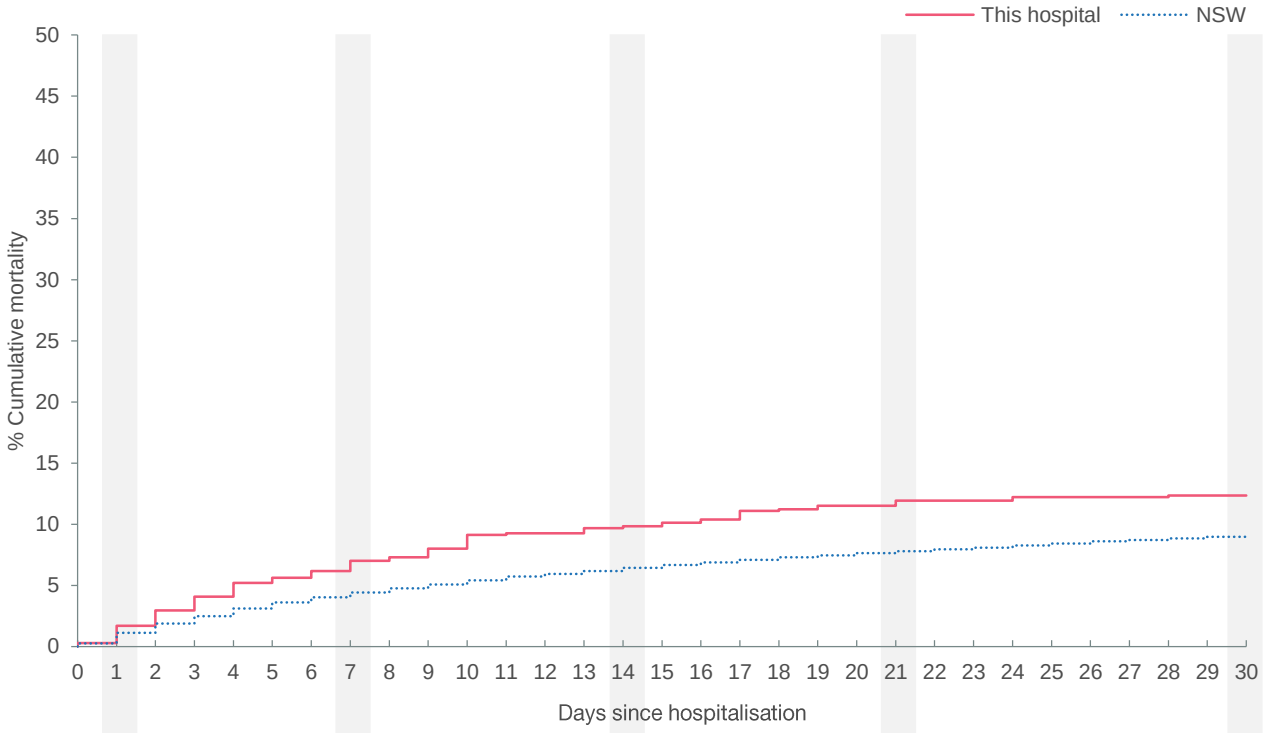
§ Comorbidities as recorded on patient record, with one-year look-back from the admission date of the index case. The Australian Commission on Safety and Quality in Healthcare comorbidity list was used for acute myocardial infarction, ischaemic stroke, haemorrhagic stroke, pneumonia and hip fracture surgery. The Elixhauser comorbidity list was used for congestive heart failure and chronic obstructive pulmonary disease. STEMI refers to ST-elevation myocardial infarction. Only those conditions that were shown to have a significant impact on mortality ($P<0.05$) are shown.

Ryde Hospital

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

	This hospital	NSW
Mortality (all causes) among 712 pneumonia index cases	88 (12.4%)	4,538 (9.1%)
Percentages: index cases who died within 30 days of hospitalisation		
Where deaths occurred:		
Percentage in this hospital	58.0%	53.9%
Percentage in another hospital following transfer	0.0%	0.6%
Percentage after discharge	42.0%	45.5%
When deaths occurred:		
Percentage on day of admission	2.3%	2.9%
Percentage within seven days	56.8%	48.4%

Cumulative mortality following hospitalisation for pneumonia, this hospital and NSW*



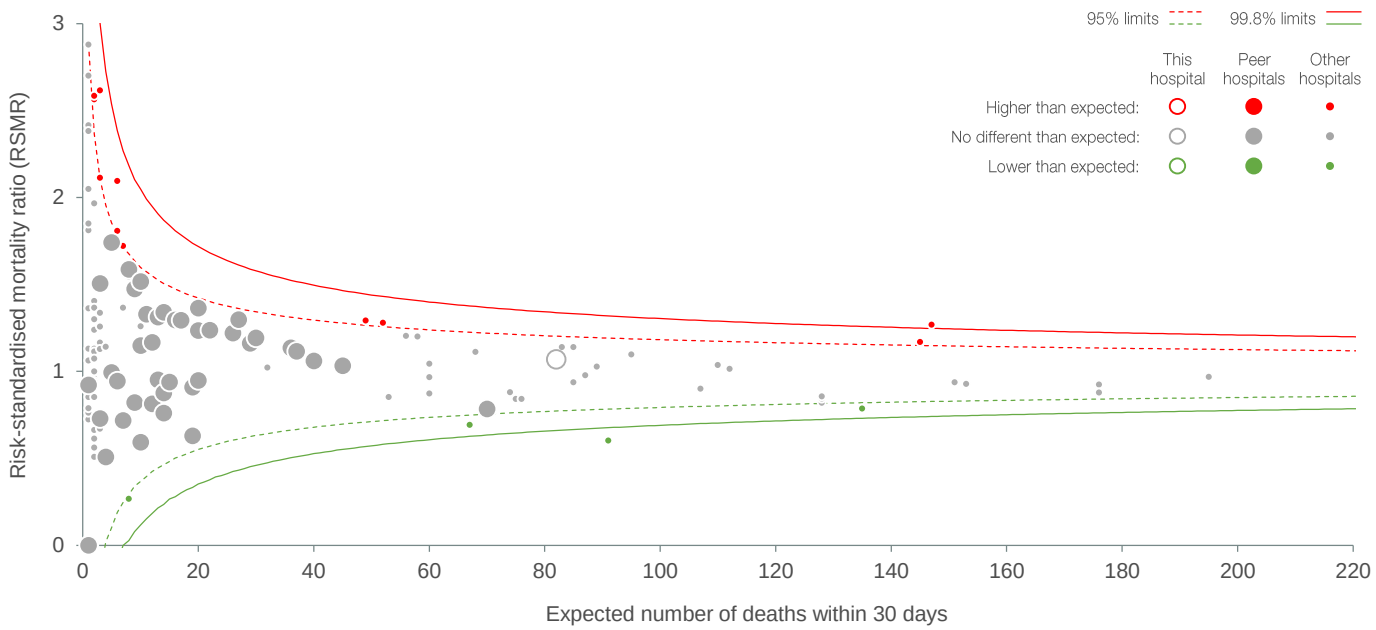
This hospital	Day 1	Day 7	Day 14	Day 21	Day 30
Cumulative number of deaths	12	50	70	85	88
Patients still alive	700	662	642	627	624

* Cumulative percentage of deaths over the 30 days following admission to hospital for the relevant condition.

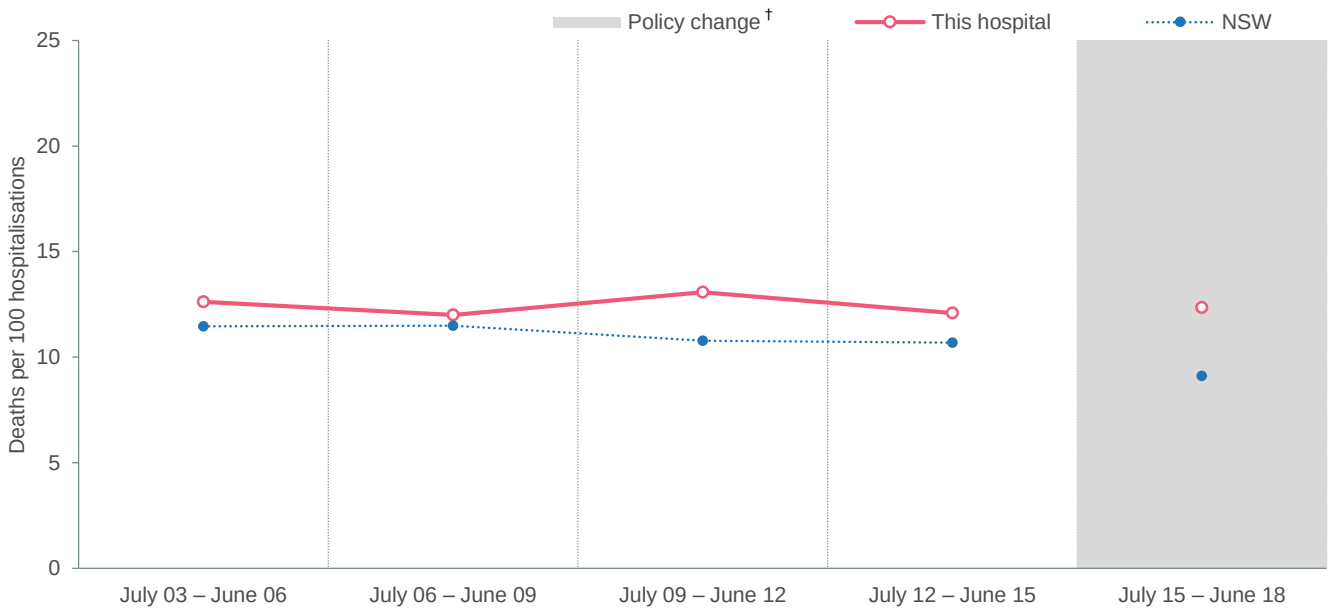
Ryde Hospital

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

Pneumonia **risk-standardised** mortality ratio by number of expected deaths, NSW public hospitals*



Pneumonia, **observed (unadjusted)** mortality rates, this hospital and NSW, July 2003 – June 2018



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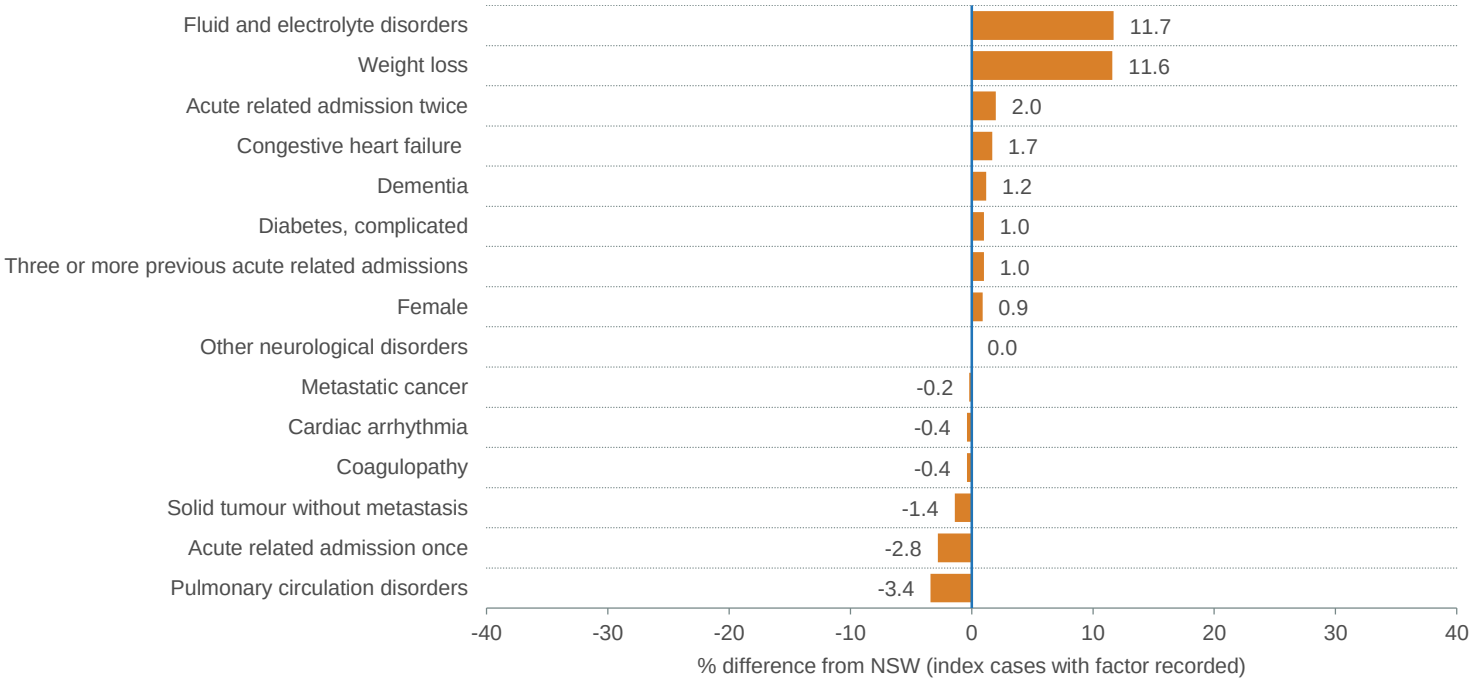
† In June 2017, the *NSW Health Admission Policy* was released, stating that a patient treated in and discharged from an emergency department only, should not be recorded as an admitted patient. As a result, ED-only attendances were not included in BHI mortality analyses from July 2015 onwards and comparison of results before and after this time should be made with caution. For more information, see the Technical Supplement to *Mortality following hospitalisation for seven clinical conditions, July 2015 – June 2018*.

Ryde Hospital

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

	This hospital	NSW
Total chronic obstructive pulmonary disease hospitalisations	670	59,309
Chronic obstructive pulmonary disease patients		
Presenting patients (index cases)*	368	32,605
Patients transferred to another hospital within 30 days†	66	2,717
Percentage of patients aged 65+ years‡	86.1%	80.2%
Percentage of patients aged 75+ years‡	63.9%	50.7%

Significant patient factors and comorbidities, this hospital, index cases§



* Data refer to patients who were discharged between July 2015 and June 2018 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care, for an acute and emergency hospitalisation with chronic obstructive pulmonary disease 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). Deaths are from any cause, in or out of hospital within 30 days of the hospitalisation admission date.

† Includes transfers for diagnostic tests, procedures and ongoing care.

‡ Age at admission date. Age was a statistical factor in the final model of 30-day mortality following hospitalisation for chronic obstructive pulmonary disease.

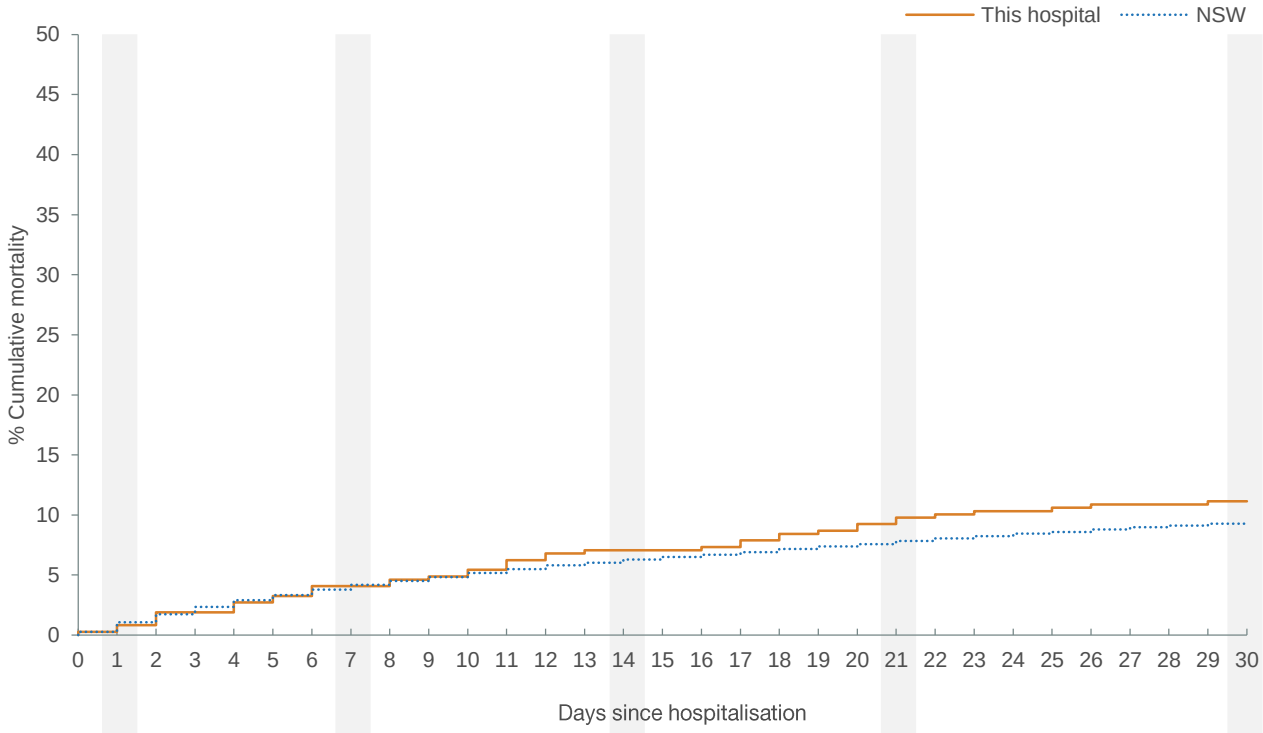
§ Comorbidities as recorded on patient record, with one-year look-back from the admission date of the index case. The Australian Commission on Safety and Quality in Healthcare comorbidity list was used for acute myocardial infarction, ischaemic stroke, haemorrhagic stroke, pneumonia and hip fracture surgery. The Elixhauser comorbidity list was used for congestive heart failure and chronic obstructive pulmonary disease. STEMI refers to ST-elevation myocardial infarction. Only those conditions that were shown to have a significant impact on mortality (P<0.05) are shown.

Ryde Hospital

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

	This hospital	NSW
Mortality (all causes) among 368 chronic obstructive pulmonary disease index cases	41 (11.1%)	3,084 (9.5%)
Percentages: index cases who died within 30 days of hospitalisation		
Where deaths occurred:		
Percentage in this hospital	48.8%	50.0%
Percentage in another hospital following transfer	0.0%	0.6%
Percentage after discharge	51.2%	49.5%
When deaths occurred:		
Percentage on day of admission	2.4%	2.9%
Percentage within seven days	36.6%	44.3%

Cumulative mortality following hospitalisation for chronic obstructive pulmonary disease, this hospital and NSW*



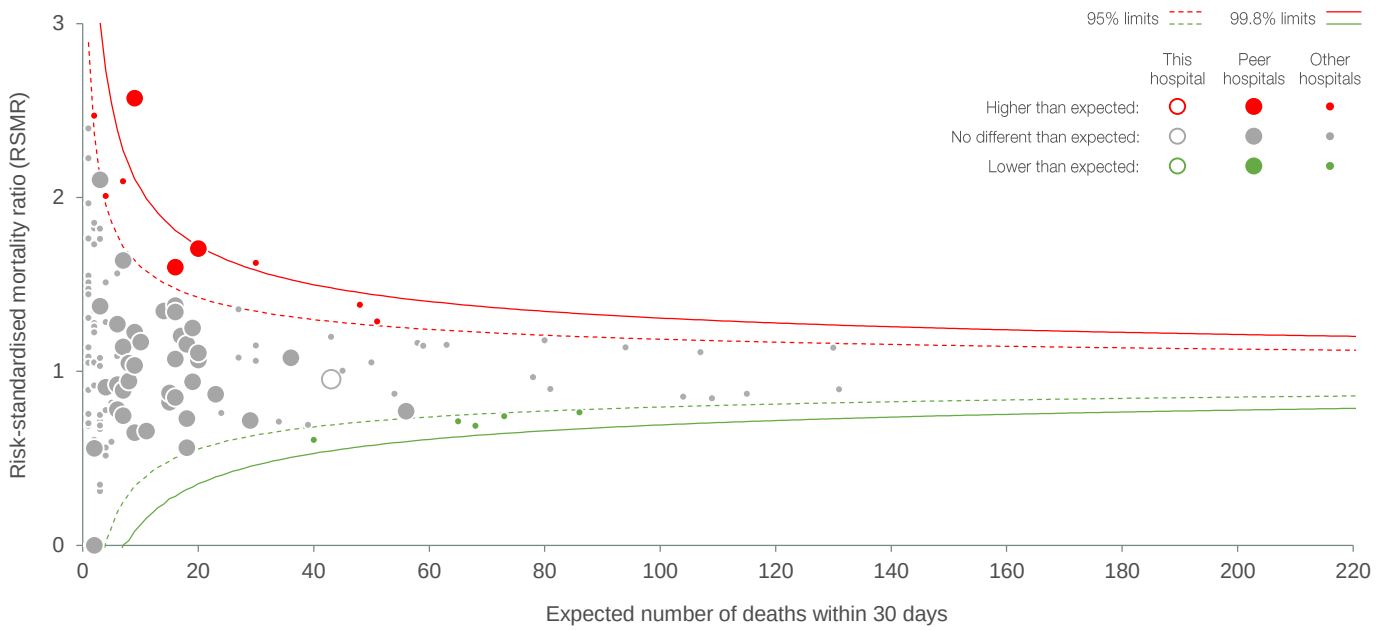
This hospital	Day 1	Day 7	Day 14	Day 21	Day 30
Cumulative number of deaths	3	15	26	36	41
Patients still alive	365	353	342	332	327

* Cumulative percentage of deaths over the 30 days following admission to hospital for the relevant condition.

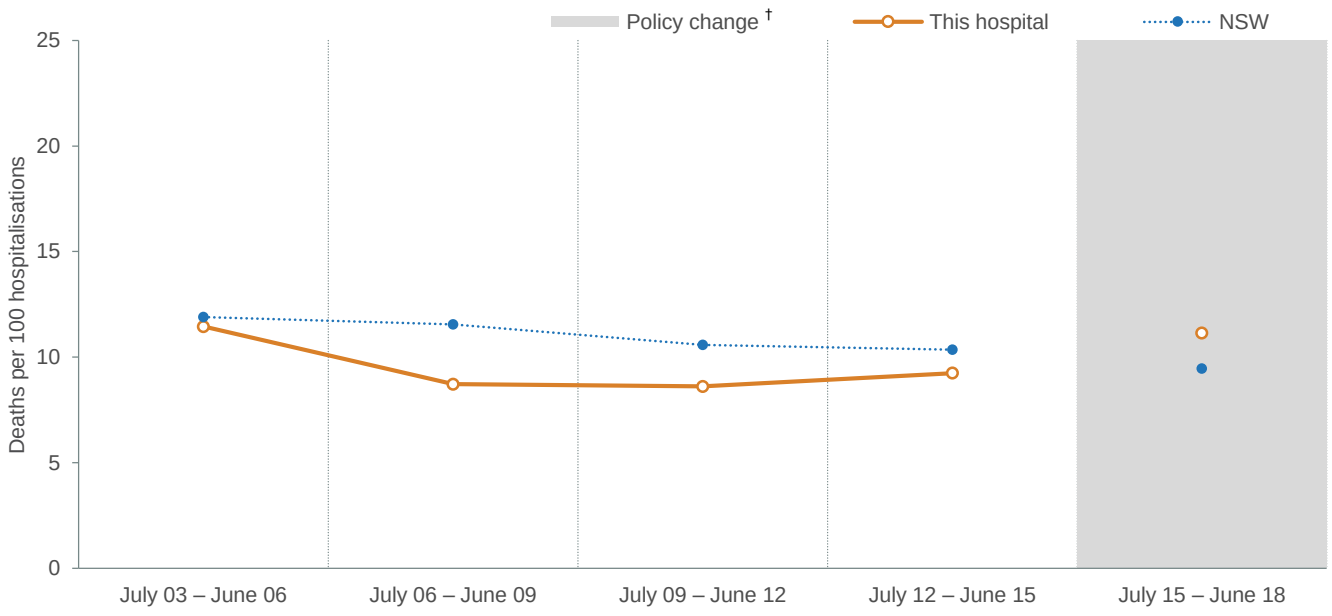
Ryde Hospital

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

Chronic obstructive pulmonary disease **risk-standardised** mortality ratio by number of expected deaths, NSW public hospitals*



Chronic obstructive pulmonary disease, **observed (unadjusted)** mortality rates, this hospital and NSW, July 2003 – June 2018



* Results for hospitals with expected deaths <1 are not shown. Peer hospitals are identified according to the NSW Ministry of Health's peer grouping as of January 2018.

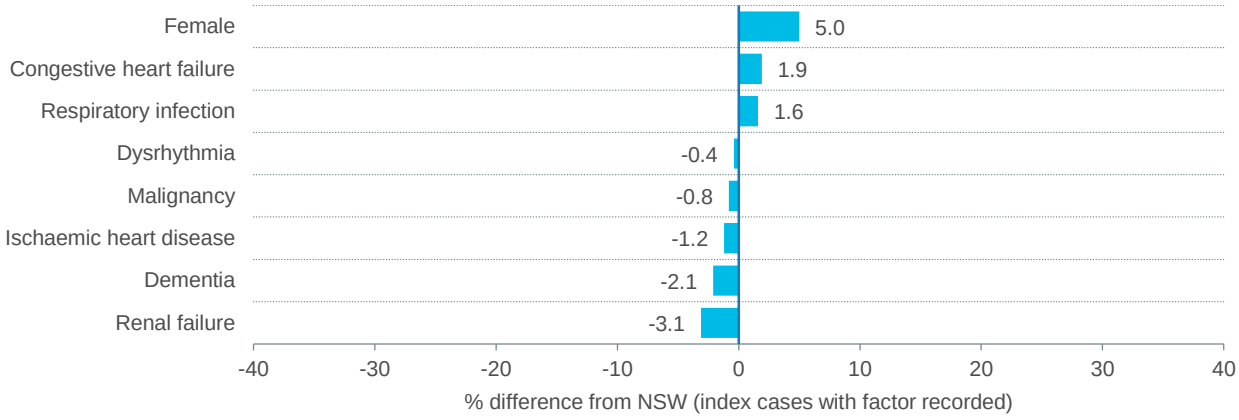
† In June 2017, the *NSW Health Admission Policy* was released, stating that a patient treated in and discharged from an emergency department only, should not be recorded as an admitted patient. As a result, ED-only attendances were not included in BHI mortality analyses from July 2015 onwards and comparison of results before and after this time should be made with caution. For more information, see the Technical Supplement to *Mortality following hospitalisation for seven clinical conditions, July 2015 – June 2018*.

Ryde Hospital

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

	This hospital	NSW
Total hip fracture surgery hospitalisations	328	17,044
Hip fracture surgery patients		
Presenting patients (index cases)*	315	16,538
Patients transferred to another hospital within 30 days†	42	7,365
Percentage of patients aged 65+ years‡	94.0%	93.4%
Percentage of patients aged 75+ years‡	85.4%	79.6%

Significant patient factors and comorbidities, this hospital, index cases§



* Data refer to patients who were discharged between July 2015 and June 2018 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care, for an acute and emergency hospitalisation with hip fracture surgery as principal diagnosis (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). Deaths are from any cause, in or out of hospital within 30 days of the hospitalisation admission date.

† Includes transfers for diagnostic tests, procedures and ongoing care.

‡ Age at admission date. Age was a statistical factor in the final model of 30-day mortality following hospitalisation for hip fracture surgery.

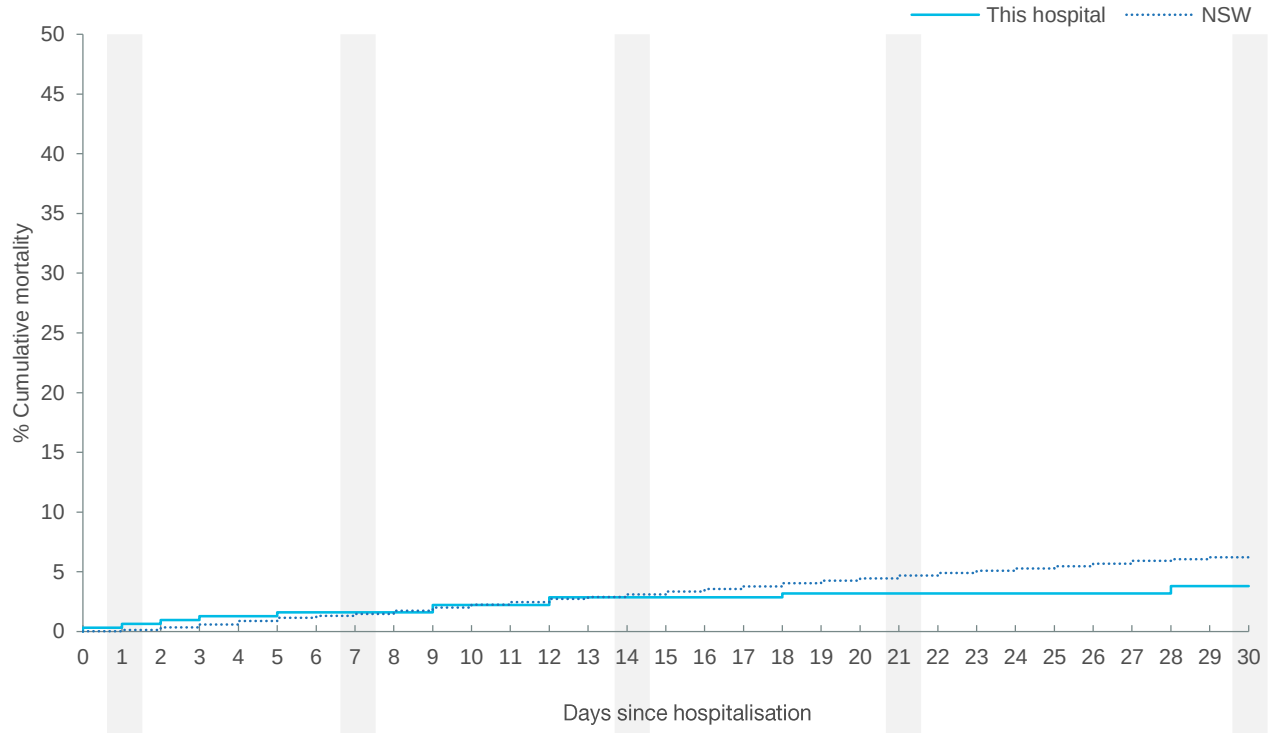
§ Comorbidities as recorded on patient record, with one-year look-back from the admission date of the index case. The Australian Commission on Safety and Quality in Healthcare comorbidity list was used for acute myocardial infarction, ischaemic stroke, haemorrhagic stroke, pneumonia and hip fracture surgery. The Elixhauser comorbidity list was used for congestive heart failure and chronic obstructive pulmonary disease. STEMI refers to ST-elevation myocardial infarction. Only those conditions that were shown to have a significant impact on mortality (P<0.05) are shown.

Ryde Hospital

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

	This hospital	NSW
Mortality (all causes) among 315 hip fracture surgery index cases	12 (3.8%)	1,055 (6.4%)
Percentages: index cases who died within 30 days of hospitalisation		
Where deaths occurred:		
Percentage in this hospital	58.3%	39.8%
Percentage in another hospital following transfer	0.0%	0.1%
Percentage after discharge	41.7%	60.1%
When deaths occurred:		
Percentage on day of admission	8.3%	0.3%
Percentage within seven days	41.7%	23.0%

Cumulative mortality following hospitalisation for hip fracture surgery, this hospital and NSW*



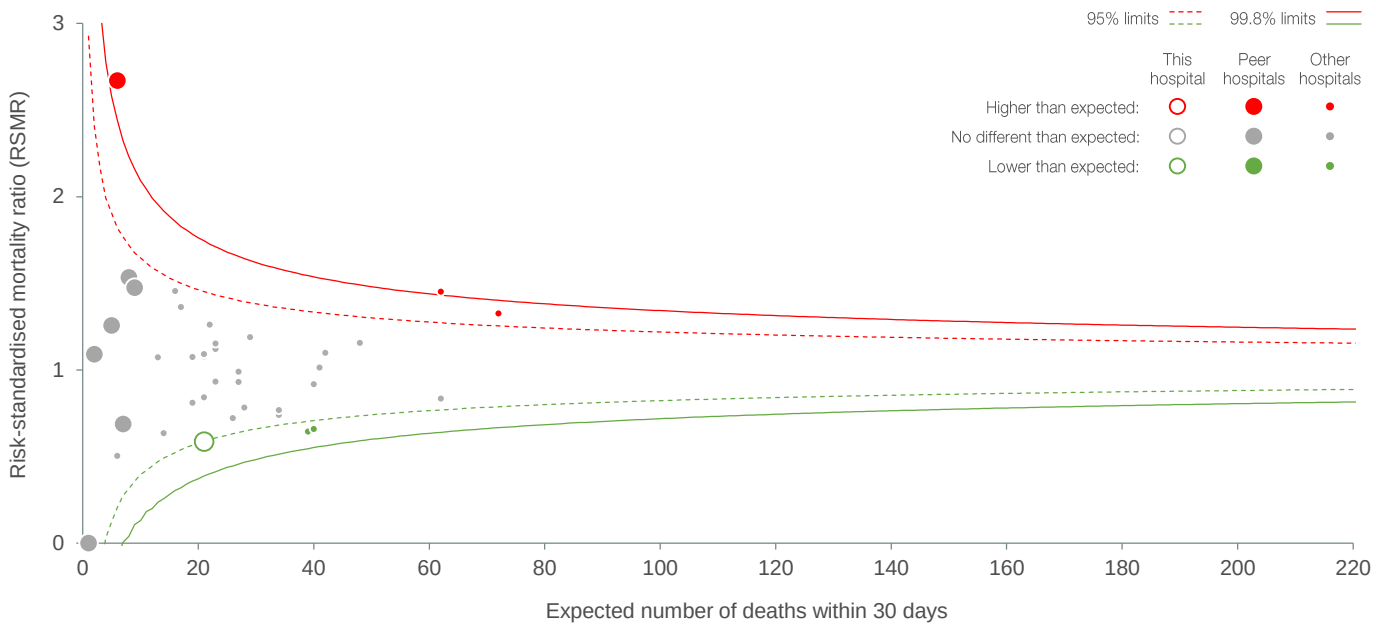
This hospital	Day 1	Day 7	Day 14	Day 21	Day 30
Cumulative number of deaths	2	5	9	10	12
Patients still alive	313	310	306	305	303

* Cumulative percentage of deaths over the 30 days following admission to hospital for the relevant condition.

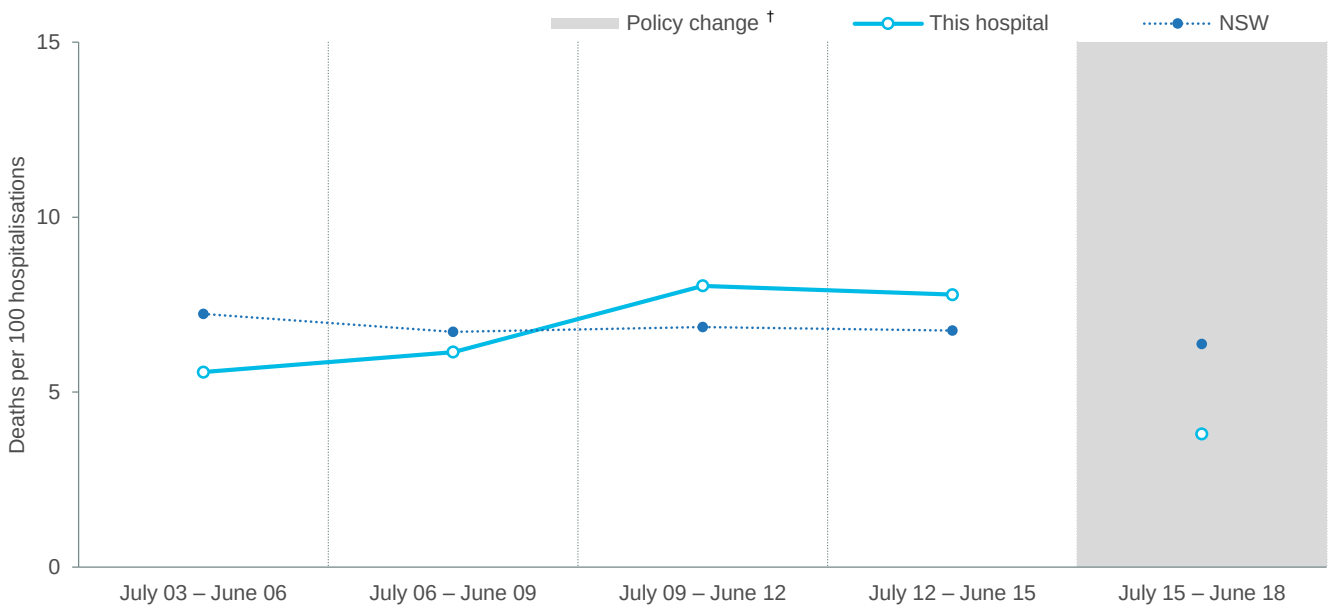
Ryde Hospital

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

Hip fracture surgery **risk-standardised** mortality ratio by number of expected deaths, NSW public hospitals*



Hip fracture surgery, **observed (unadjusted)** mortality rates, this hospital and NSW, July 2003 – June 2018



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