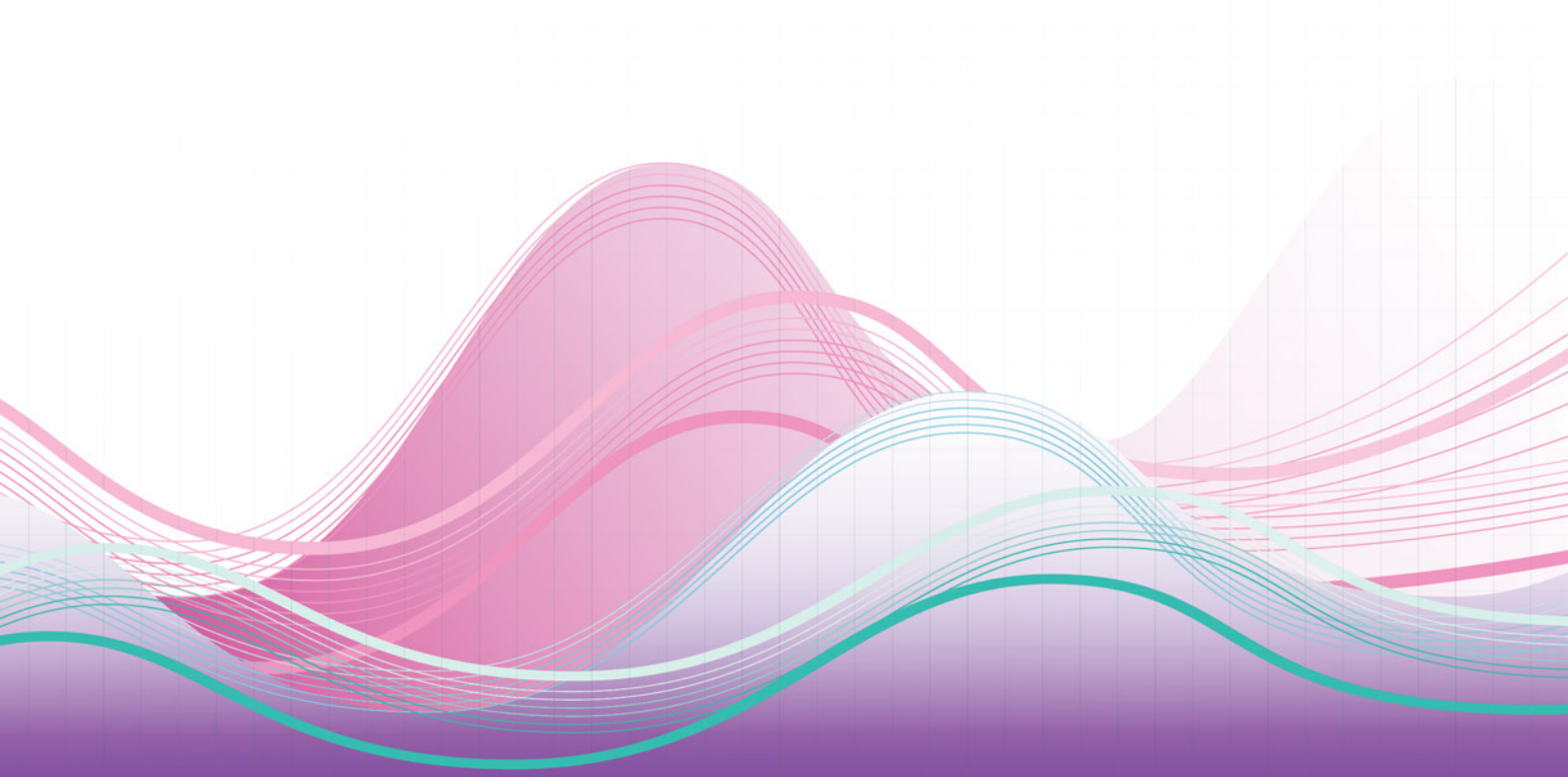


The Insights Series

30-day mortality following hospitalisation,
five clinical conditions, NSW,
July 2009 – June 2012

Acute myocardial infarction, ischaemic stroke,
haemorrhagic stroke, pneumonia and hip fracture surgery

Performance Profile:
South Western Sydney Local Health District



Bankstown / Lidcombe Hospital summary dashboard, July 2009 - June 2012

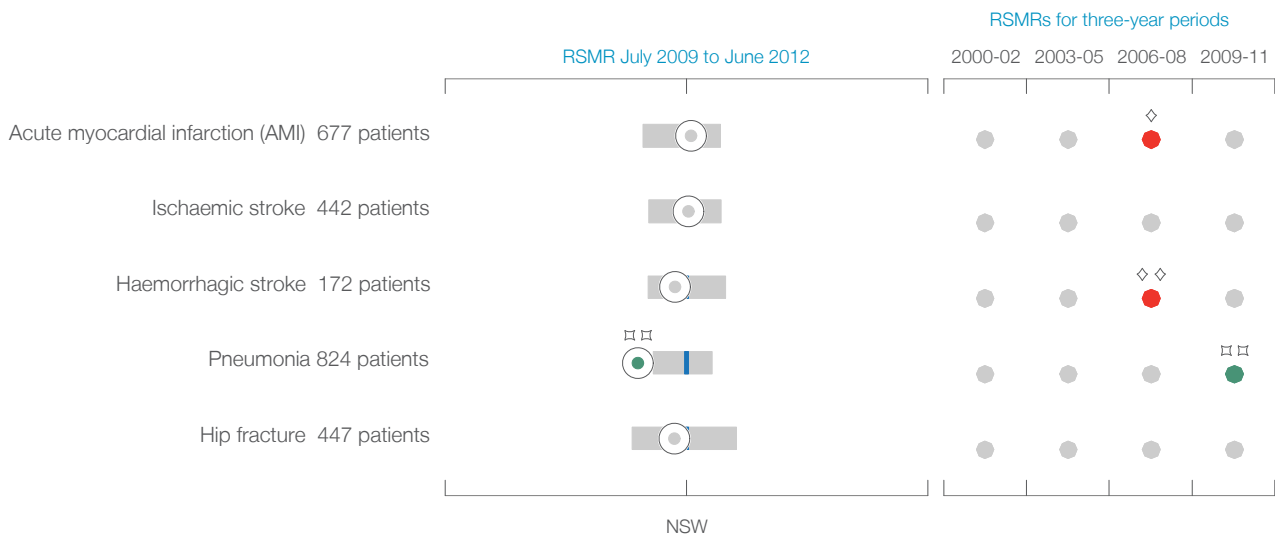
30-day mortality following hospitalisation for five conditions

Hospital-specific risk-standardised mortality ratios (RSMRs) report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given its case mix. A ratio less than 1.0 indicates lower-than-expected mortality, and a ratio higher than 1.0 indicates higher-than-expected mortality. Small deviations from 1.0 are not considered to be meaningful. Funnel plots with 90% and 95% control limits around the NSW rate are used to identify hospitals with higher and lower mortality.

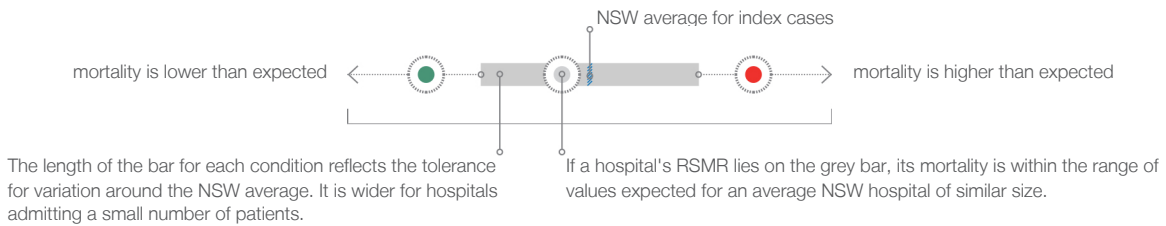
This measure is not designed to compare hospitals and cannot be used to measure the number of avoidable deaths. RSMRs do not distinguish deaths that are avoidable from those that are a reflection of the natural course of illness. They do not provide, by themselves, a diagnostic of quality and safety of care.

Risk-standardised mortality ratios (RSMRs) for five conditions, dashboard

● Lower mortality
 ● No difference
 ● Higher mortality
 ■ Range within 90% control limits



How to interpret the dashboard

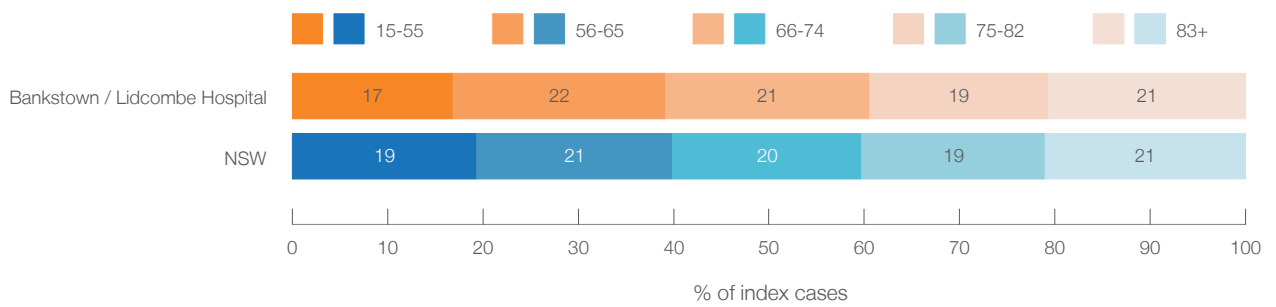


(†) Data for hospitals with an expected mortality of <1 are suppressed.
 (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
 (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
Notes: RSMR data are for patients with a hospitalisation noting the relevant condition as principal diagnosis. Patients include those discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care. Deaths are from any cause, in or out of hospital within 30 days of the hospitalisation admission date.
Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios for five conditions*.
Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

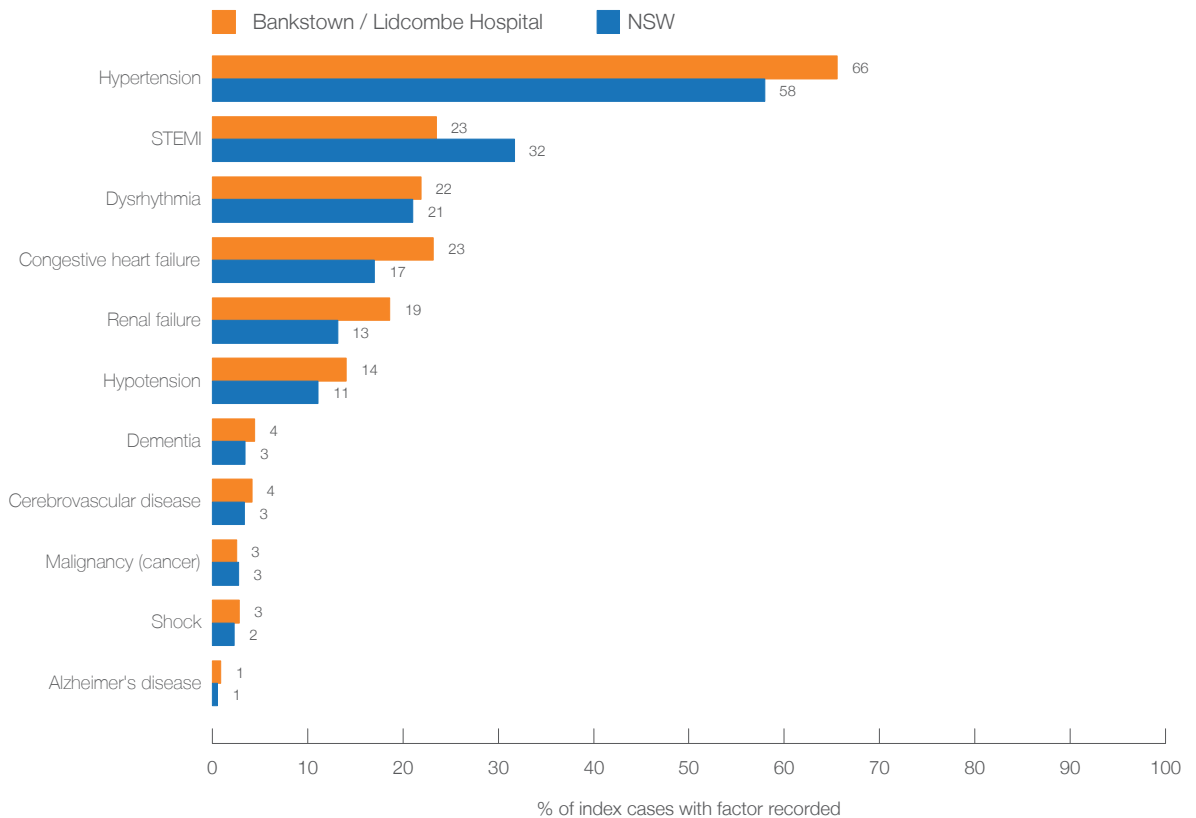
Bankstown / Lidcombe Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

	This hospital	NSW
Total Acute Myocardial Infarction (AMI) hospitalisations	805	37,794
Acute Myocardial Infarction (AMI) patients		
Presenting patients (index cases)¹	677	29,223
Patients not transferred to another hospital	271	18,303
Patients transferred out to another hospital	406	10,920

Age profile, index cases²



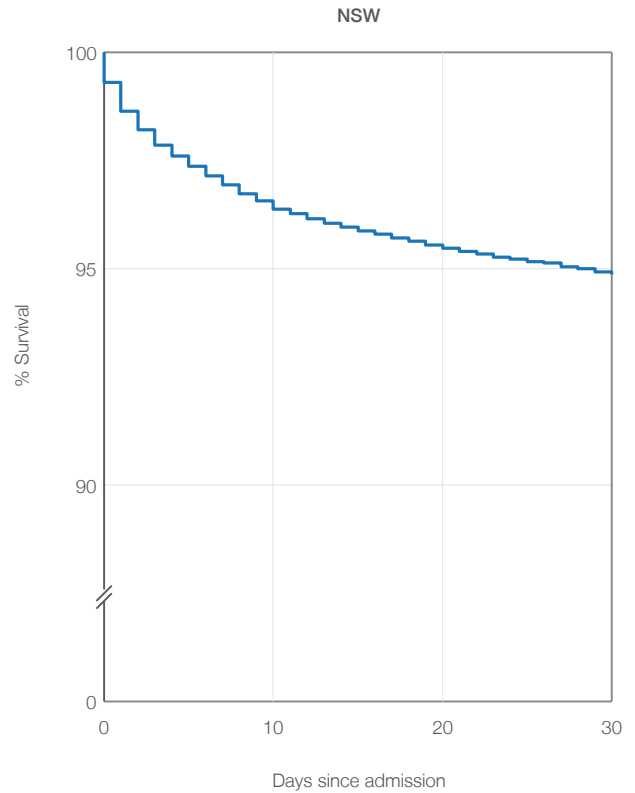
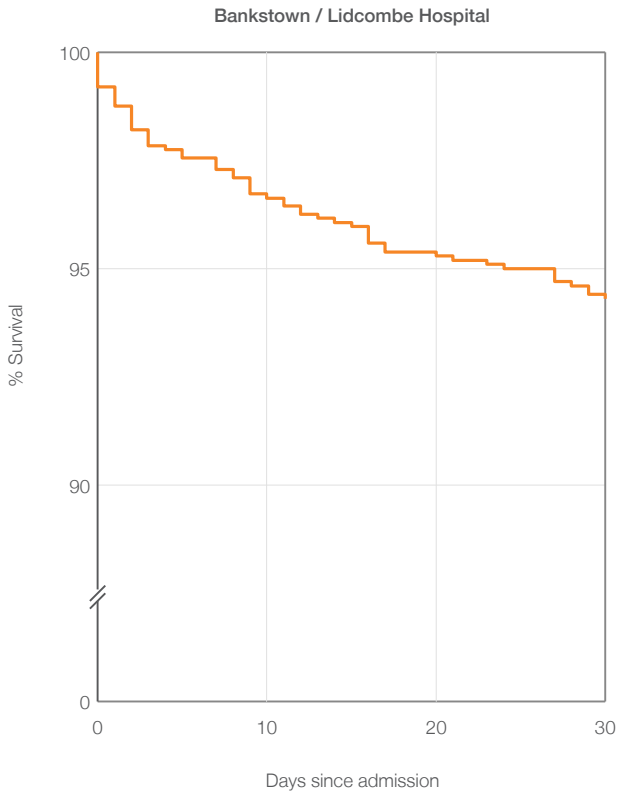
Significant patient factors and comorbidities, index cases³



Bankstown / Lidcombe Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

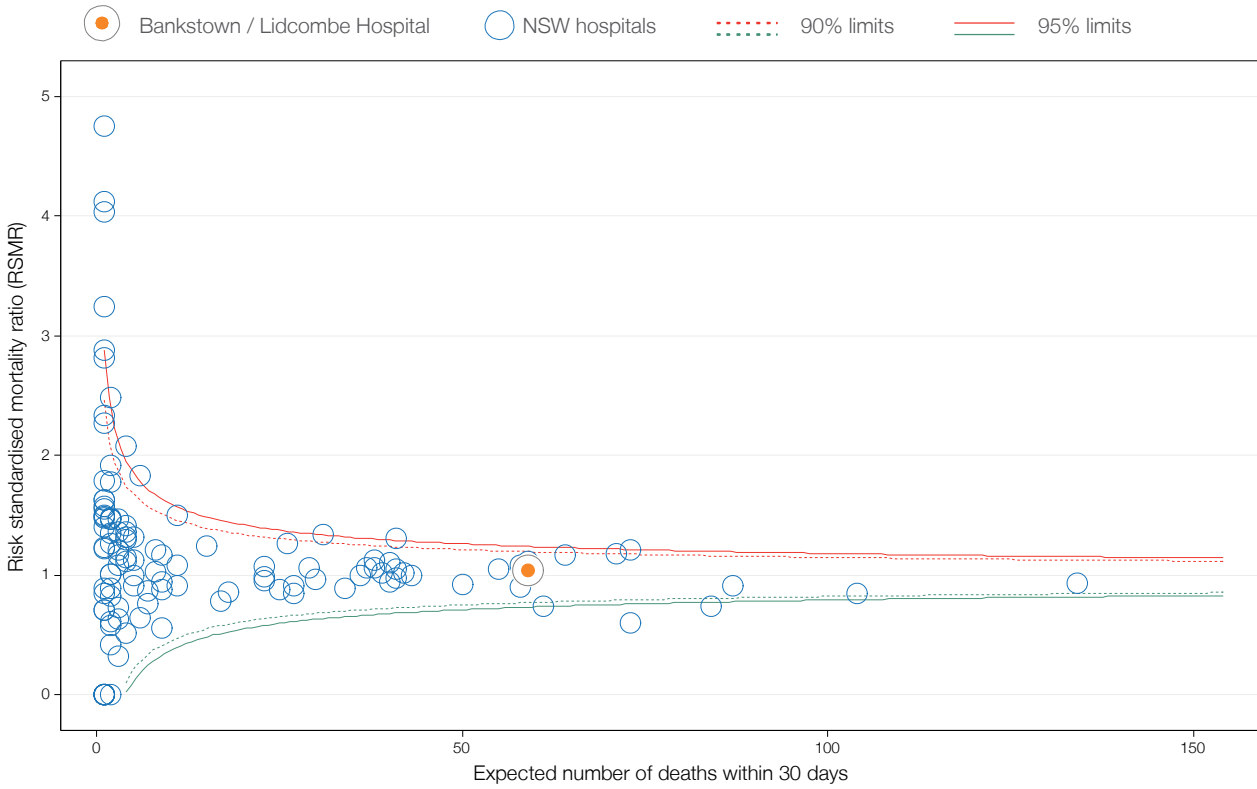
Mortality (all causes) among 677 Acute Myocardial Infarction (AMI) index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	9%	
Of all deaths:		
percentage in this hospital	66%	(64%)
percentage in another hospital following transfer	2%	(6%)
percentage after discharge	33%	(31%)
percentage on day of admission	15%	(14%)
percentage within 7 days	49%	(61%)

Survival of index cases following hospitalisation for Acute Myocardial Infarction (AMI) ⁵
 Adjusted for average age and Charlson comorbidity score



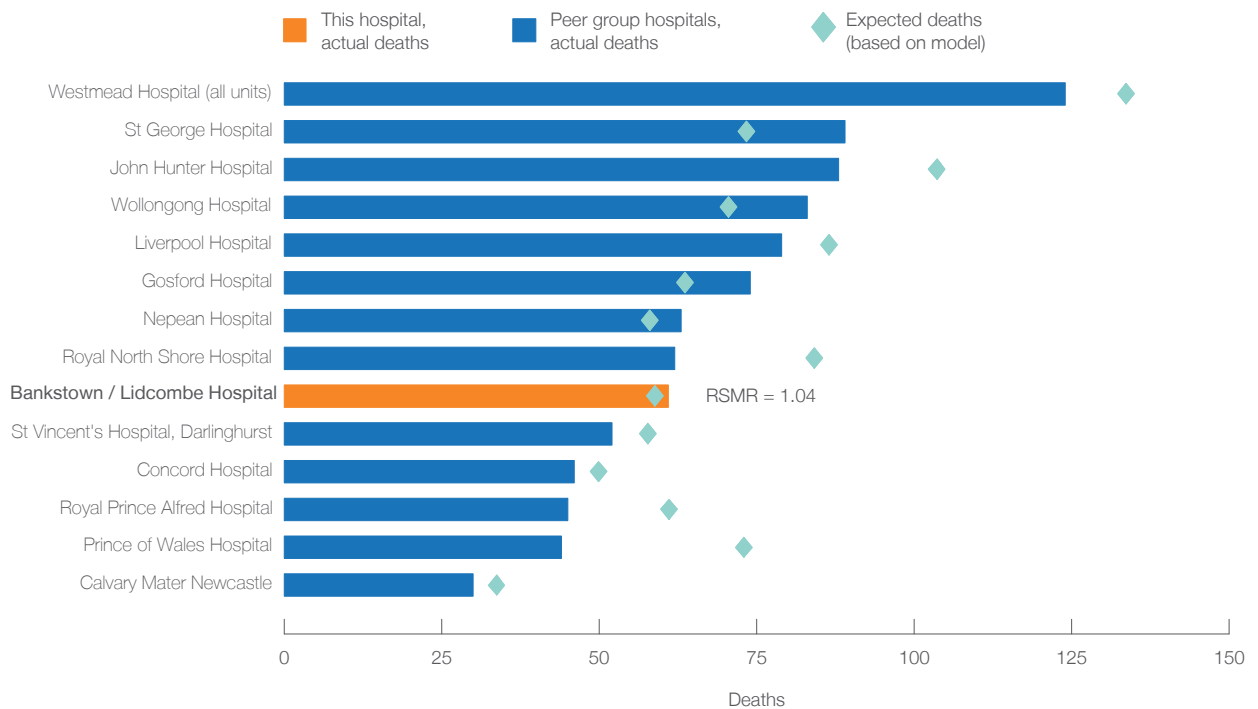
Bankstown / Lidcombe Hospital profile July 2009 - June 2012

Hospital-level Acute Myocardial Infarction (AMI) risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Bankstown / Lidcombe Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
1.19	1.18	1.04

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.31	1.04	1.30	1.04

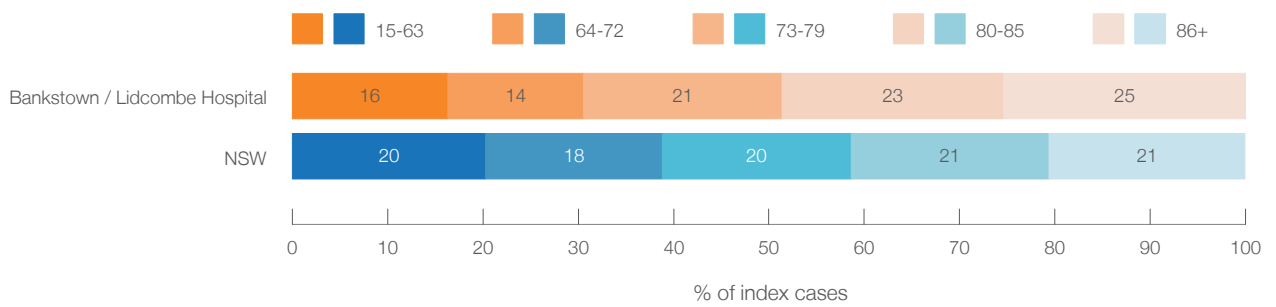
- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

Bankstown / Lidcombe Hospital profile July 2009 - June 2012

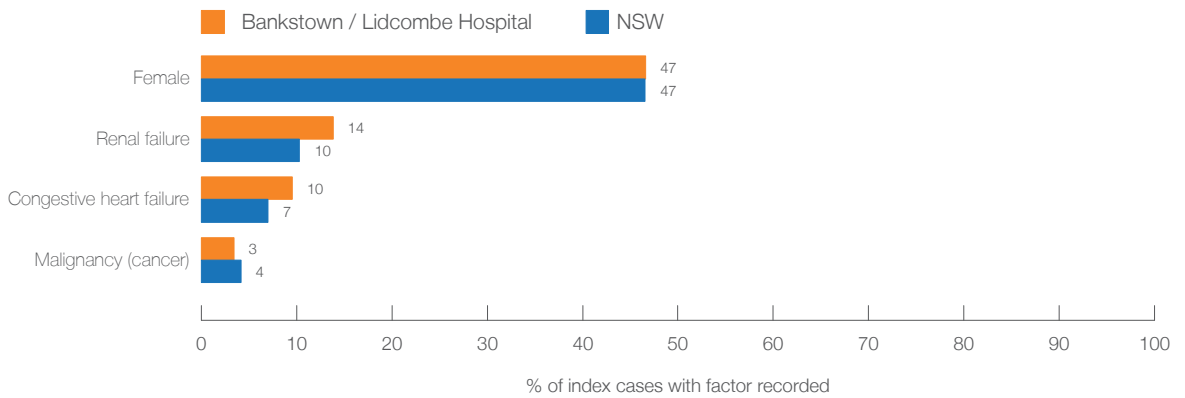
30-day mortality following hospitalisation for ischaemic stroke

	This hospital	NSW
Total ischaemic stroke hospitalisations	464	15,299
Ischaemic stroke patients		
Presenting patients (index cases)¹	442	14,205
Patients not transferred to another hospital	437	11,757
Patients transferred out to another hospital	5	2,448

Age profile, index cases²



Significant patient factors and comorbidities, index cases³



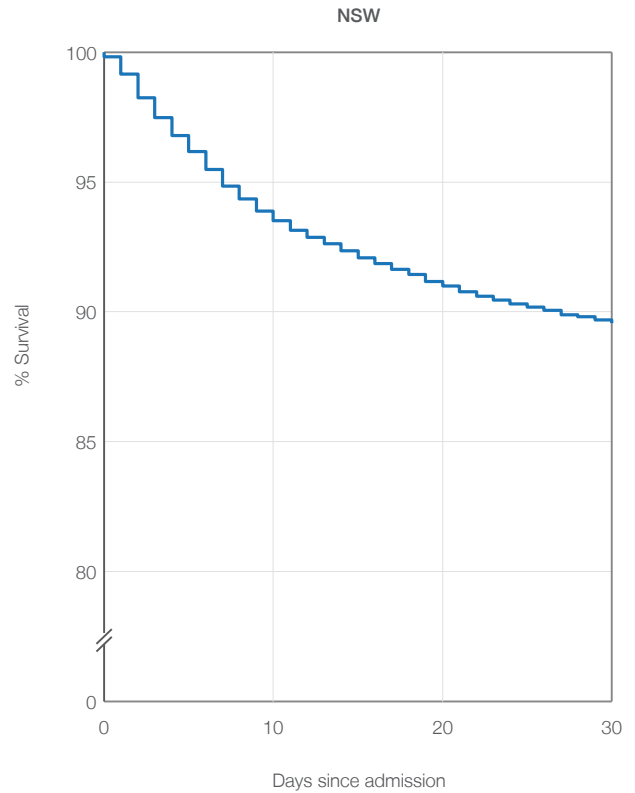
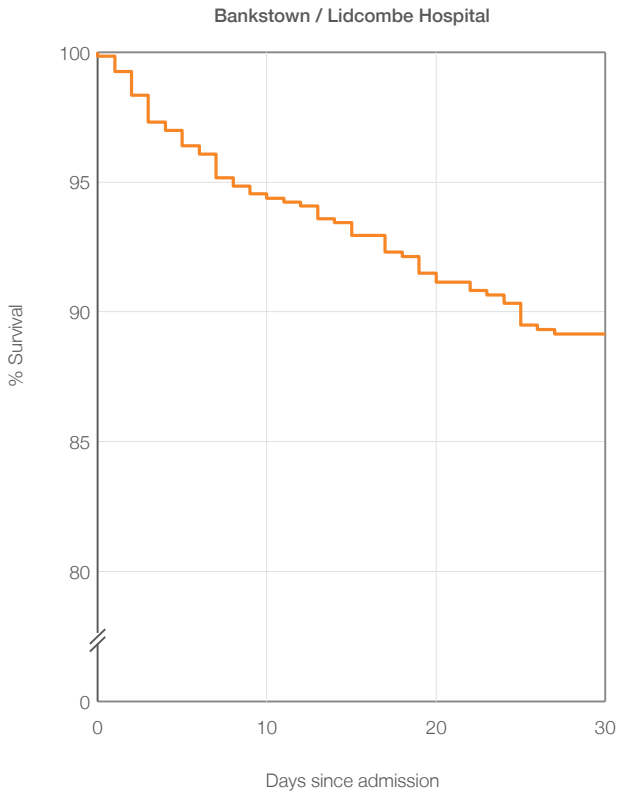
Bankstown / Lidcombe Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for ischaemic stroke

	This hospital percentage	NSW percentage
Mortality (all causes) among 442 ischaemic stroke index cases ⁴		
Percentages: index cases who died within 30 days of hospitalisation	16%	
Of all deaths:		
percentage in this hospital	77%	(67%)
percentage in another hospital following transfer	1%	(2%)
percentage after discharge	22%	(31%)
percentage on day of admission	1%	(2%)
percentage within 7 days	46%	(51%)

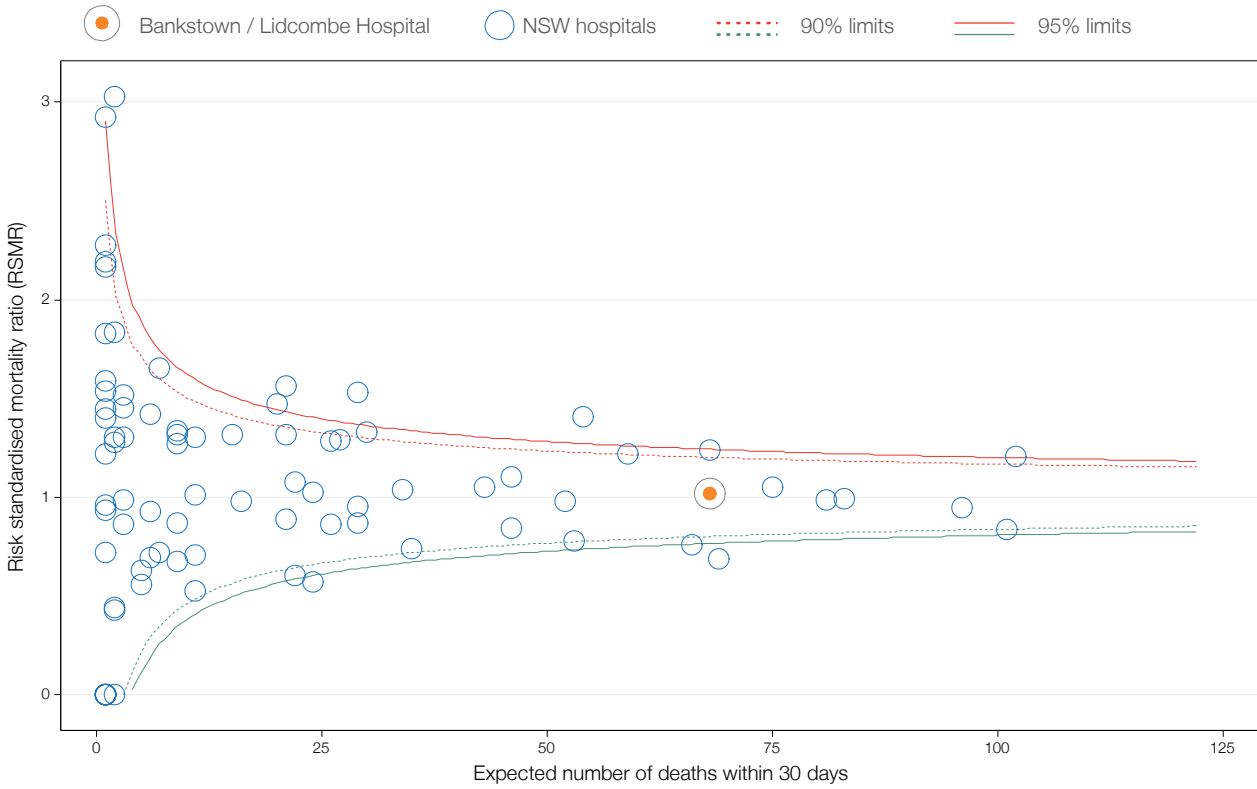
Survival of index cases following hospitalisation for ischaemic stroke⁵

Adjusted for average age and Charlson comorbidity score



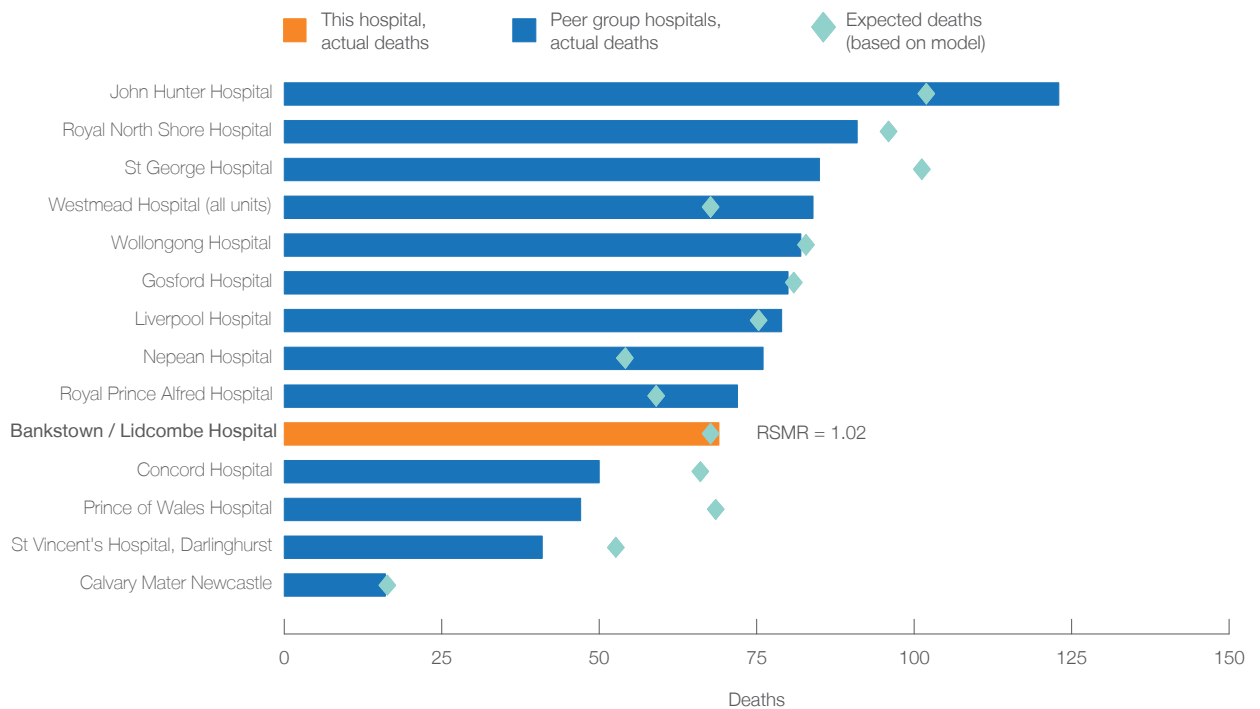
Bankstown / Lidcombe Hospital profile July 2009 - June 2012

Hospital-level ischaemic stroke risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Bankstown / Lidcombe Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for ischaemic stroke

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
1.17	1.04	1.02

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.46	0.92	1.22	1.02

(1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.

(2) Age at admission date.

(3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.

(4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.

(5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.

(6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.

(†) Data for hospitals with an expected mortality of < 1 are suppressed.

(◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.

(□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.

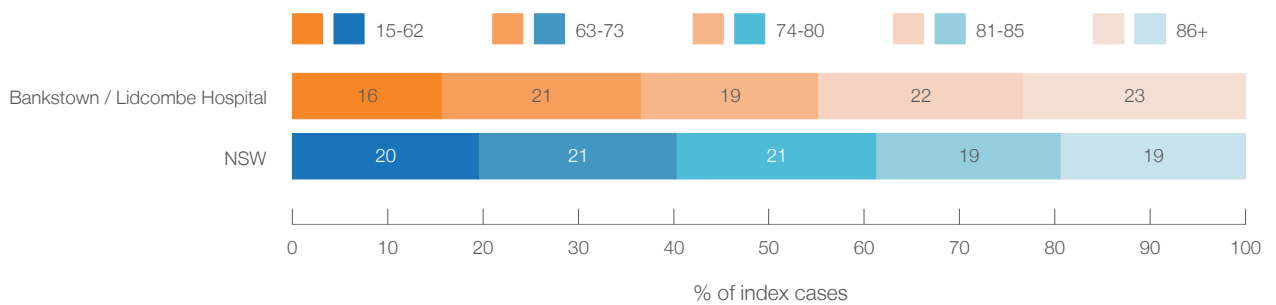
Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*

Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

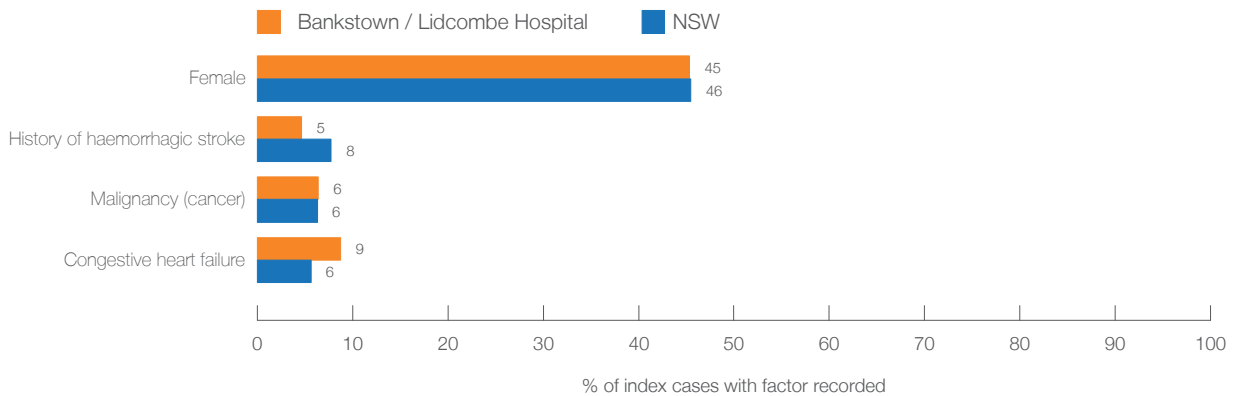
Bankstown / Lidcombe Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for haemorrhagic stroke

	This hospital	NSW
Total haemorrhagic stroke hospitalisations	183	6,573
Haemorrhagic stroke patients		
Presenting patients (index cases)¹	172	5,681
Patients not transferred to another hospital	118	4,148
Patients transferred out to another hospital	54	1,533

Age profile, index cases²



Significant patient factors and comorbidities, index cases³



Bankstown / Lidcombe Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for haemorrhagic stroke

Mortality (all causes) among 172 haemorrhagic stroke index cases ⁴

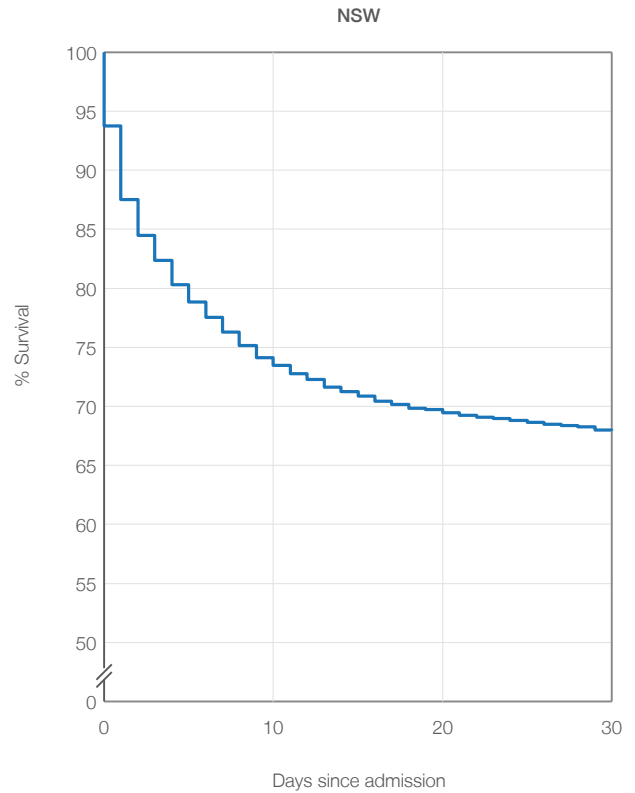
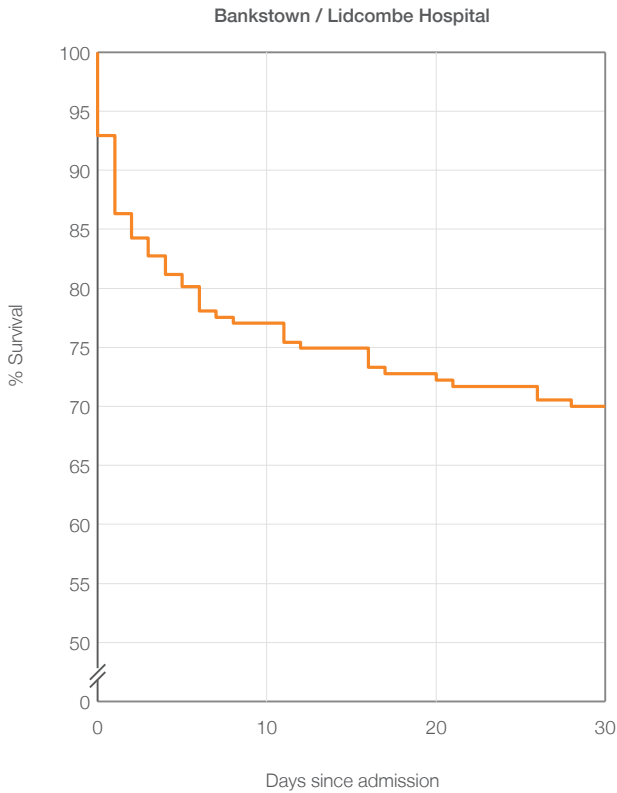
Percentages: index cases who died within 30 days of hospitalisation

Of all deaths:

	This hospital percentage	NSW percentage
percentage in this hospital	62%	(76%)
percentage in another hospital following transfer	9%	(3%)
percentage after discharge	29%	(21%)
percentage on day of admission	24%	(20%)
percentage within 7 days	76%	(75%)

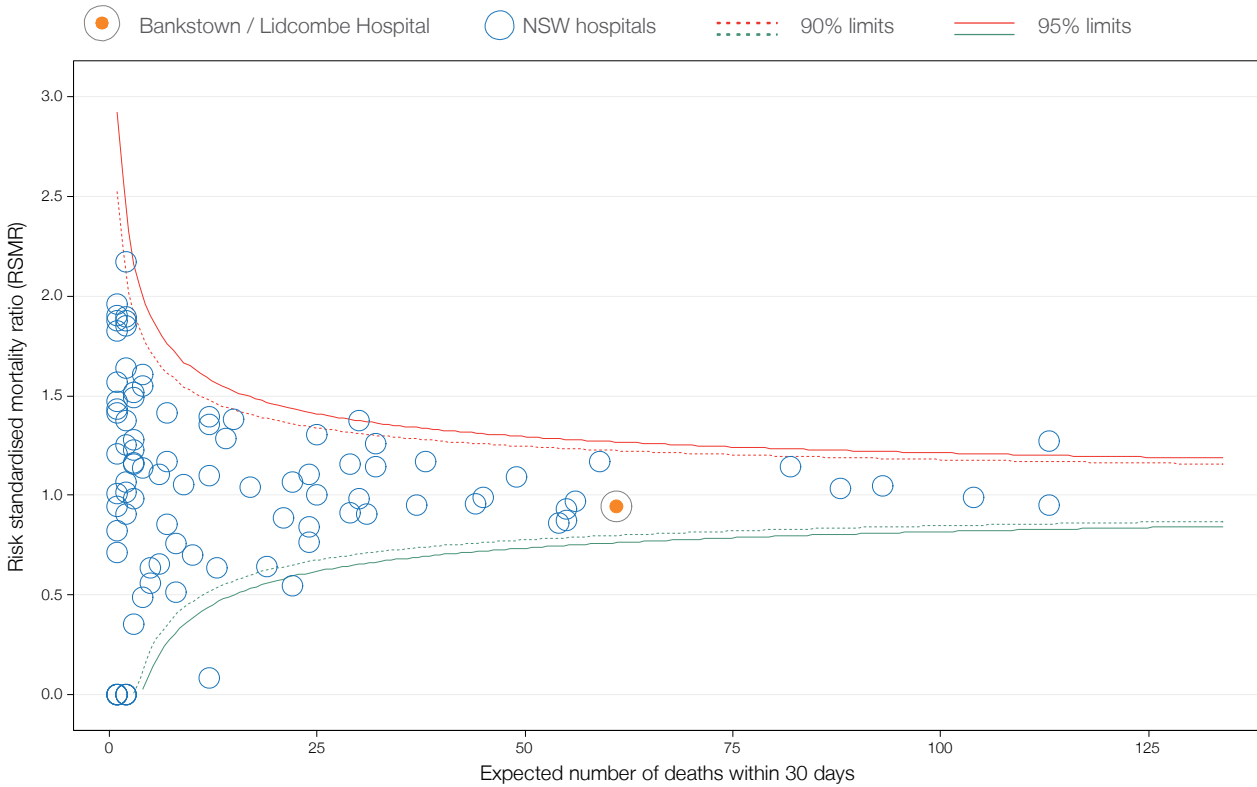
Survival of index cases following hospitalisation for haemorrhagic stroke ⁵

Adjusted for average age and Charlson comorbidity score



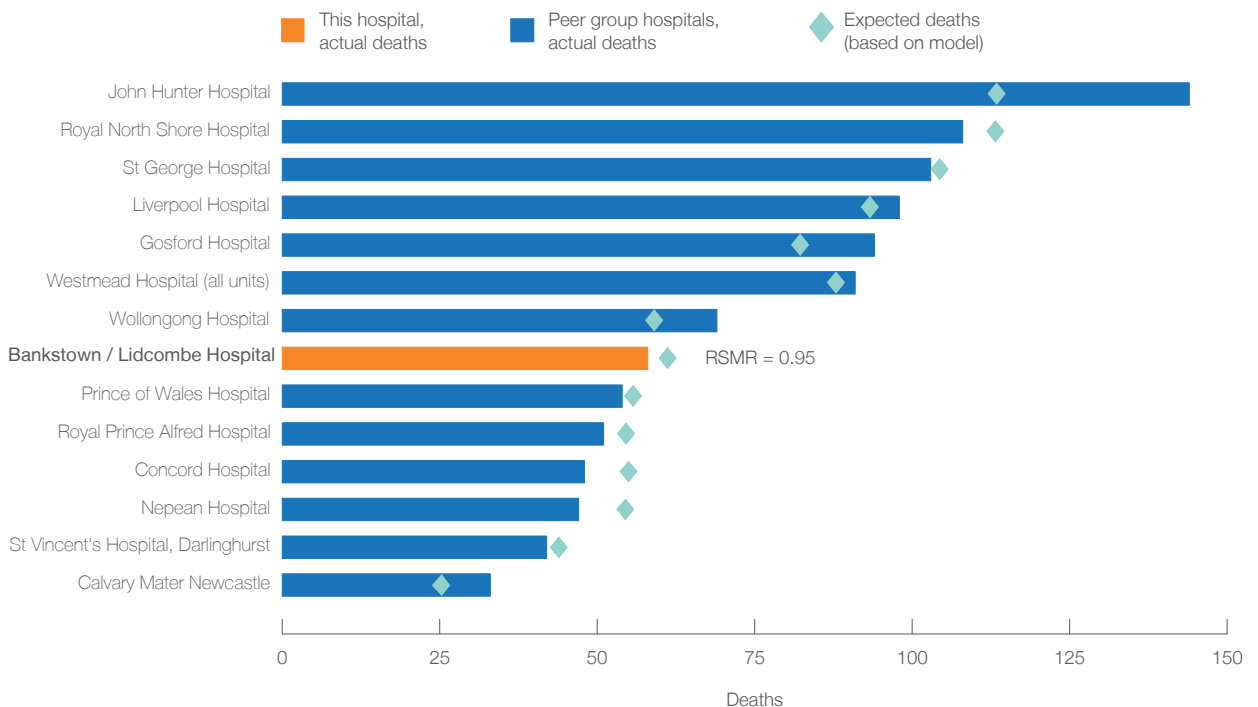
Bankstown / Lidcombe Hospital profile July 2009 - June 2012

Hospital-level haemorrhagic stroke risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Bankstown / Lidcombe Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for haemorrhagic stroke

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
1.00	0.96	0.95

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.21	1.14	1.35	0.95

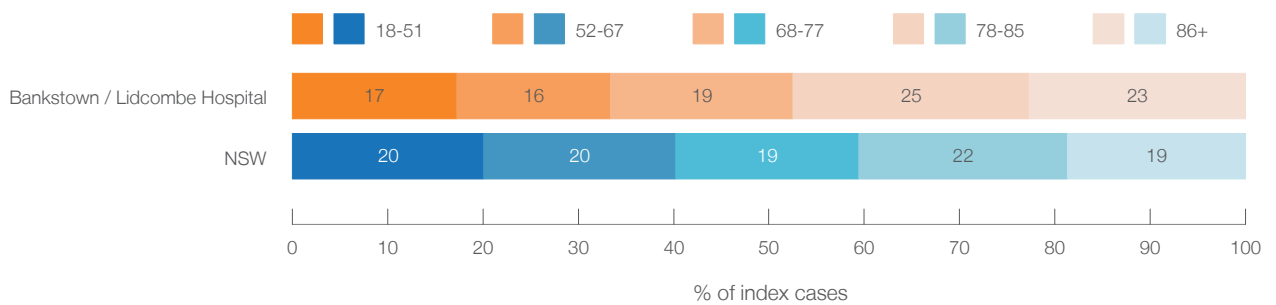
- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

Bankstown / Lidcombe Hospital profile July 2009 - June 2012

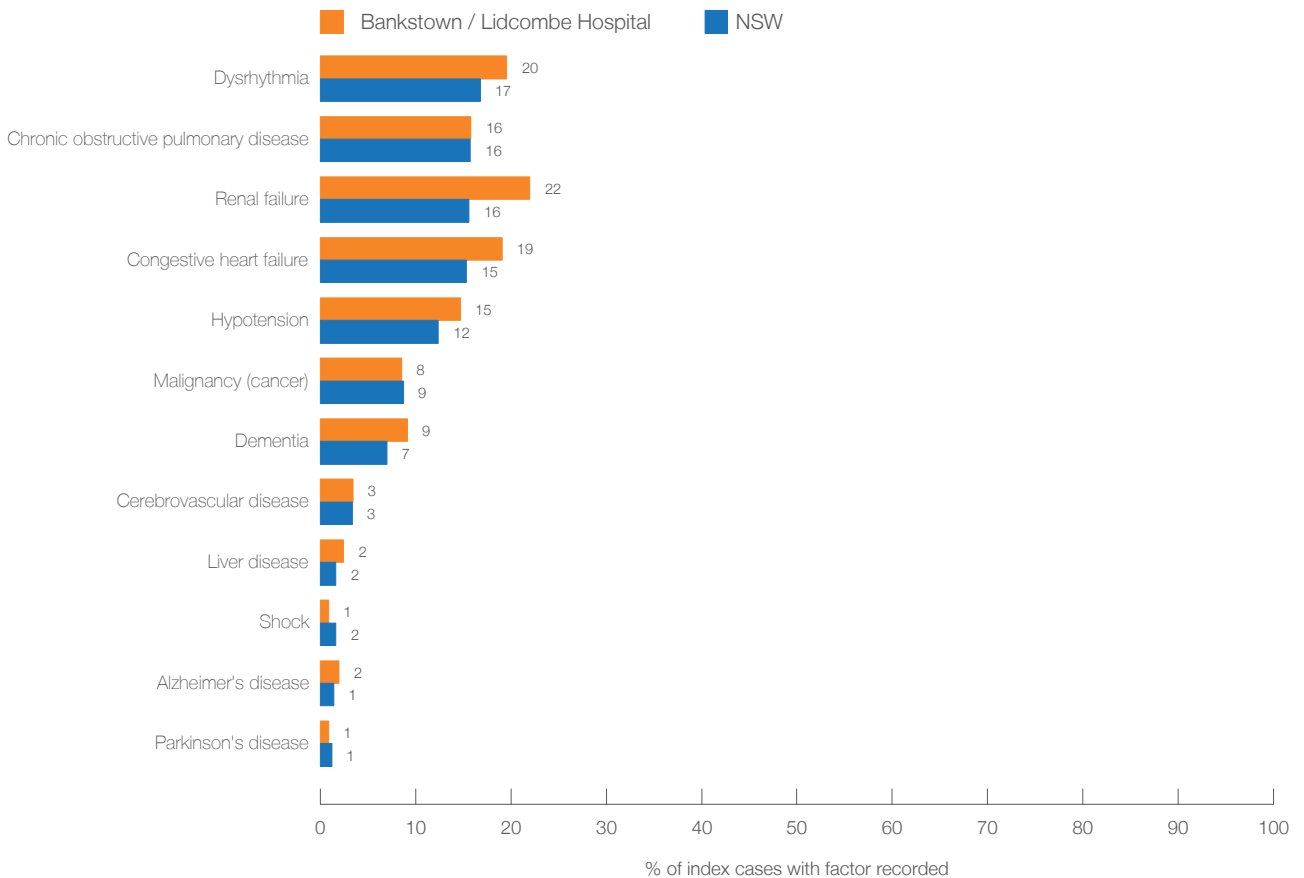
30-day mortality following hospitalisation for pneumonia

	This hospital	NSW
Total pneumonia hospitalisations	904	50,644
Pneumonia patients		
Presenting patients (index cases)¹	824	44,059
Patients not transferred to another hospital	802	39,655
Patients transferred out to another hospital	22	4,404

Age profile, index cases²



Significant patient factors and comorbidities, index cases³



Bankstown / Lidcombe Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for pneumonia

Mortality (all causes) among 824 pneumonia index cases⁴

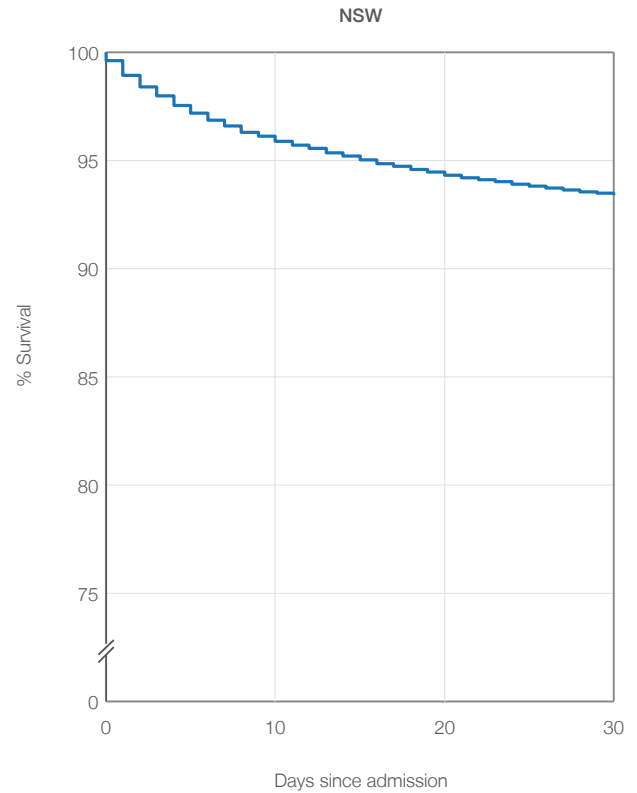
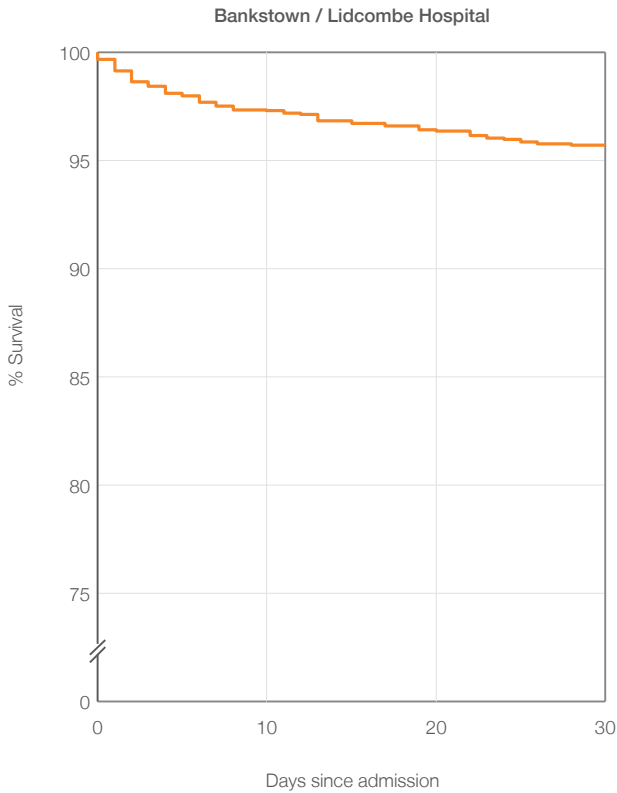
Percentages: index cases who died within 30 days of hospitalisation

Of all deaths:

	This hospital percentage	NSW percentage
percentage in this hospital	74%	(66%)
percentage in another hospital following transfer	0%	(3%)
percentage after discharge	26%	(31%)
percentage on day of admission	8%	(6%)
percentage within 7 days	59%	(54%)

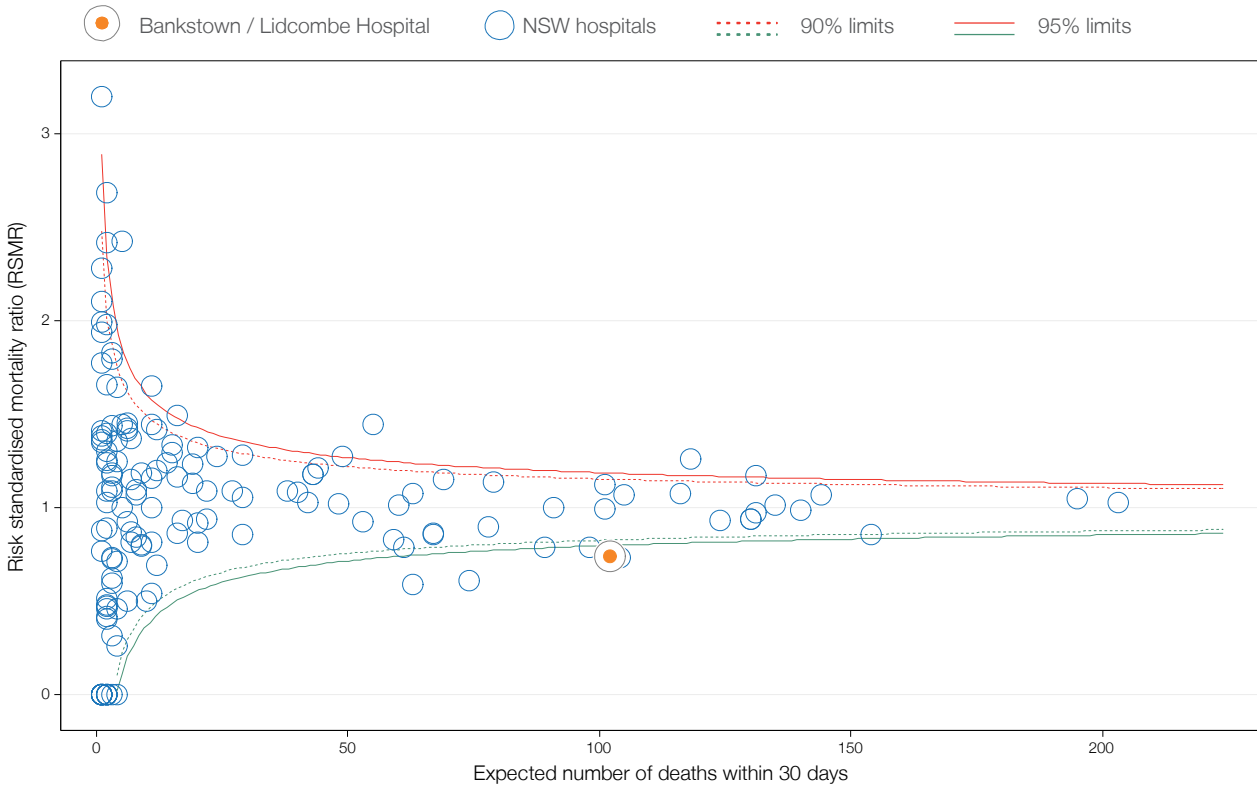
Survival of index cases following hospitalisation for pneumonia⁵

Adjusted for average age and Charlson comorbidity score



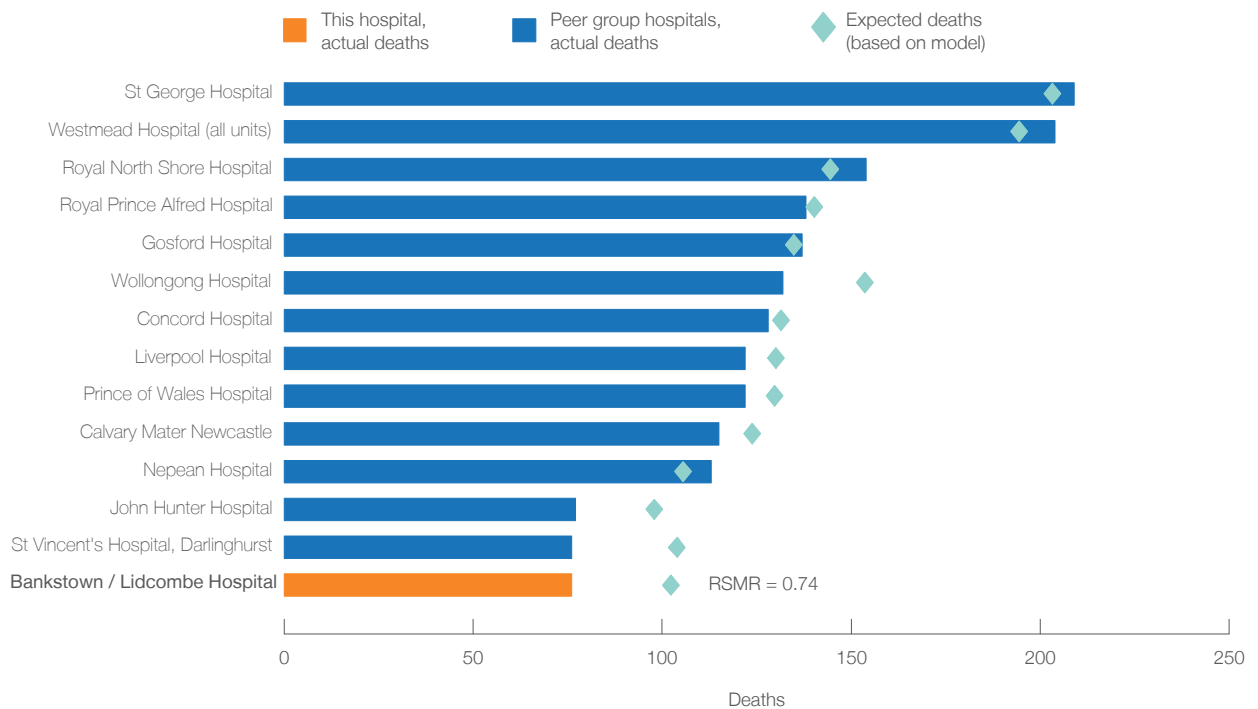
Bankstown / Lidcombe Hospital profile July 2009 - June 2012

Hospital-level pneumonia risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Bankstown / Lidcombe Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for pneumonia

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.86	0.81	0.74

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Year (financial years)	2000-02	2003-05	2006-08	2009-12
Risk-standardised mortality ratio	1.30	1.21	0.92	0.74

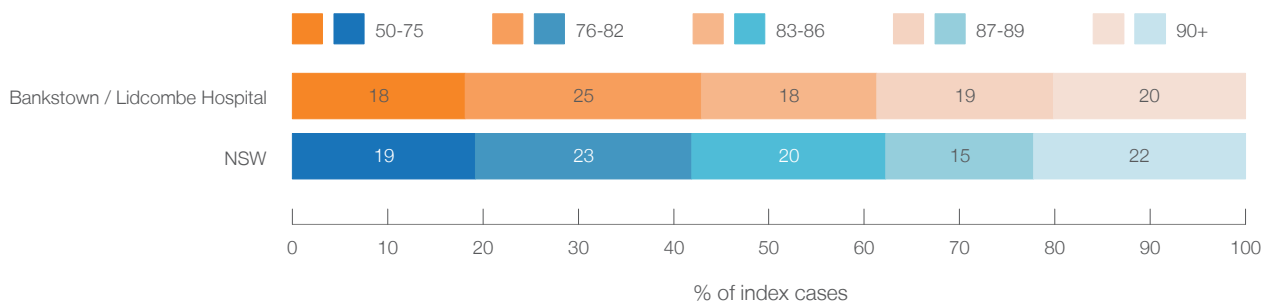
- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

Bankstown / Lidcombe Hospital profile July 2009 - June 2012

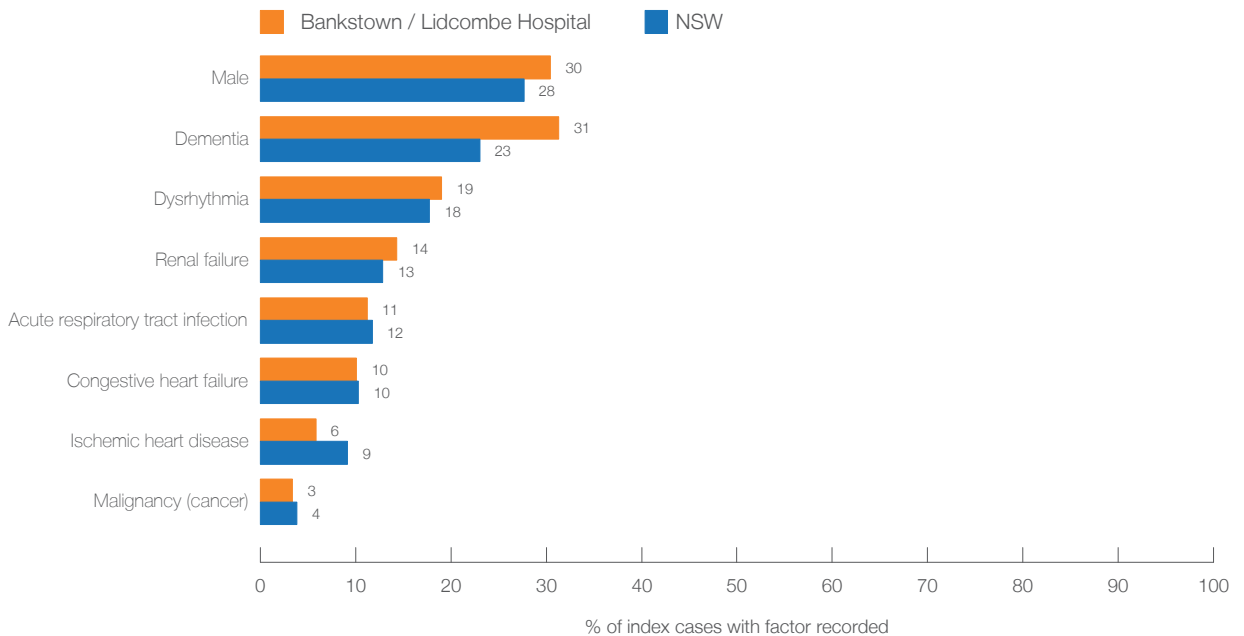
30-day mortality following hospitalisation for hip fracture surgery

	This hospital	NSW
Total hip fracture surgery hospitalisations	464	16,355
Hip fracture surgery patients		
Presenting patients (index cases)¹	447	15,836
Patients not transferred to another hospital	410	10,739
Patients transferred out to another hospital	37	5,097

Age profile, index cases²



Significant patient factors and comorbidities, index cases³



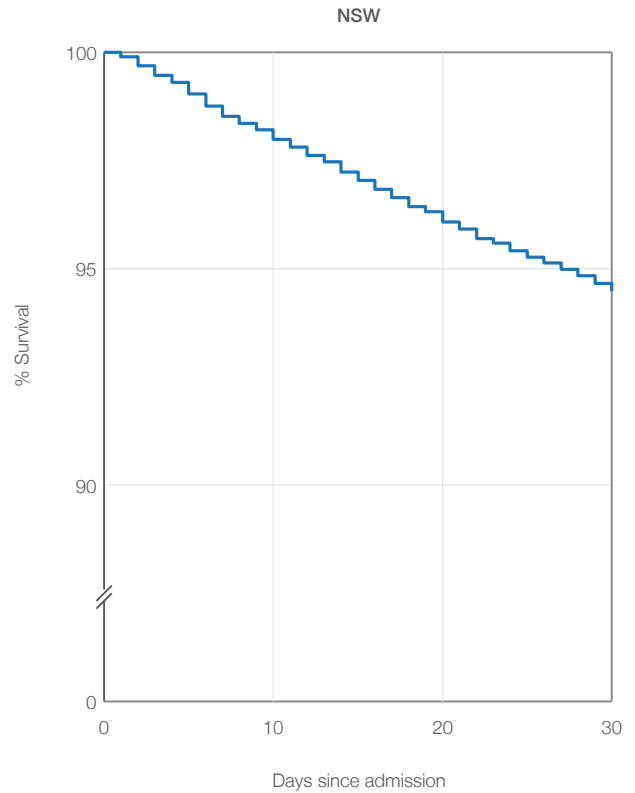
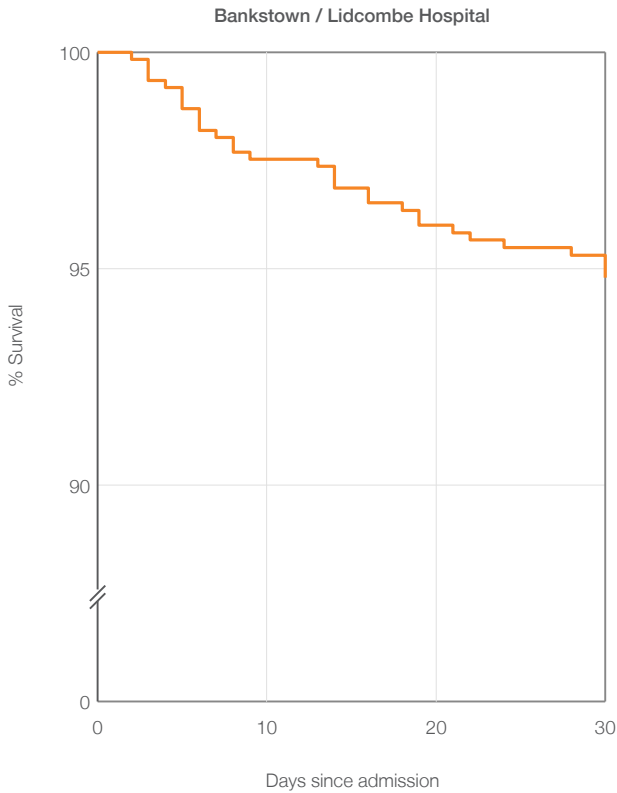
Bankstown / Lidcombe Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for hip fracture surgery

Mortality (all causes) among 447 hip fracture surgery index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	7%	
Of all deaths:		
percentage in this hospital	61%	(50%)
percentage in another hospital following transfer	0%	(0%)
percentage after discharge	39%	(50%)
percentage on day of admission	not applicable for hip fracture surgery	
percentage within 7 days	39%	(27%)

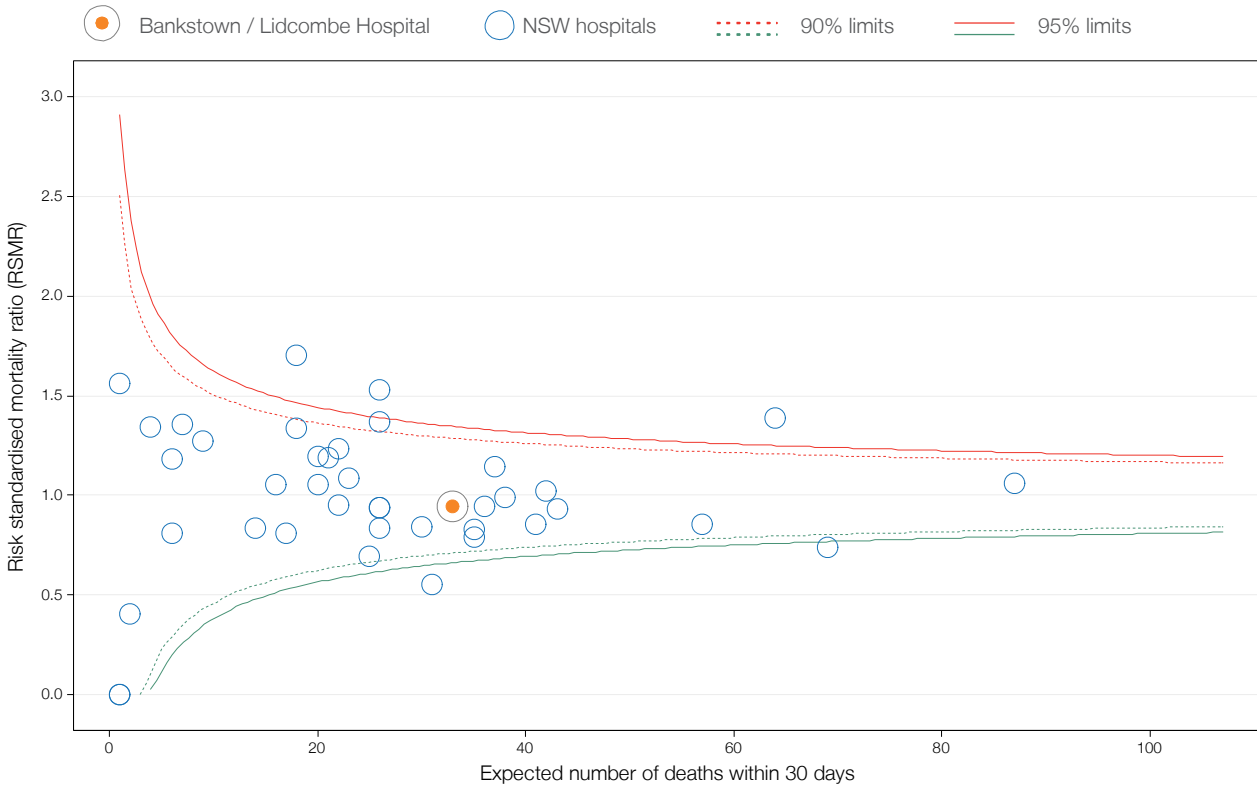
Survival of index cases following hospitalisation for hip fracture surgery⁵

Adjusted for average age and Charlson comorbidity score



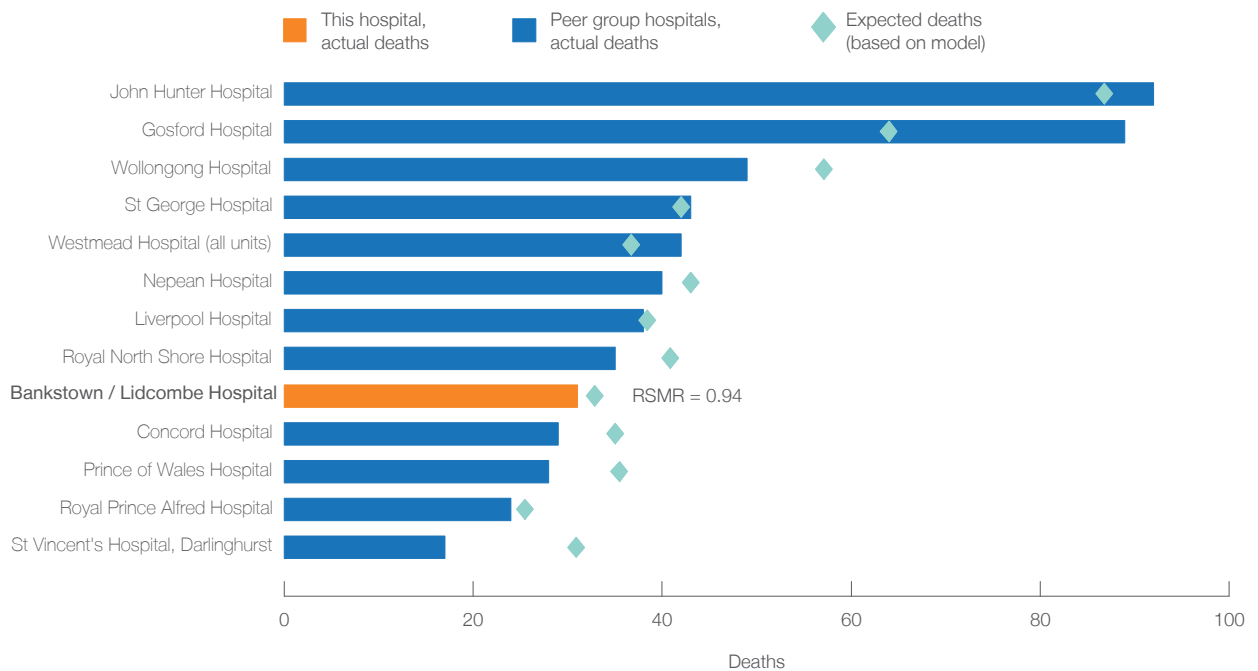
Bankstown / Lidcombe Hospital profile July 2009 - June 2012

Hospital-level hip fracture surgery risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Bankstown / Lidcombe Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for hip fracture surgery

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
1.01	0.99	0.94

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.22	0.80	0.97	0.94

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

Bowral and District Hospital summary dashboard, July 2009 - June 2012

30-day mortality following hospitalisation for five conditions

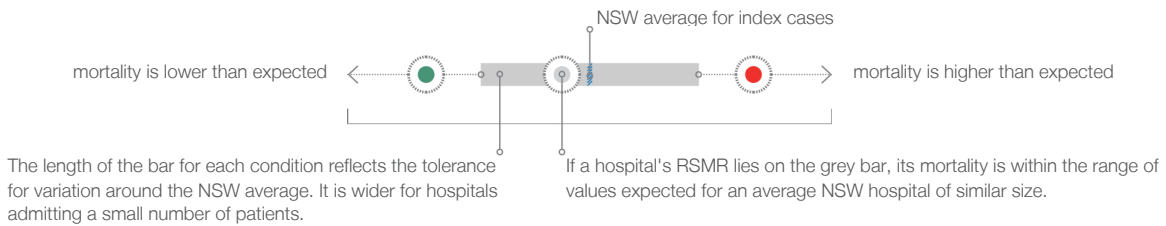
Hospital-specific risk-standardised mortality ratios (RSMRs) report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given its case mix. A ratio less than 1.0 indicates lower-than-expected mortality, and a ratio higher than 1.0 indicates higher-than-expected mortality. Small deviations from 1.0 are not considered to be meaningful. Funnel plots with 90% and 95% control limits around the NSW rate are used to identify hospitals with higher and lower mortality.

This measure is not designed to compare hospitals and cannot be used to measure the number of avoidable deaths. RSMRs do not distinguish deaths that are avoidable from those that are a reflection of the natural course of illness. They do not provide, by themselves, a diagnostic of quality and safety of care.

Risk-standardised mortality ratios (RSMRs) for five conditions, dashboard



How to interpret the dashboard



- (†) Data for hospitals with an expected mortality of <1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.

Notes: RSMR data are for patients with a hospitalisation noting the relevant condition as principal diagnosis.

Patients include those discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care. Deaths are from any cause, in or out of hospital within 30 days of the hospitalisation admission date.

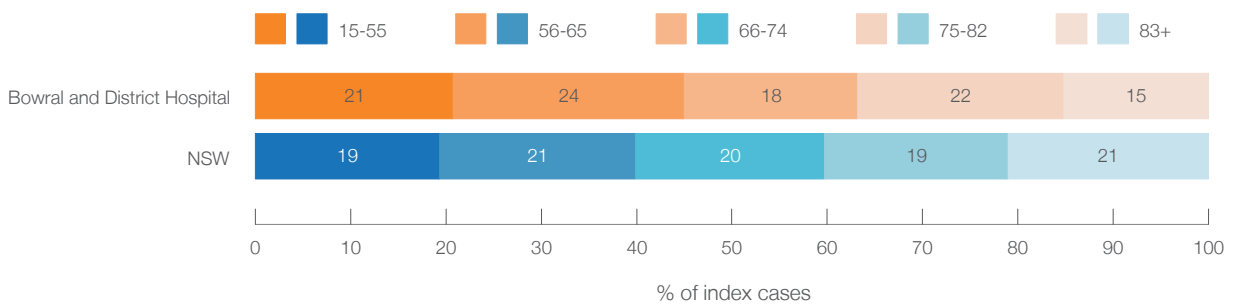
Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios for five conditions*.

Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

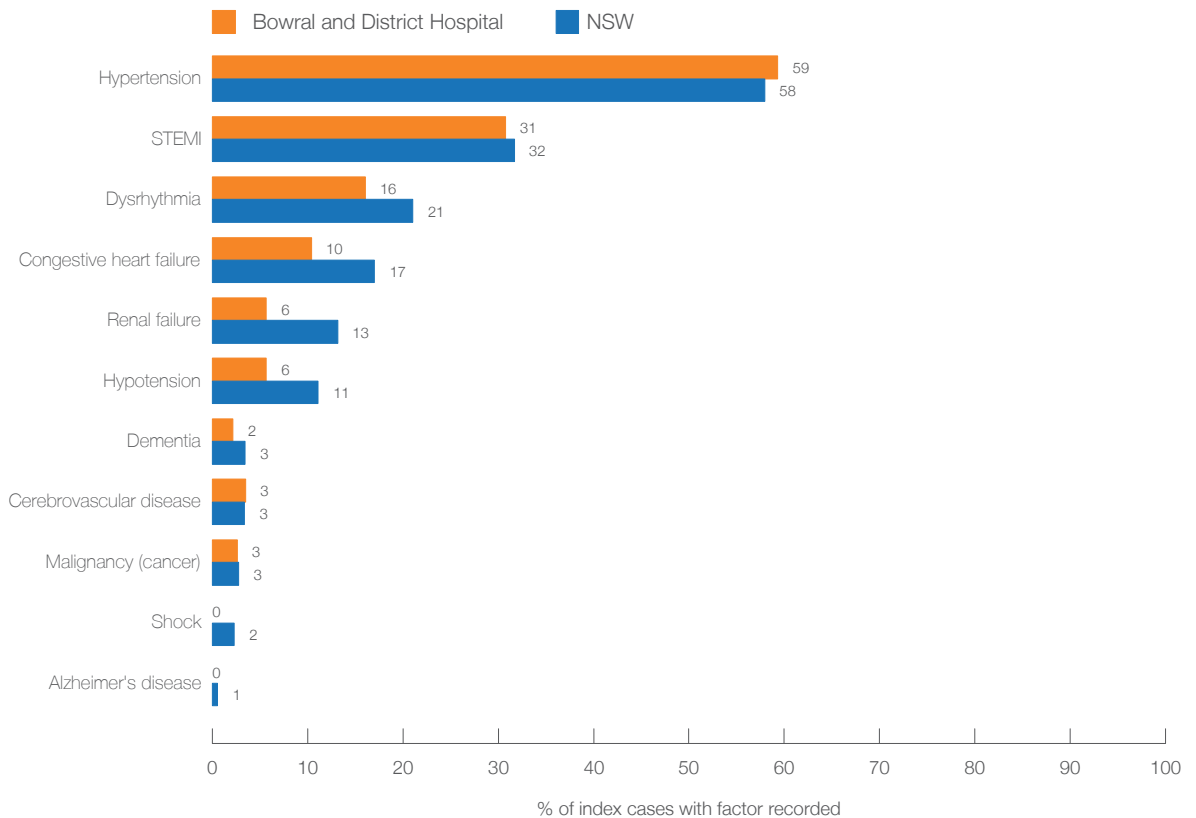
Bowral and District Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

	This hospital	NSW
Total Acute Myocardial Infarction (AMI) hospitalisations	278	37,794
Acute Myocardial Infarction (AMI) patients		
Presenting patients (index cases)¹	231	29,223
Patients not transferred to another hospital	82	18,303
Patients transferred out to another hospital	149	10,920

Age profile, index cases²



Significant patient factors and comorbidities, index cases³



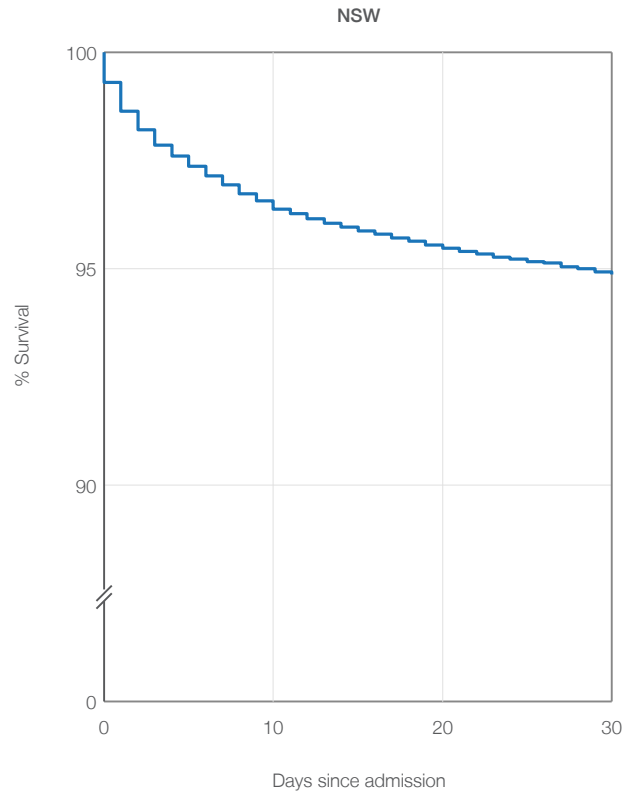
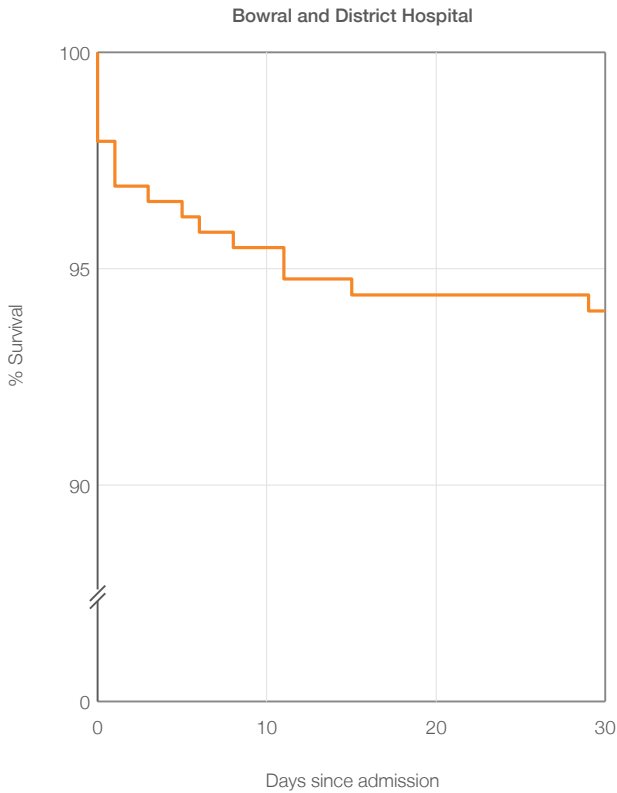
Bowral and District Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

Mortality (all causes) among 231 Acute Myocardial Infarction (AMI) index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	7%	
Of all deaths:		
percentage in this hospital	53%	(64%)
percentage in another hospital following transfer	18%	(6%)
percentage after discharge	29%	(31%)
percentage on day of admission	35%	(14%)
percentage within 7 days	71%	(61%)

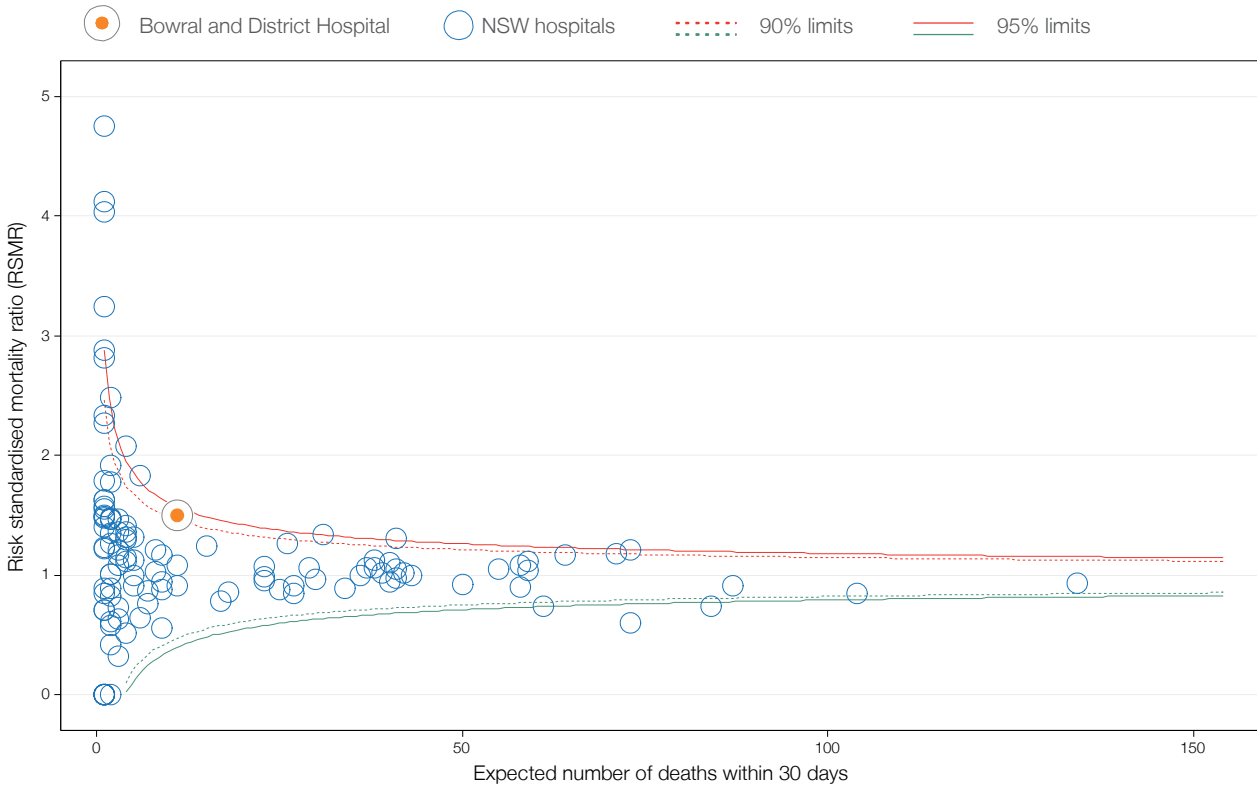
Survival of index cases following hospitalisation for Acute Myocardial Infarction (AMI) ⁵

Adjusted for average age and Charlson comorbidity score



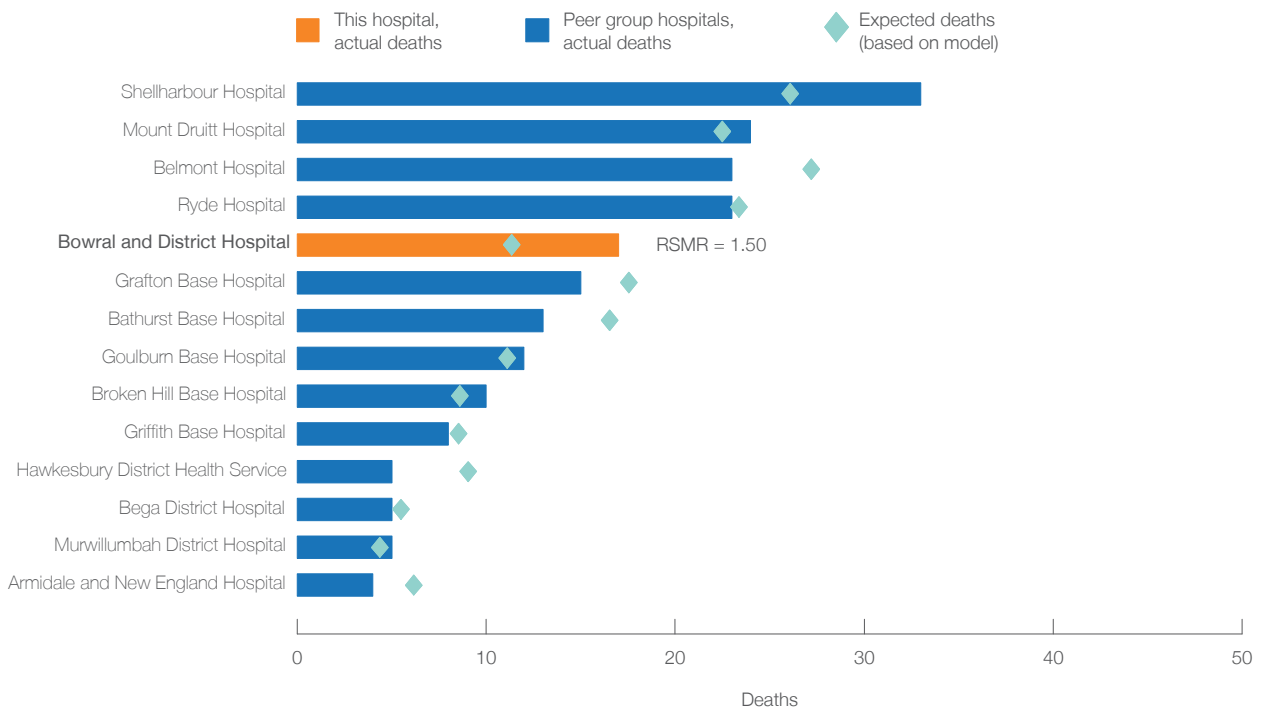
Bowral and District Hospital profile July 2009 - June 2012

Hospital-level Acute Myocardial Infarction (AMI) risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Bowral and District Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.97	1.10	1.50

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

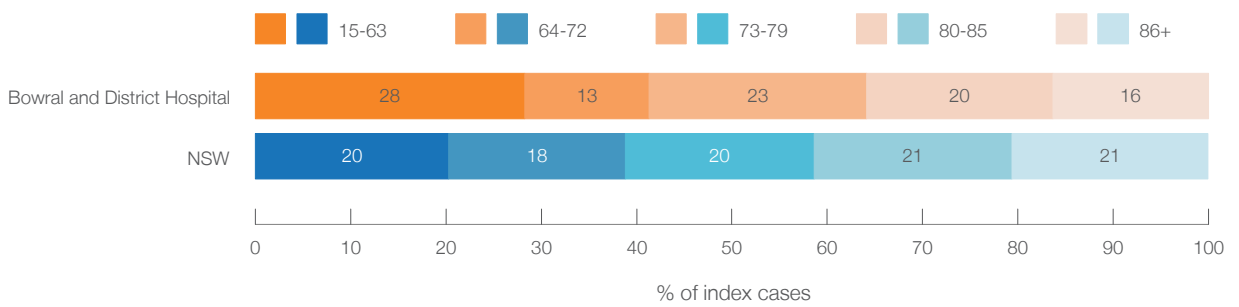
Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	0.88	0.93	1.22	1.50

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

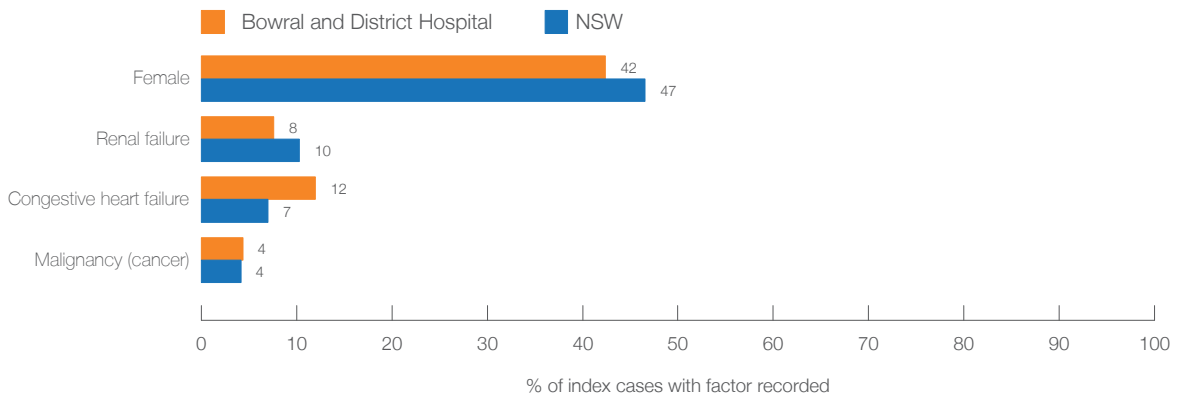
Bowral and District Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for ischaemic stroke

	This hospital	NSW
Total ischaemic stroke hospitalisations	97	15,299
Ischaemic stroke patients		
Presenting patients (index cases)¹	92	14,205
Patients not transferred to another hospital	69	11,757
Patients transferred out to another hospital	23	2,448

Age profile, index cases²



Significant patient factors and comorbidities, index cases³



Bowral and District Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for ischaemic stroke

Mortality (all causes) among 92 ischaemic stroke index cases⁴

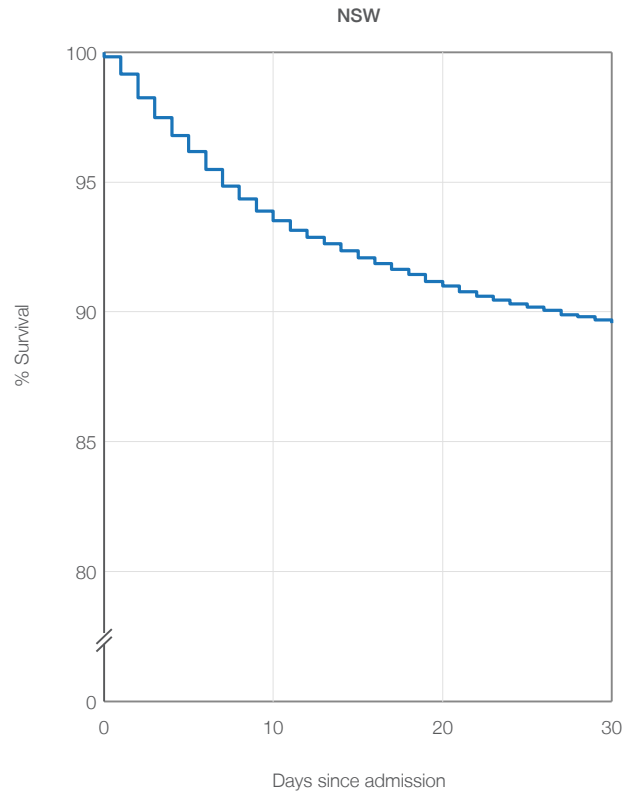
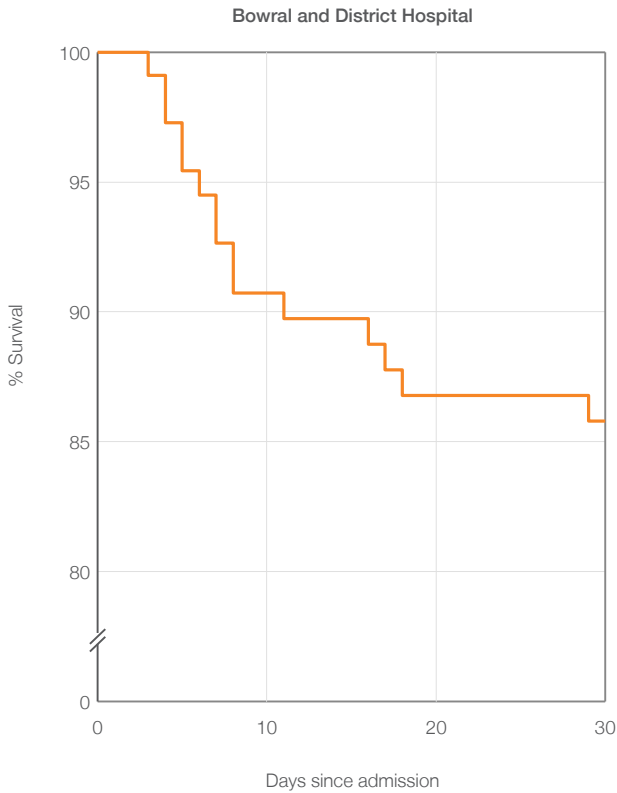
Percentages: index cases who died within 30 days of hospitalisation

Of all deaths:

	This hospital percentage	NSW percentage
percentage in this hospital	67%	(67%)
percentage in another hospital following transfer	0%	(2%)
percentage after discharge	33%	(31%)
percentage on day of admission	0%	(2%)
percentage within 7 days	53%	(51%)

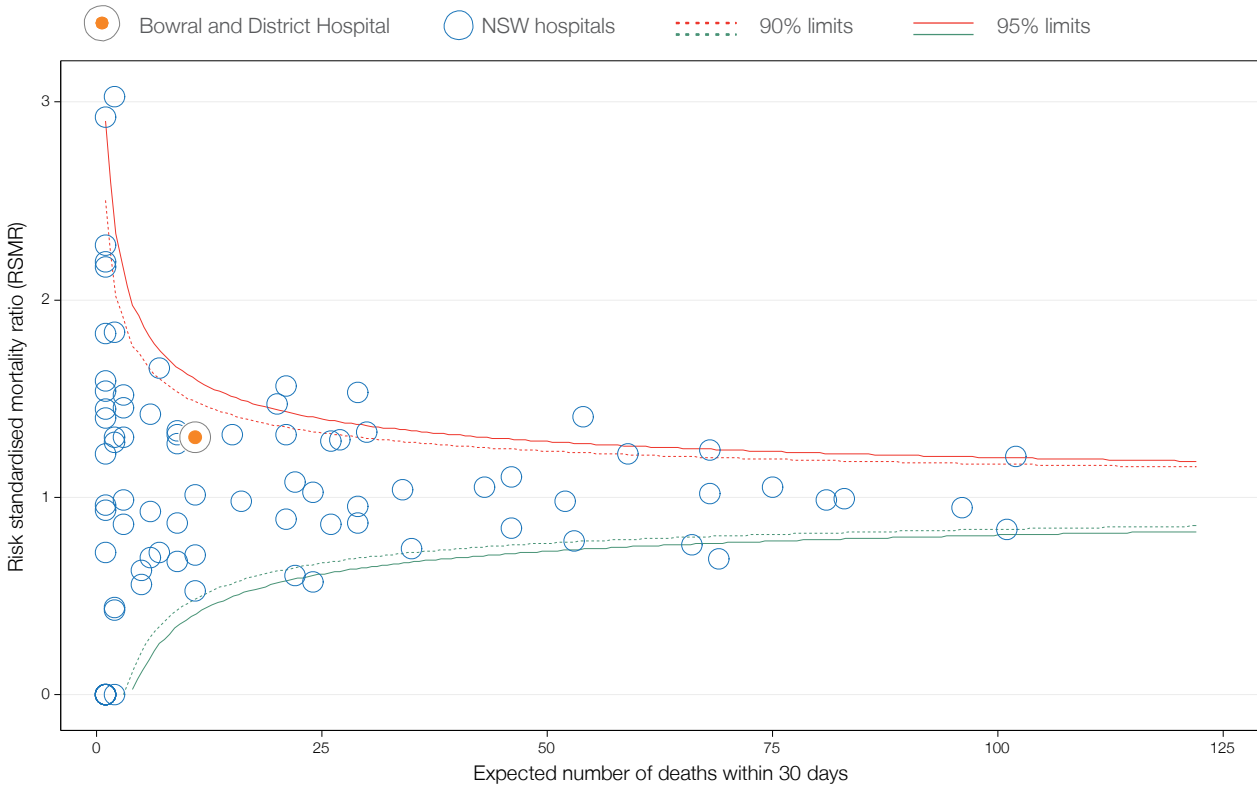
Survival of index cases following hospitalisation for ischaemic stroke⁵

Adjusted for average age and Charlson comorbidity score



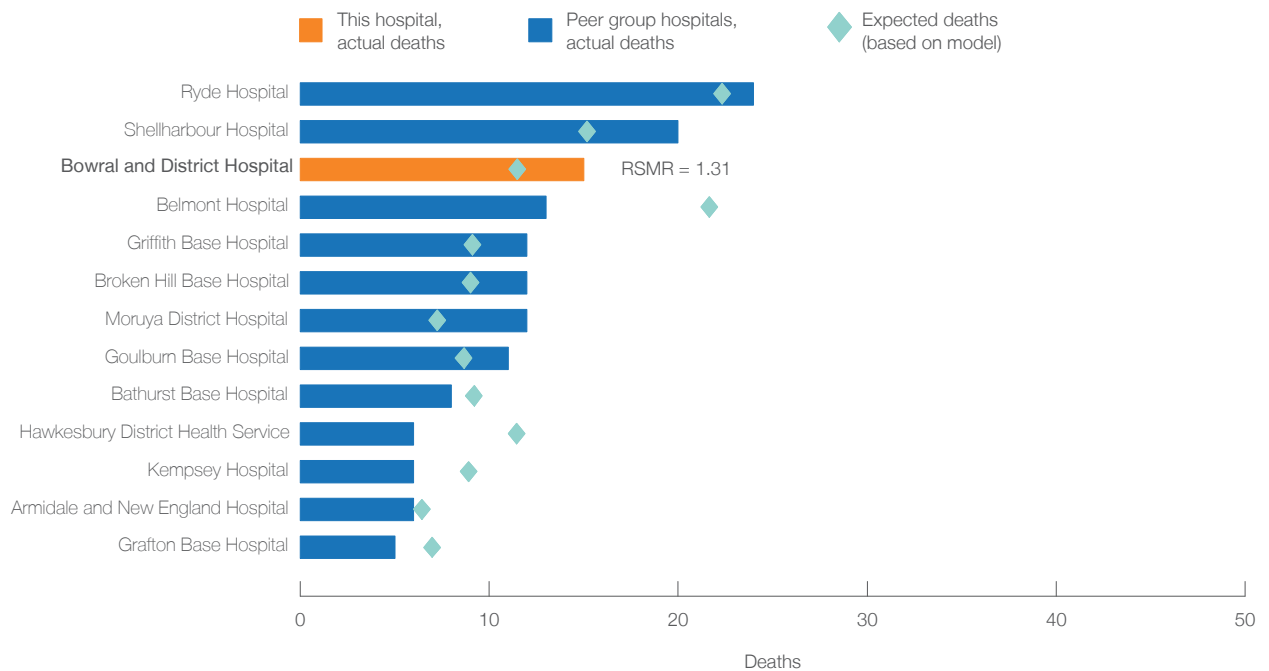
Bowral and District Hospital profile July 2009 - June 2012

Hospital-level ischaemic stroke risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Bowral and District Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for ischaemic stroke

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
1.22	1.40	1.31

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.13	1.28	0.75	1.31

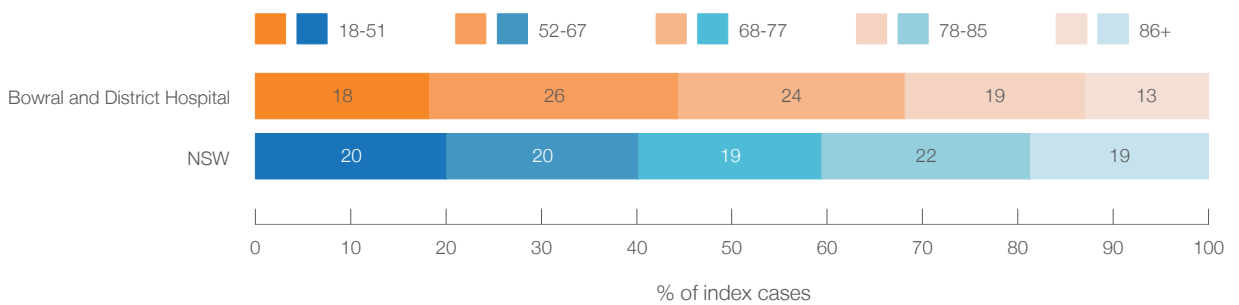
- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

Bowral and District Hospital profile July 2009 - June 2012

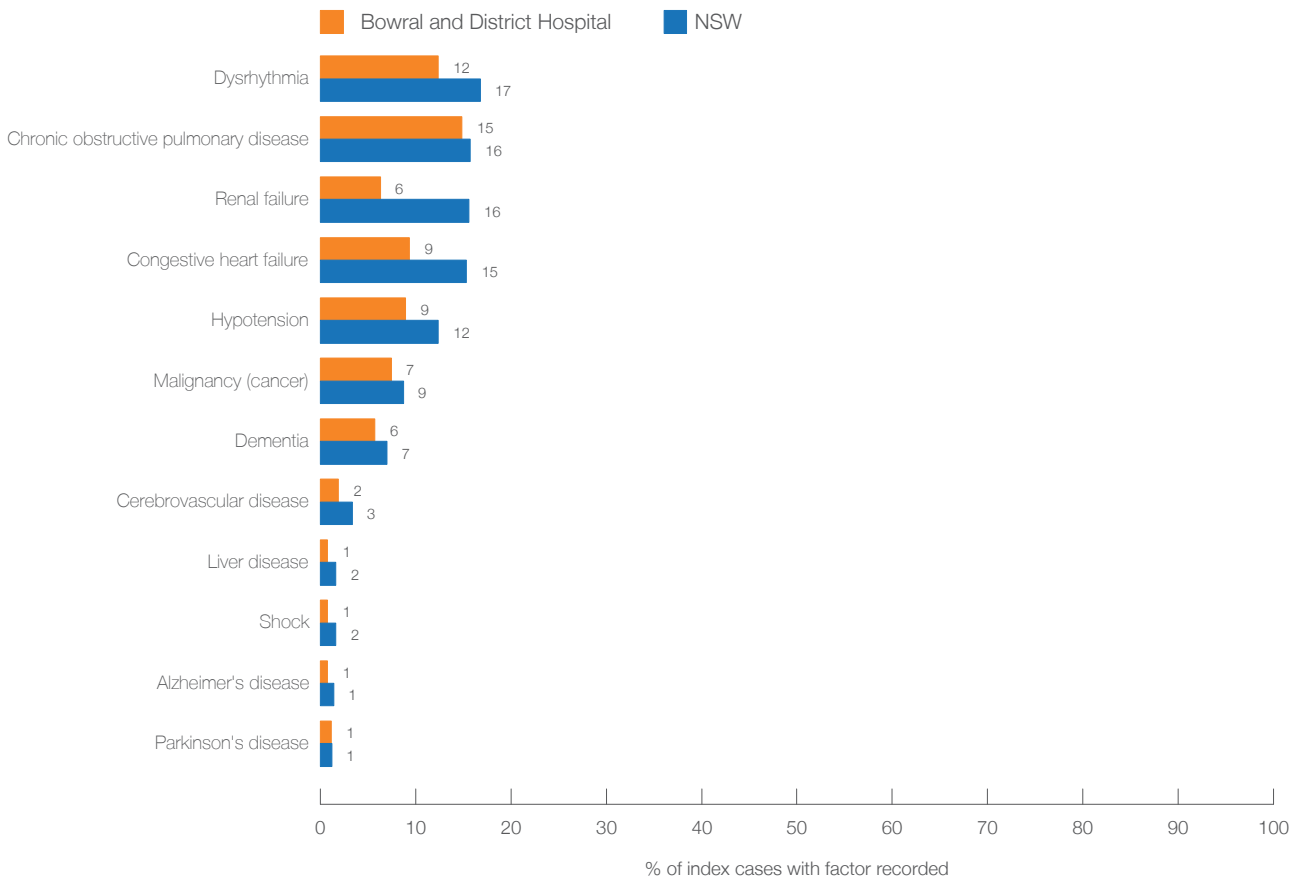
30-day mortality following hospitalisation for pneumonia

	This hospital	NSW
Total pneumonia hospitalisations	591	50,644
Pneumonia patients		
Presenting patients (index cases)¹	525	44,059
Patients not transferred to another hospital	387	39,655
Patients transferred out to another hospital	138	4,404

Age profile, index cases²



Significant patient factors and comorbidities, index cases³



Bowral and District Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for pneumonia

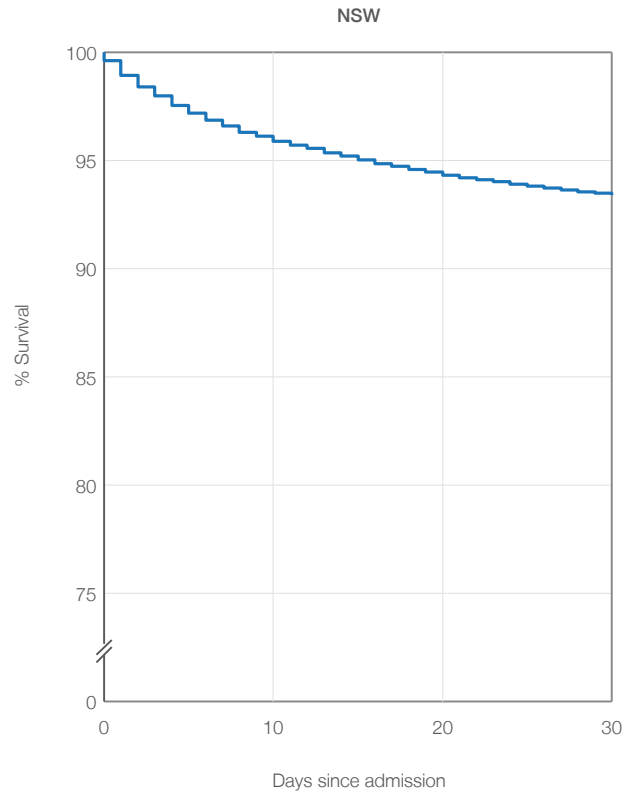
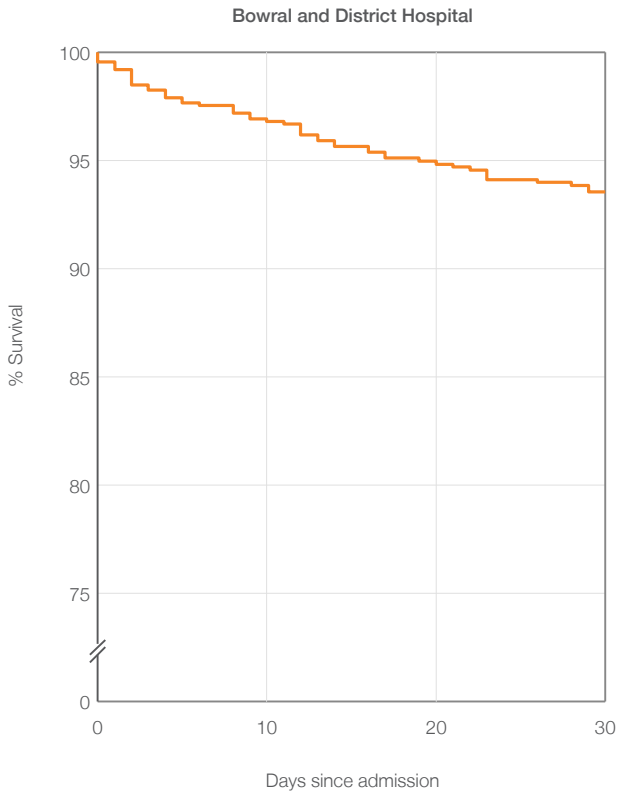
Mortality (all causes) among 525 pneumonia index cases ⁴

Percentages: index cases who died within 30 days of hospitalisation

Of all deaths:

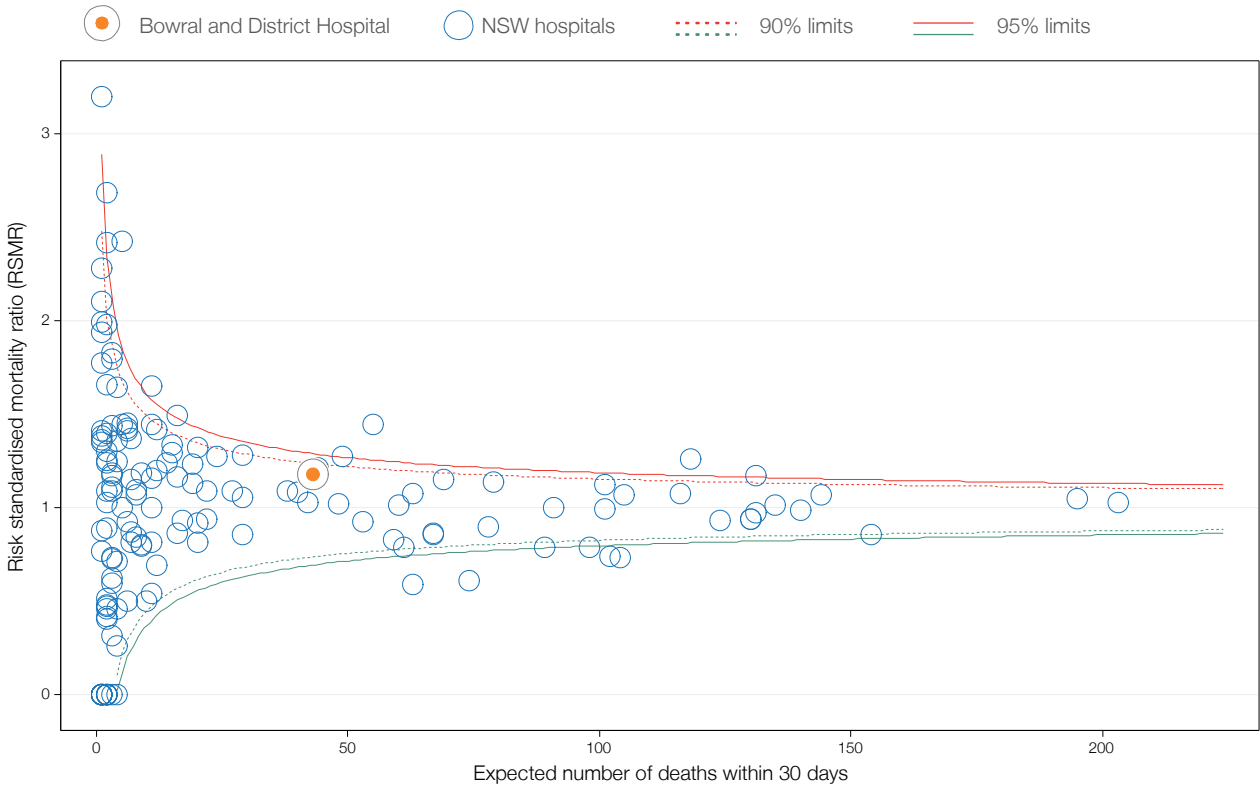
	This hospital percentage	NSW percentage
percentage in this hospital	41%	(66%)
percentage in another hospital following transfer	6%	(3%)
percentage after discharge	53%	(31%)
percentage on day of admission	8%	(6%)
percentage within 7 days	41%	(54%)

Survival of index cases following hospitalisation for pneumonia ⁵
 Adjusted for average age and Charlson comorbidity score



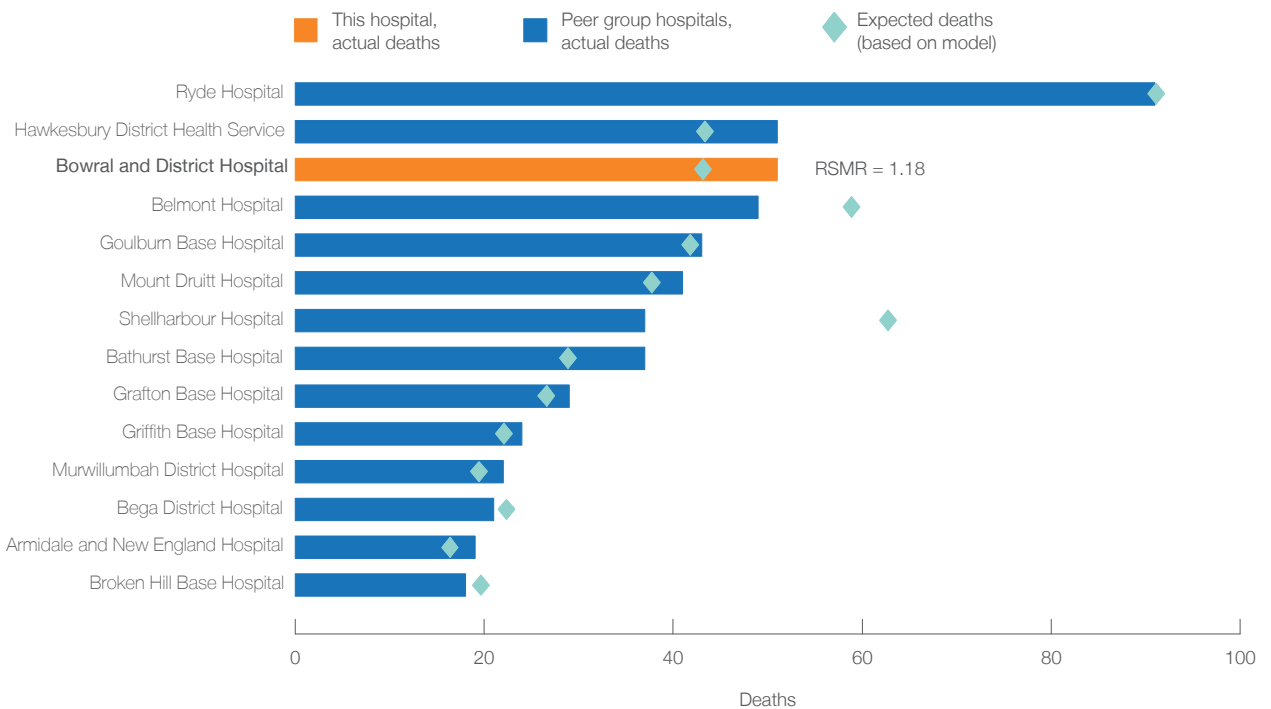
Bowral and District Hospital profile July 2009 - June 2012

Hospital-level pneumonia risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Bowral and District Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for pneumonia

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.90	1.04	1.18

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

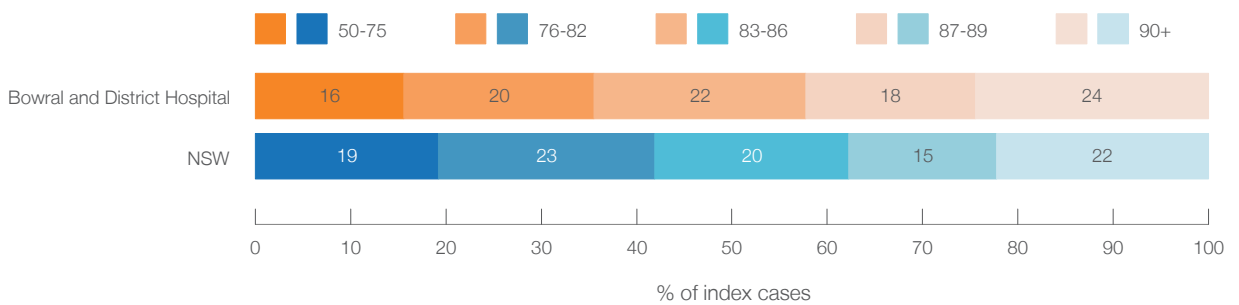
Year (financial years)	2000-02	2003-05	2006-08	2009-12
Risk-standardised mortality ratio	0.85	0.97	1.34	1.18

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

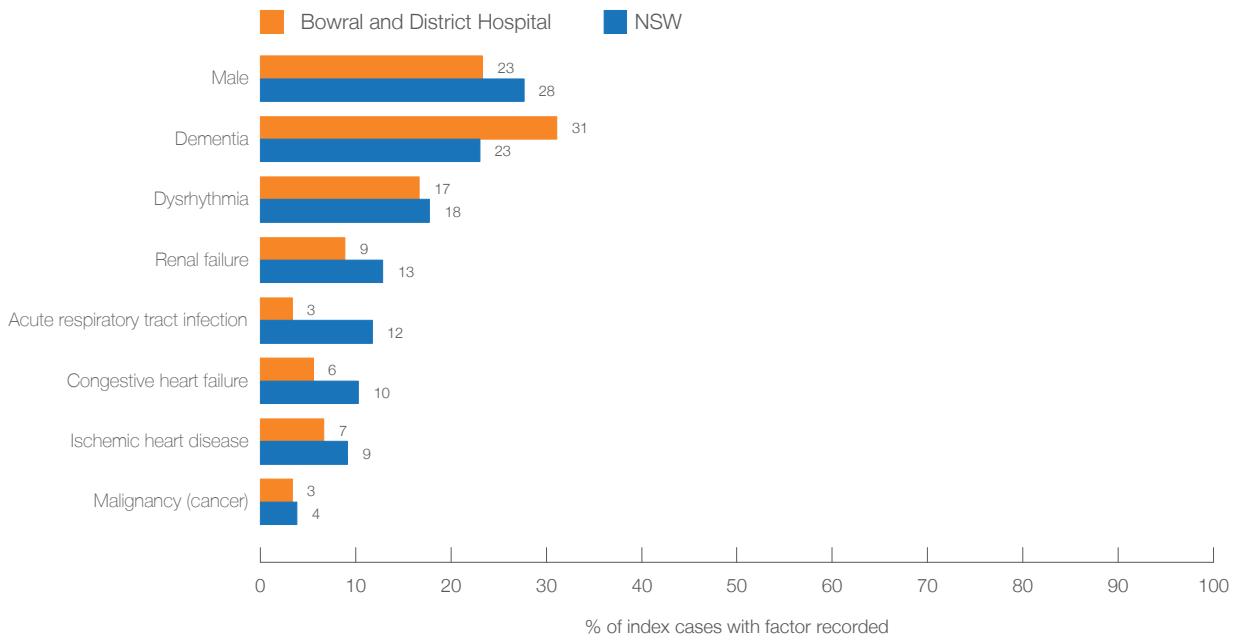
Bowral and District Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for hip fracture surgery

	This hospital	NSW
Total hip fracture surgery hospitalisations	95	16,355
Hip fracture surgery patients		
Presenting patients (index cases)¹	90	15,836
Patients not transferred to another hospital	77	10,739
Patients transferred out to another hospital	13	5,097

Age profile, index cases²



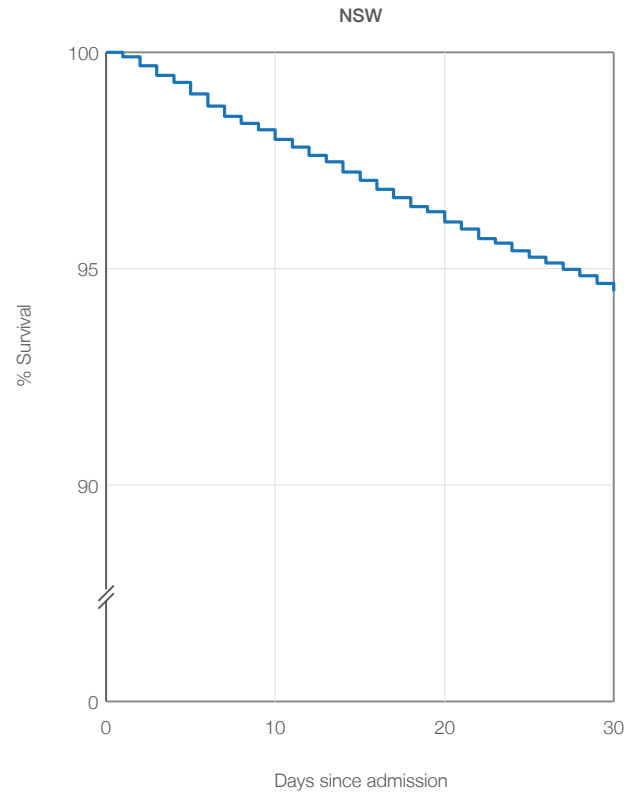
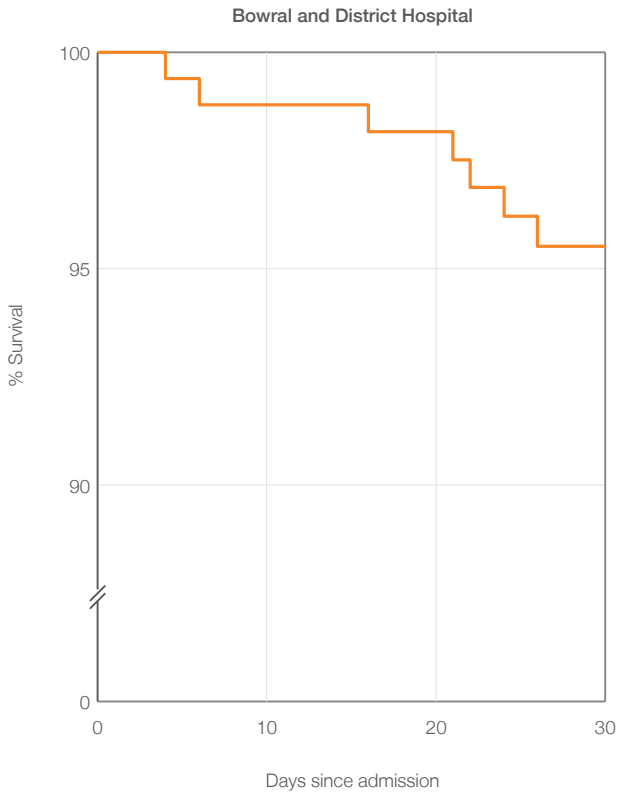
Significant patient factors and comorbidities, index cases³



Bowral and District Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for hip fracture surgery

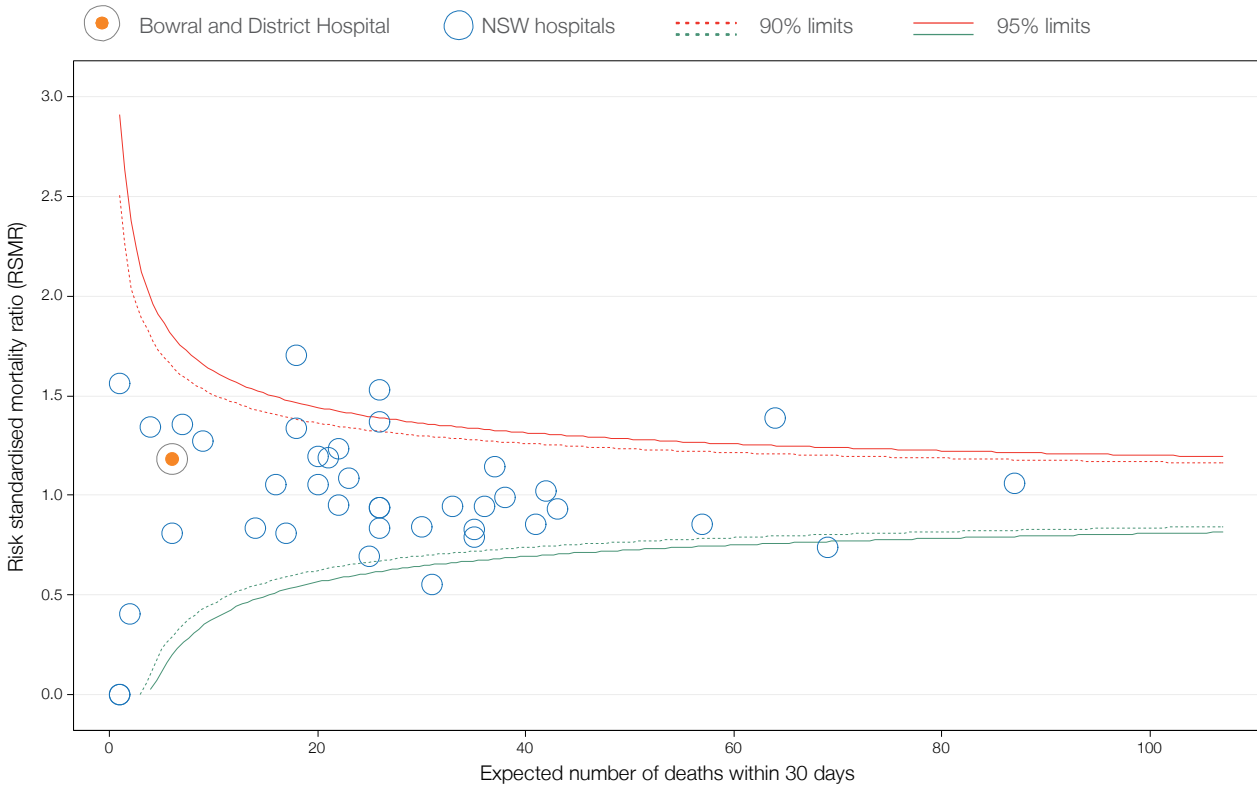
Mortality (all causes) among 90 hip fracture surgery index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	8%	
Of all deaths:		
percentage in this hospital	14%	(50%)
percentage in another hospital following transfer	0%	(0%)
percentage after discharge	86%	(50%)
percentage on day of admission	not applicable for hip fracture surgery	
percentage within 7 days	29%	(27%)

Survival of index cases following hospitalisation for hip fracture surgery⁵
 Adjusted for average age and Charlson comorbidity score



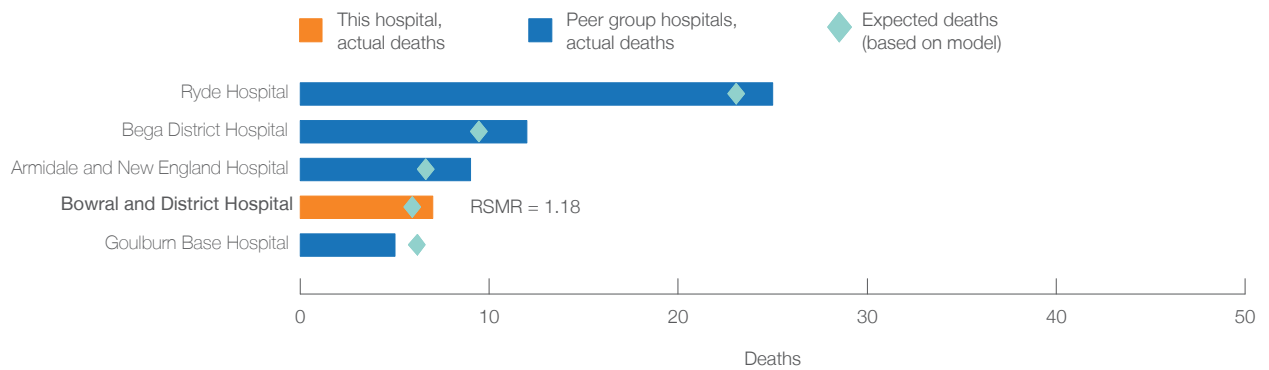
Bowral and District Hospital profile July 2009 - June 2012

Hospital-level hip fracture surgery risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Bowral and District Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for hip fracture surgery

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
1.13	1.15	1.18

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.51	0.70	0.57	1.18

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

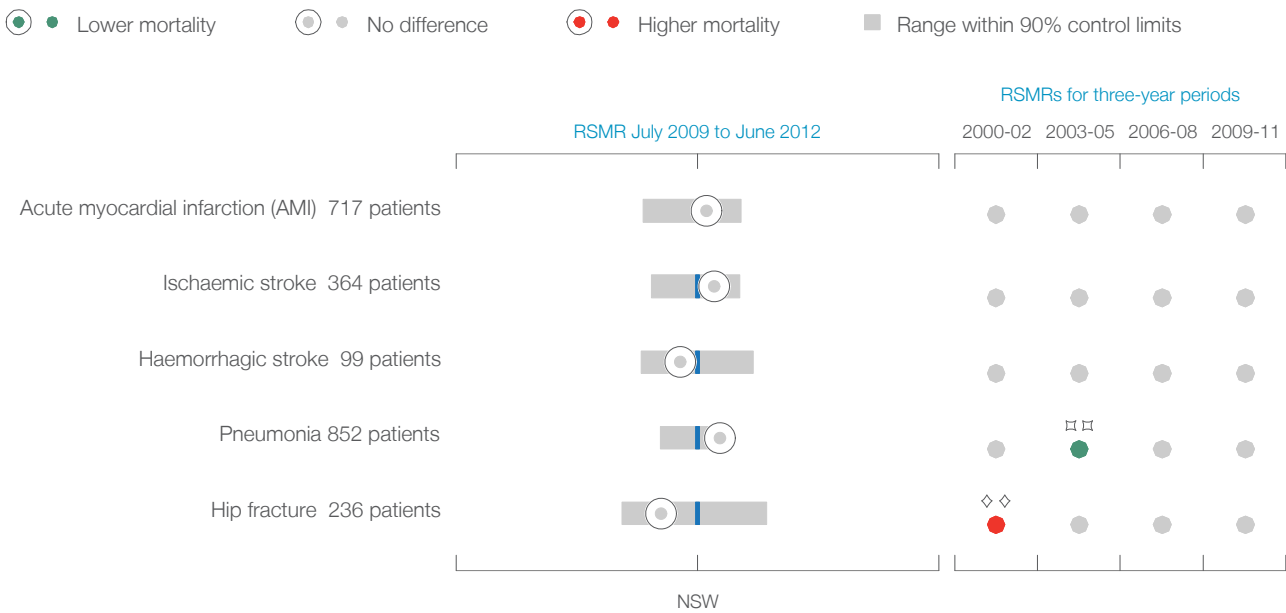
Campbelltown Hospital summary dashboard, July 2009 - June 2012

30-day mortality following hospitalisation for five conditions

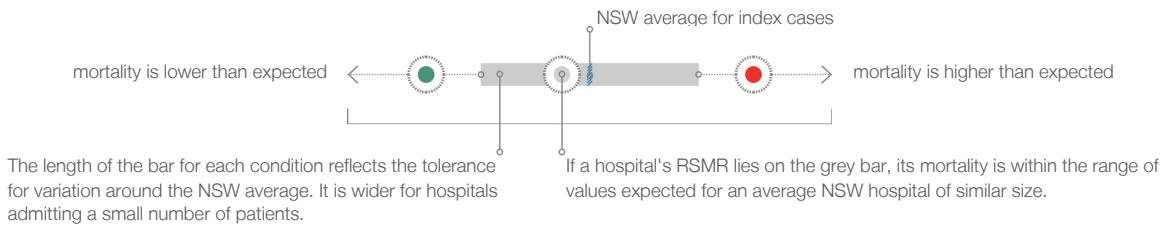
Hospital-specific risk-standardised mortality ratios (RSMRs) report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given its case mix. A ratio less than 1.0 indicates lower-than-expected mortality, and a ratio higher than 1.0 indicates higher-than-expected mortality. Small deviations from 1.0 are not considered to be meaningful. Funnel plots with 90% and 95% control limits around the NSW rate are used to identify hospitals with higher and lower mortality.

This measure is not designed to compare hospitals and cannot be used to measure the number of avoidable deaths. RSMRs do not distinguish deaths that are avoidable from those that are a reflection of the natural course of illness. They do not provide, by themselves, a diagnostic of quality and safety of care.

Risk-standardised mortality ratios (RSMRs) for five conditions, dashboard



How to interpret the dashboard



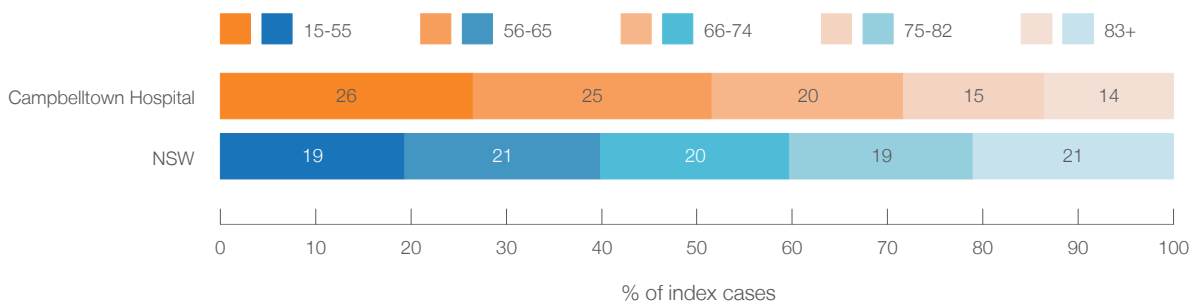
(†) Data for hospitals with an expected mortality of <1 are suppressed.
 (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
 (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
Notes: RSMR data are for patients with a hospitalisation noting the relevant condition as principal diagnosis. Patients include those discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care. Deaths are from any cause, in or out of hospital within 30 days of the hospitalisation admission date.
Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios for five conditions*.
Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

Campbelltown Hospital profile July 2009 - June 2012

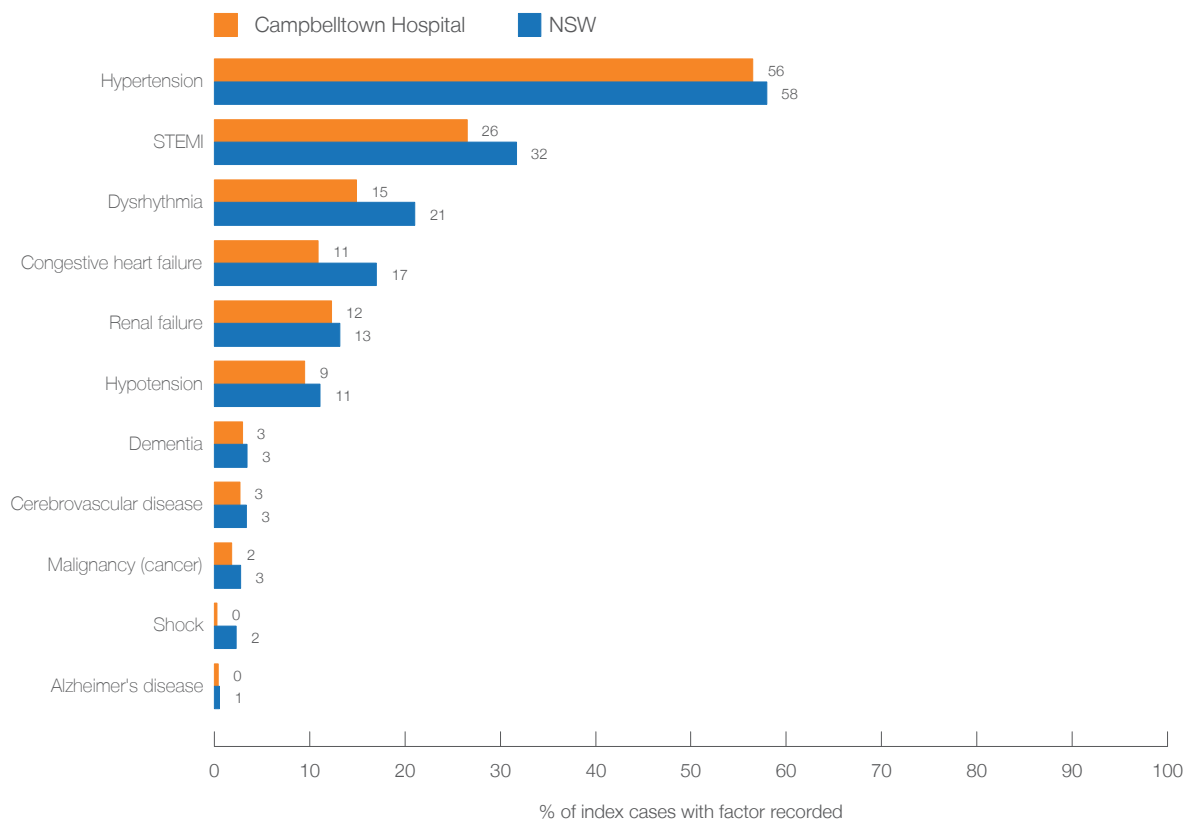
30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

	This hospital	NSW
Total Acute Myocardial Infarction (AMI) hospitalisations	823	37,794
Acute Myocardial Infarction (AMI) patients		
Presenting patients (index cases)¹	717	29,223
Patients not transferred to another hospital	449	18,303
Patients transferred out to another hospital	268	10,920

Age profile, index cases²



Significant patient factors and comorbidities, index cases³



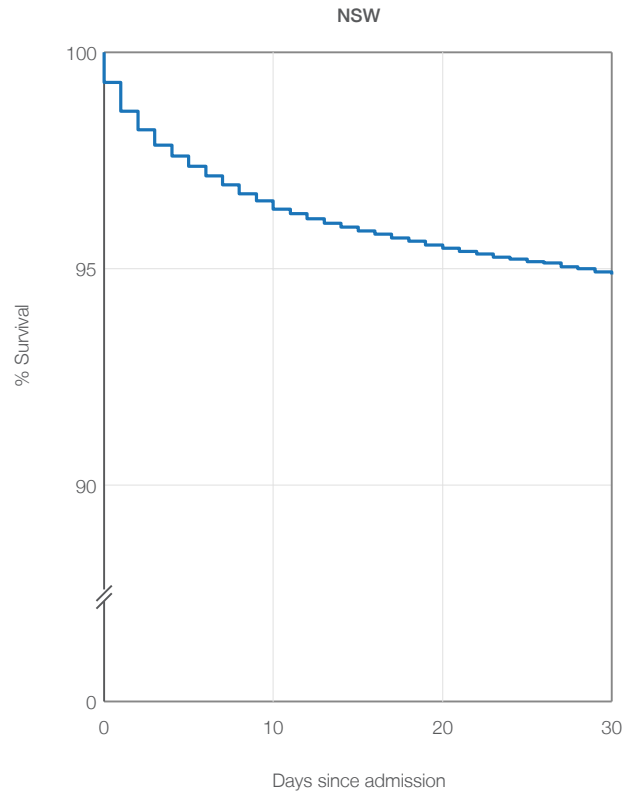
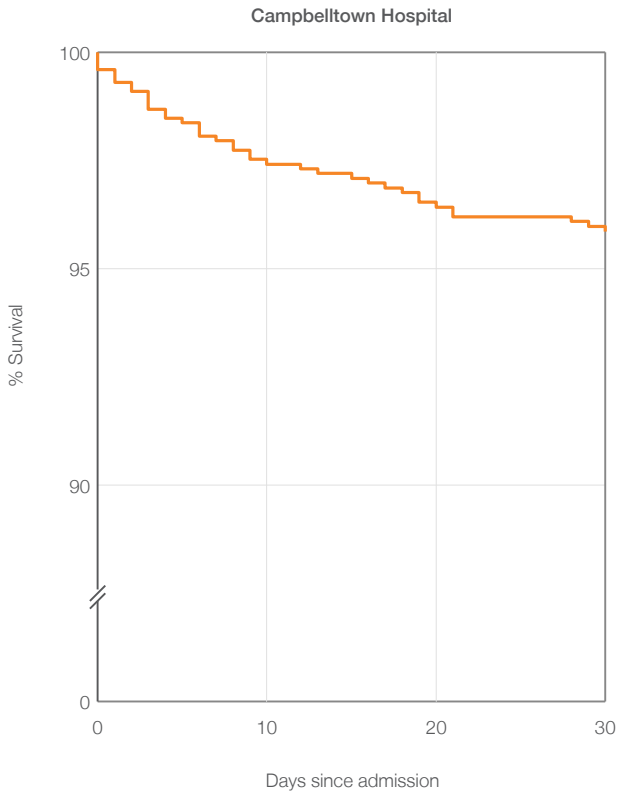
Campbelltown Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

	This hospital percentage	NSW percentage
Mortality (all causes) among 717 Acute Myocardial Infarction (AMI) index cases ⁴		
Percentages: index cases who died within 30 days of hospitalisation	5%	
Of all deaths:		
percentage in this hospital	44%	(64%)
percentage in another hospital following transfer	3%	(6%)
percentage after discharge	54%	(31%)
percentage on day of admission	10%	(14%)
percentage within 7 days	51%	(61%)

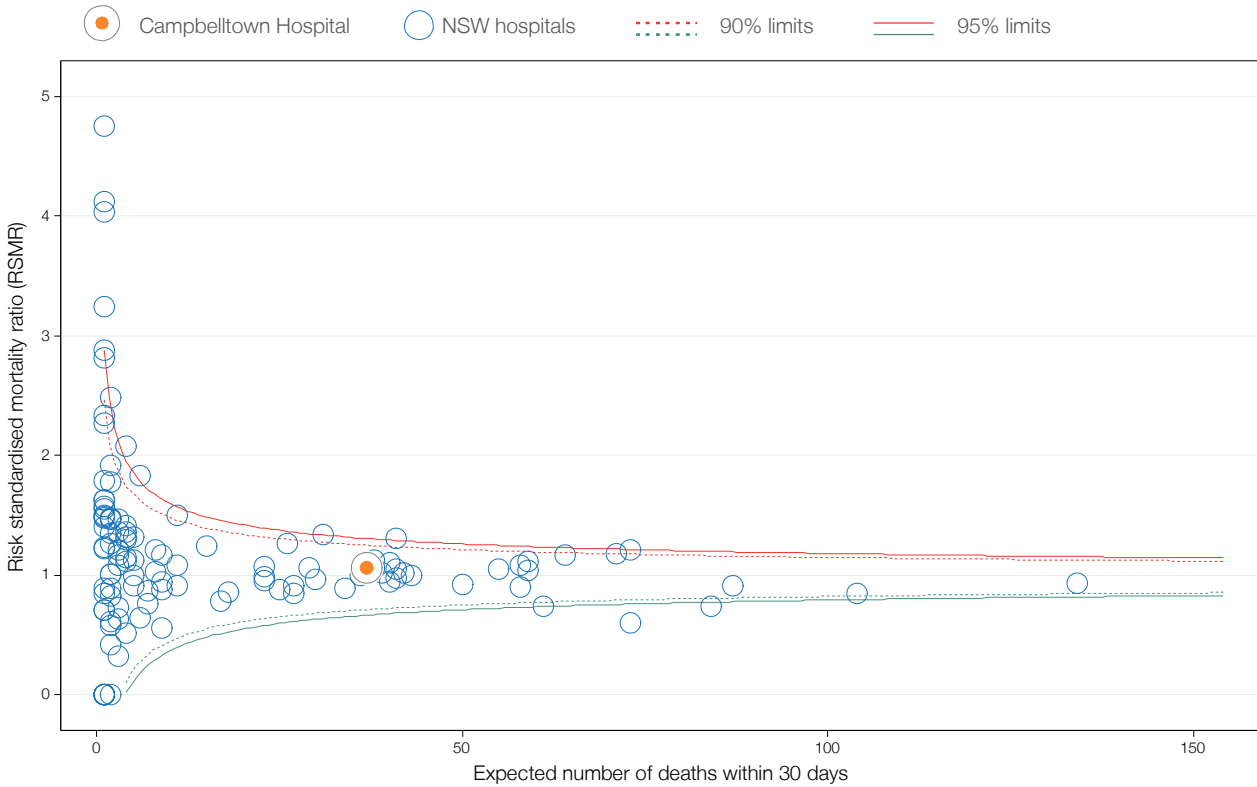
Survival of index cases following hospitalisation for Acute Myocardial Infarction (AMI) ⁵

Adjusted for average age and Charlson comorbidity score



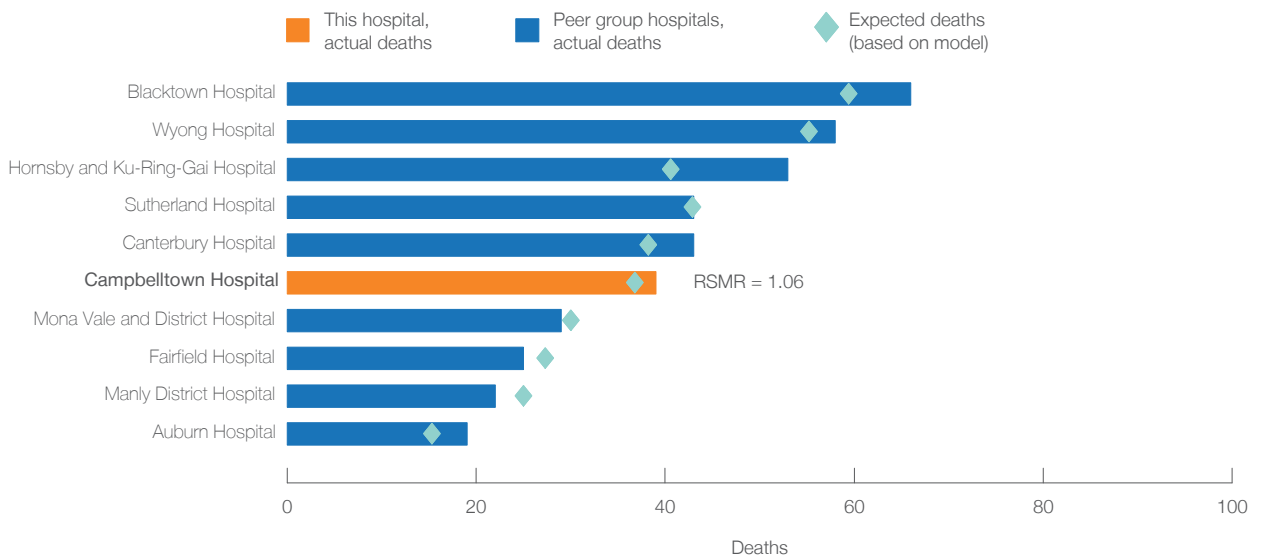
Campbelltown Hospital profile July 2009 - June 2012

Hospital-level Acute Myocardial Infarction (AMI) risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Campbelltown Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.72	0.91	1.06

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

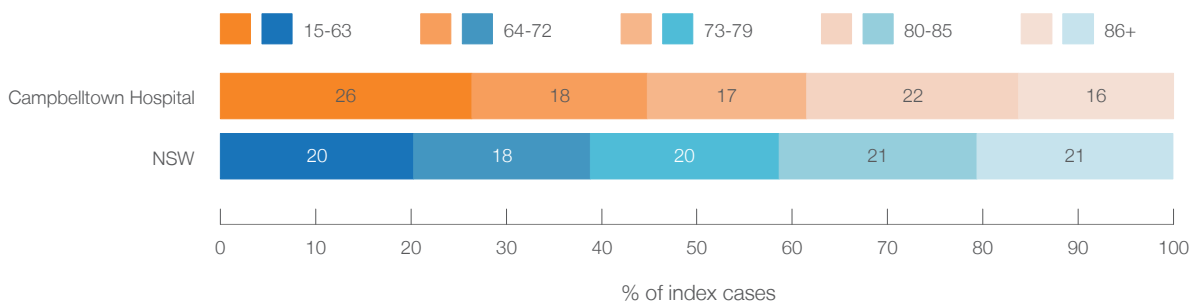
Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.25	1.10	1.24	1.06

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

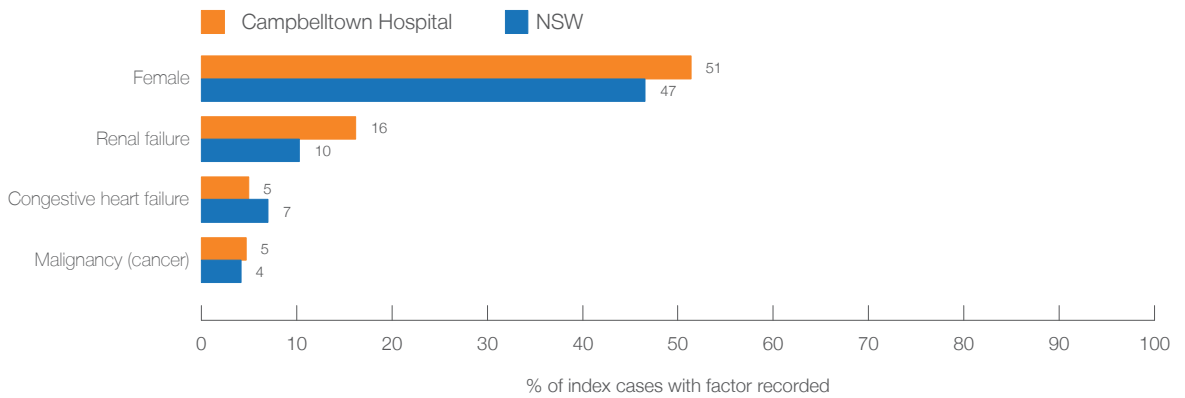
Campbelltown Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for ischaemic stroke

	This hospital	NSW
Total ischaemic stroke hospitalisations	390	15,299
Ischaemic stroke patients		
Presenting patients (index cases)¹	364	14,205
Patients not transferred to another hospital	275	11,757
Patients transferred out to another hospital	89	2,448

Age profile, index cases²



Significant patient factors and comorbidities, index cases³



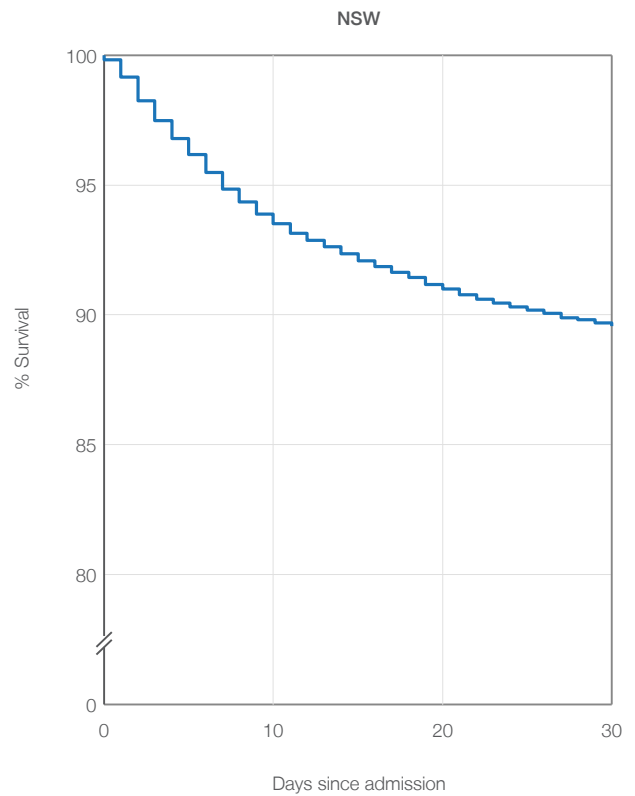
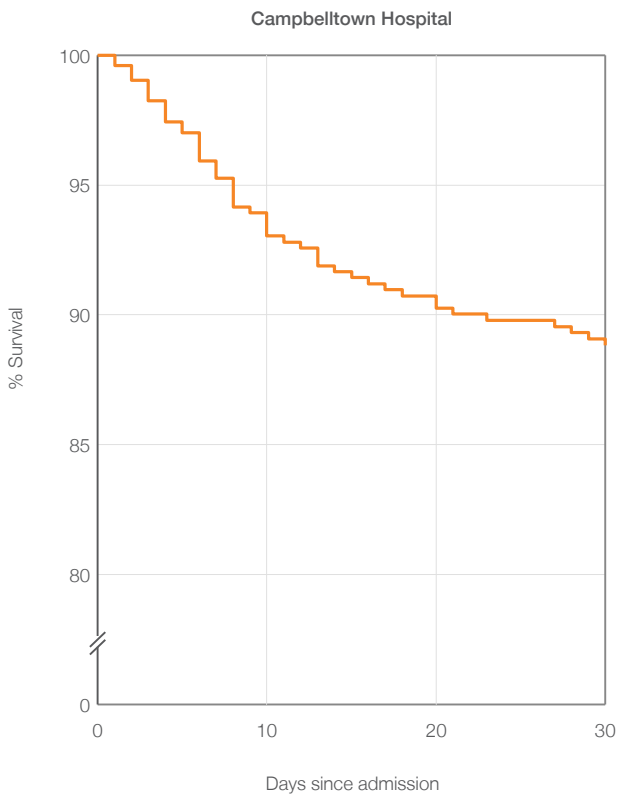
Campbelltown Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for ischaemic stroke

	This hospital percentage	NSW percentage
Mortality (all causes) among 364 ischaemic stroke index cases ⁴		
Percentages: index cases who died within 30 days of hospitalisation	14%	
Of all deaths:		
percentage in this hospital	75%	(67%)
percentage in another hospital following transfer	2%	(2%)
percentage after discharge	24%	(31%)
percentage on day of admission	0%	(2%)
percentage within 7 days	45%	(51%)

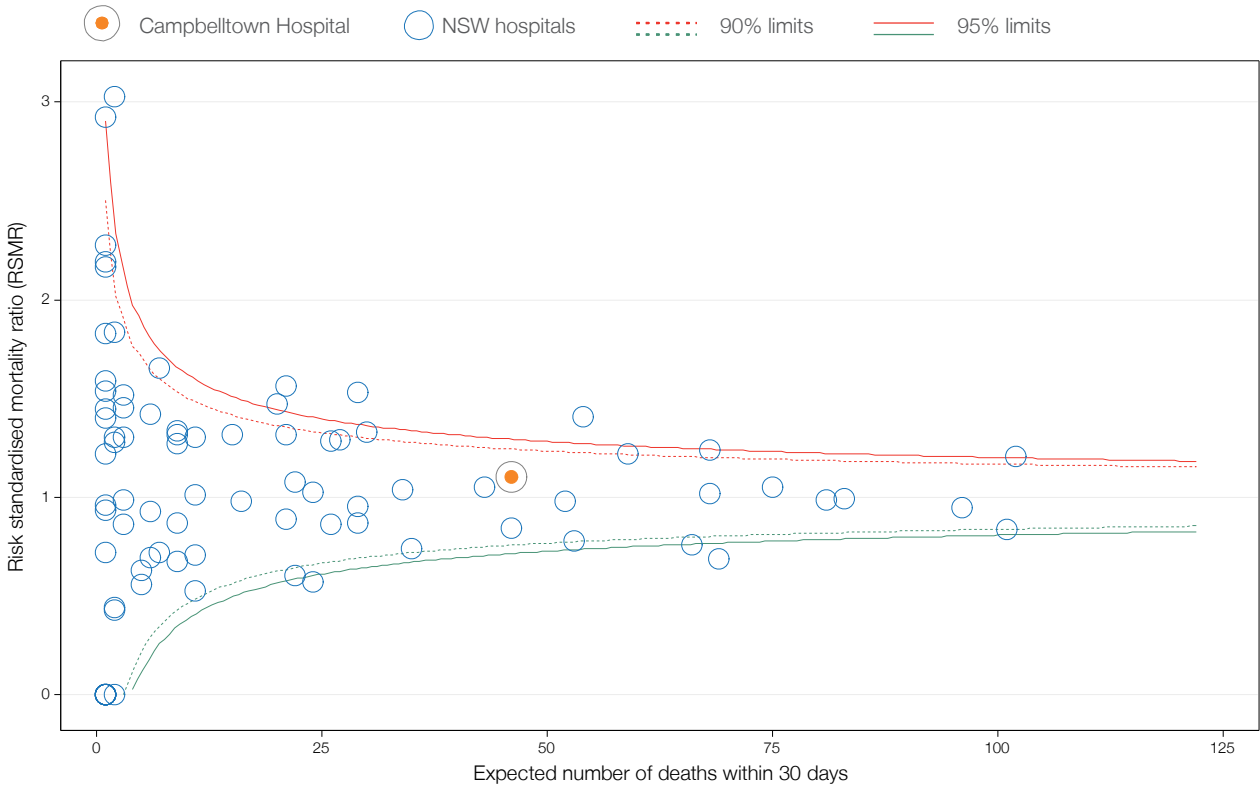
Survival of index cases following hospitalisation for ischaemic stroke⁵

Adjusted for average age and Charlson comorbidity score



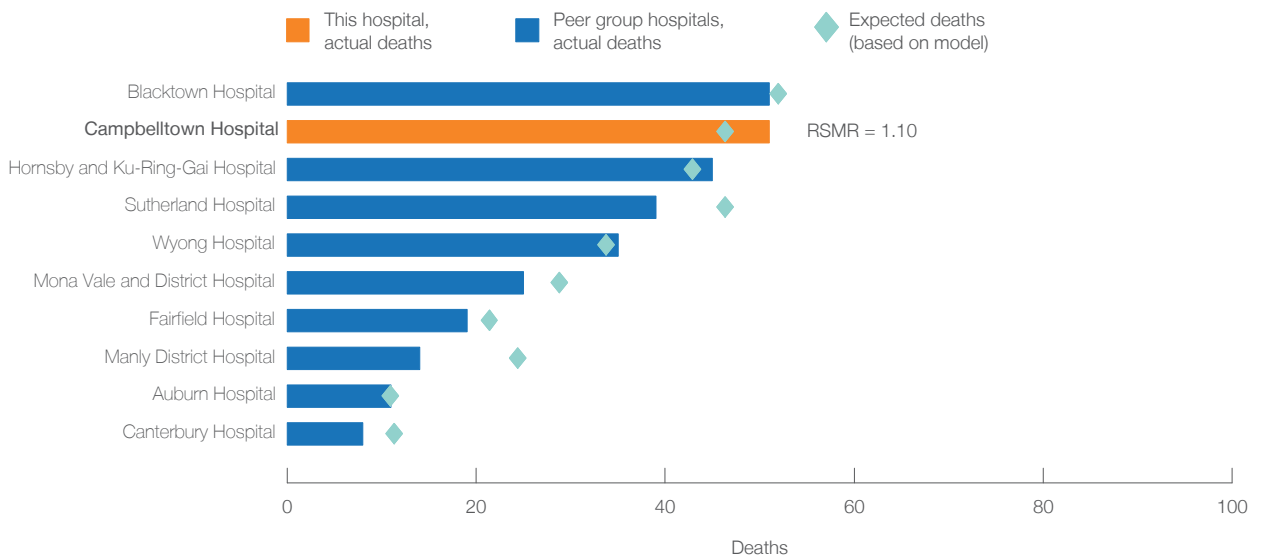
Campbelltown Hospital profile July 2009 - June 2012

Hospital-level ischaemic stroke risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Campbelltown Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for ischaemic stroke

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
1.05	1.14	1.10

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

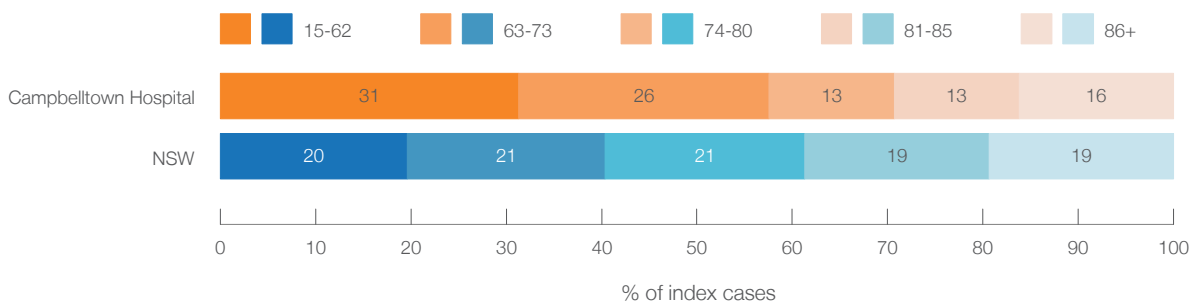
Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	0.99	0.83	0.93	1.10

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

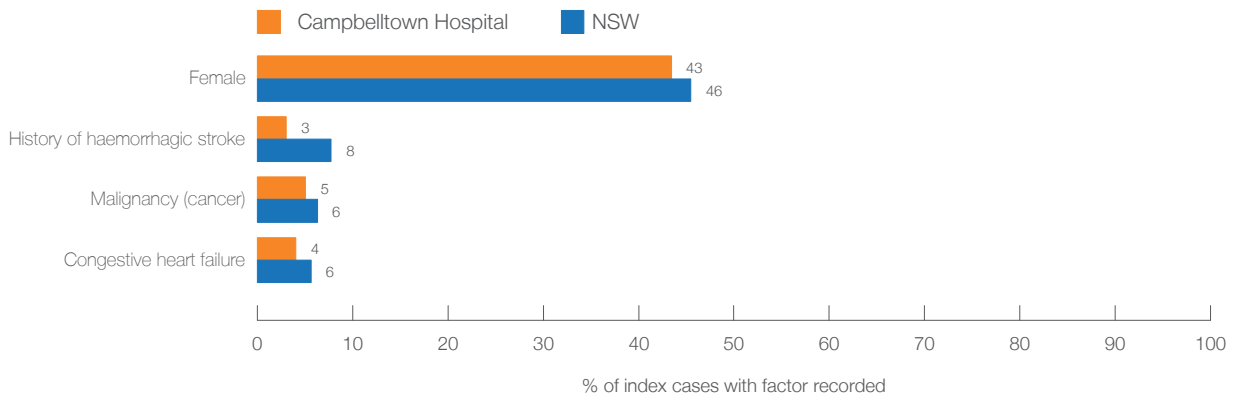
Campbelltown Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for haemorrhagic stroke

	This hospital	NSW
Total haemorrhagic stroke hospitalisations	103	6,573
Haemorrhagic stroke patients		
Presenting patients (index cases)¹	99	5,681
Patients not transferred to another hospital	54	4,148
Patients transferred out to another hospital	45	1,533

Age profile, index cases²



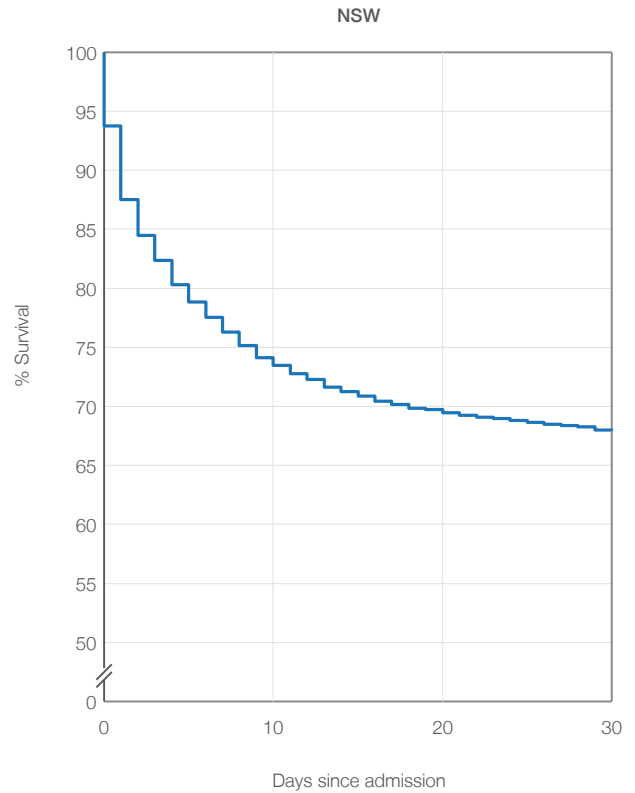
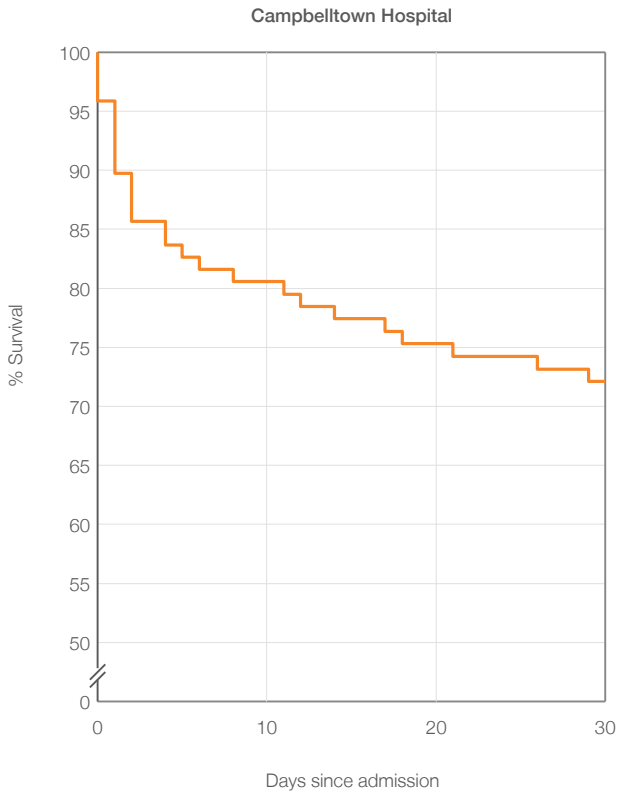
Significant patient factors and comorbidities, index cases³



Campbelltown Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for haemorrhagic stroke

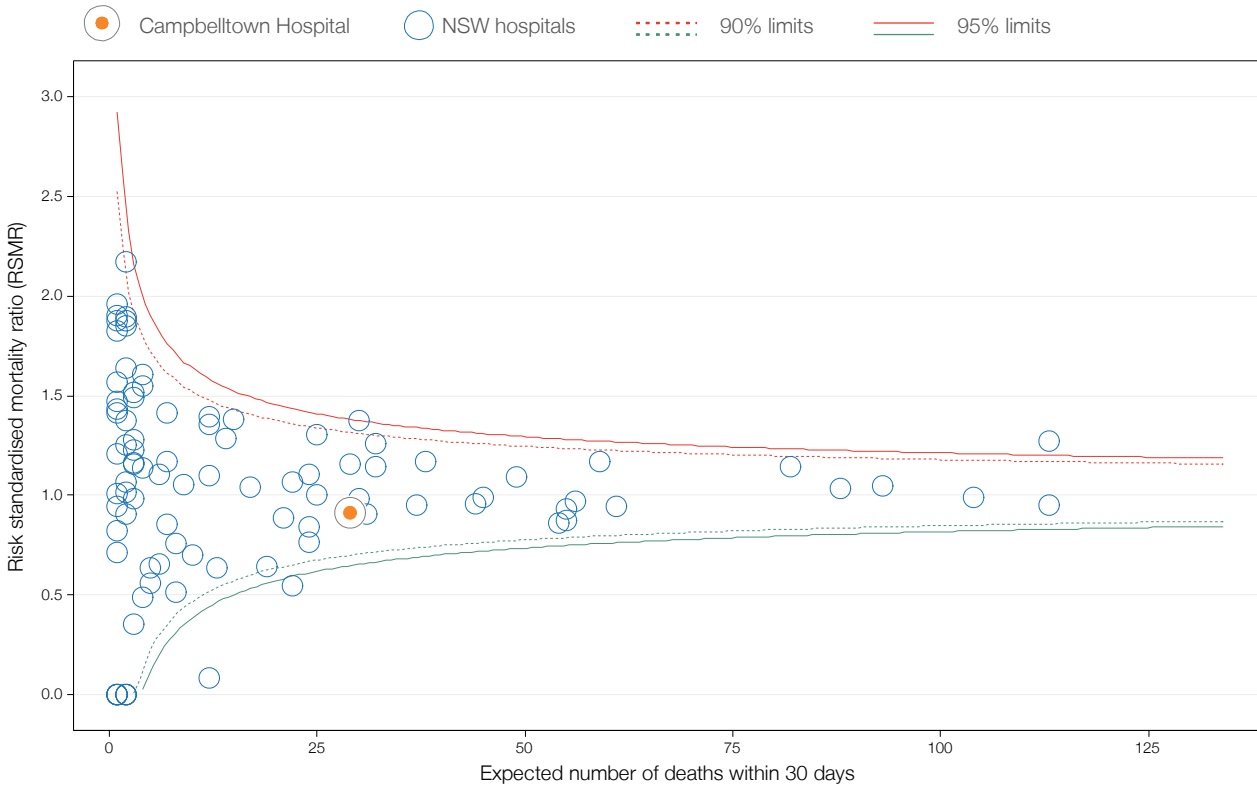
Mortality (all causes) among 99 haemorrhagic stroke index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	27%	
Of all deaths:		
percentage in this hospital	70%	(76%)
percentage in another hospital following transfer	4%	(3%)
percentage after discharge	26%	(21%)
percentage on day of admission	15%	(20%)
percentage within 7 days	67%	(75%)

Survival of index cases following hospitalisation for haemorrhagic stroke⁵
 Adjusted for average age and Charlson comorbidity score



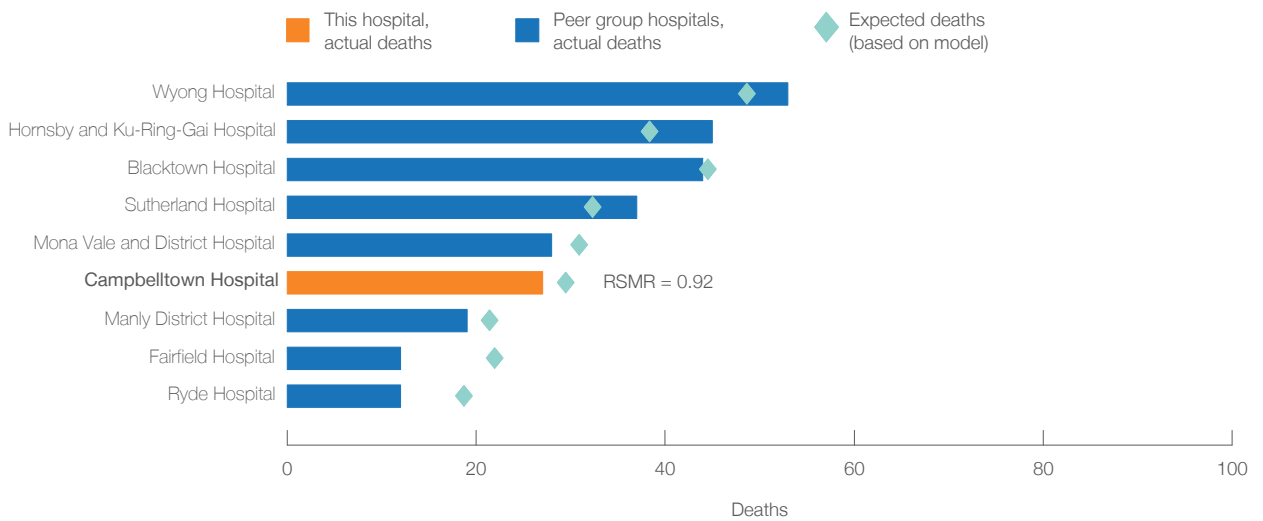
Campbelltown Hospital profile July 2009 - June 2012

Hospital-level haemorrhagic stroke risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Campbelltown Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for haemorrhagic stroke

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.81	0.91	0.92

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

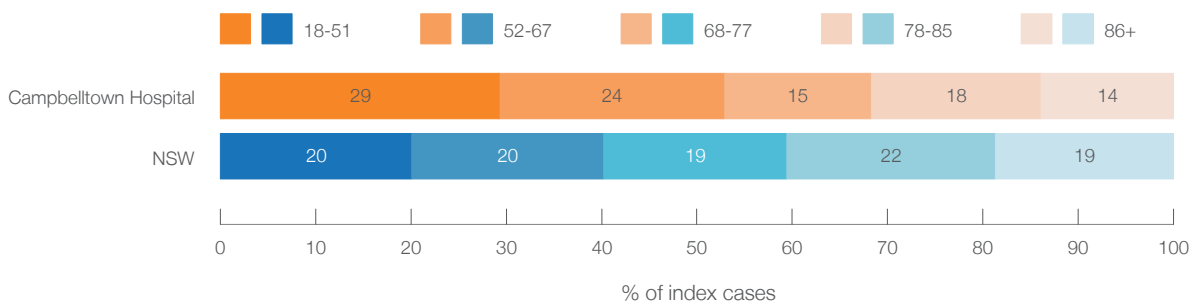
Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.28	1.17	1.13	0.92

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

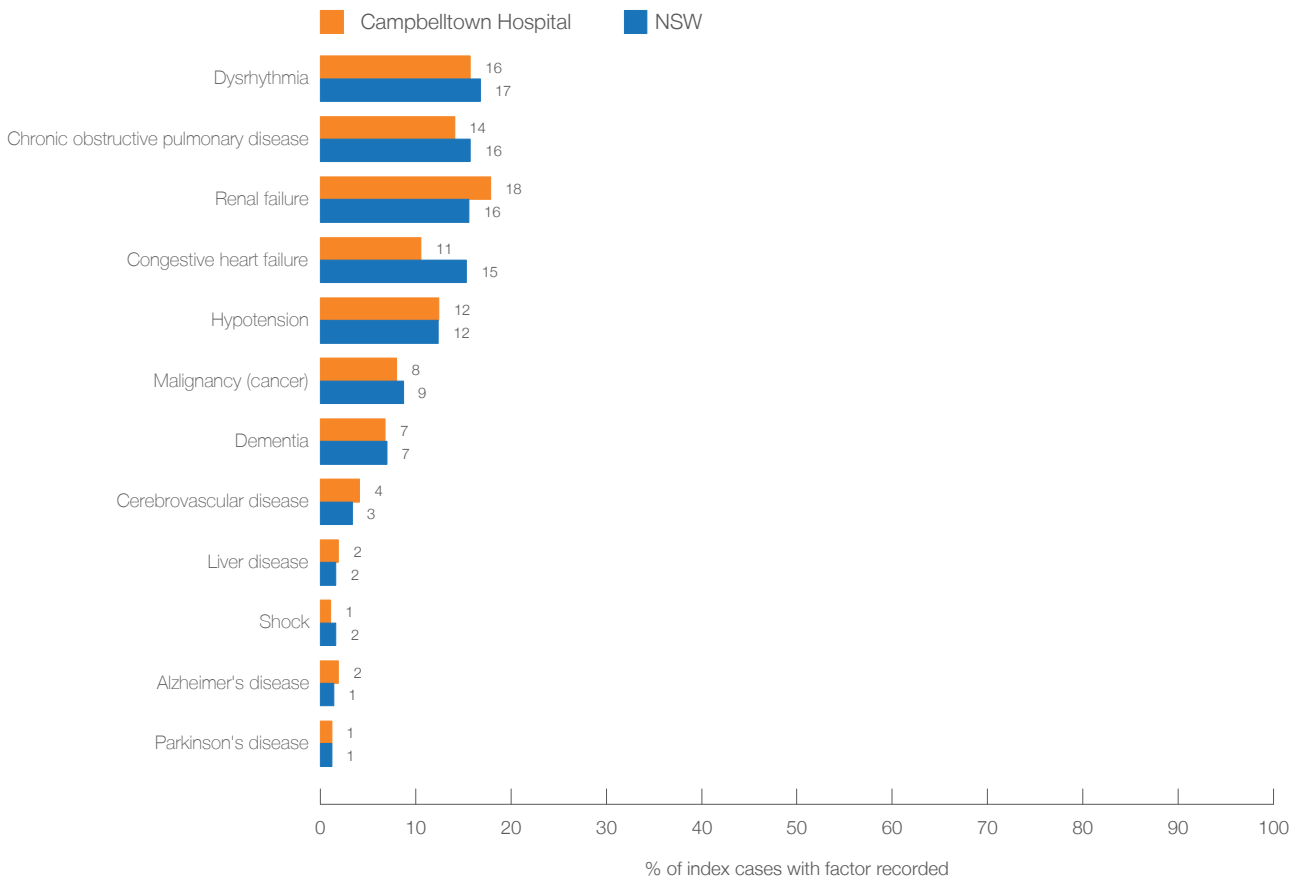
Campbelltown Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for pneumonia

	This hospital	NSW
Total pneumonia hospitalisations	942	50,644
Pneumonia patients		
Presenting patients (index cases)¹	852	44,059
Patients not transferred to another hospital	799	39,655
Patients transferred out to another hospital	53	4,404

Age profile, index cases²



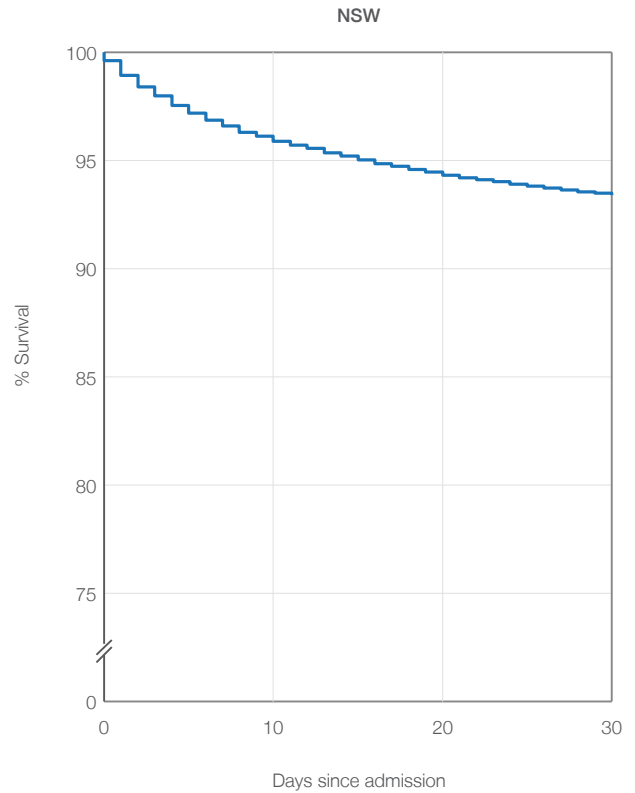
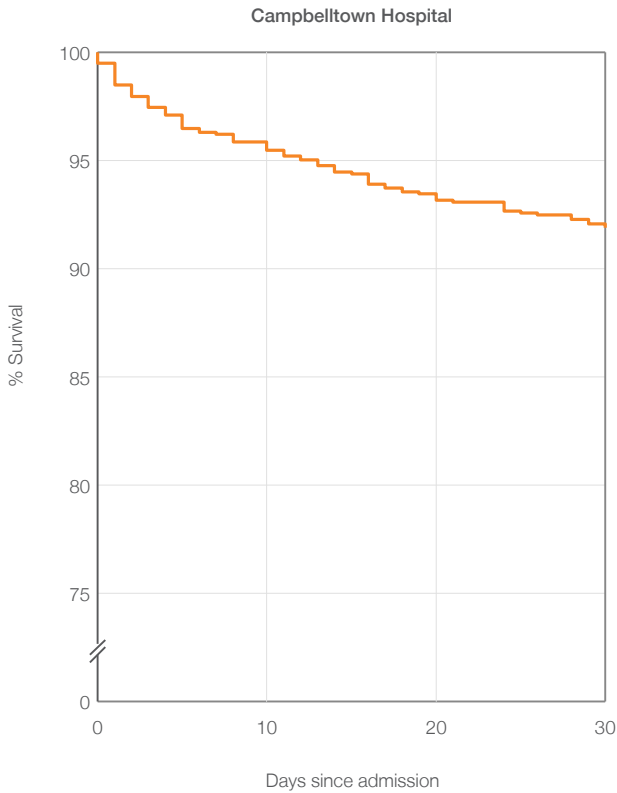
Significant patient factors and comorbidities, index cases³



Campbelltown Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for pneumonia

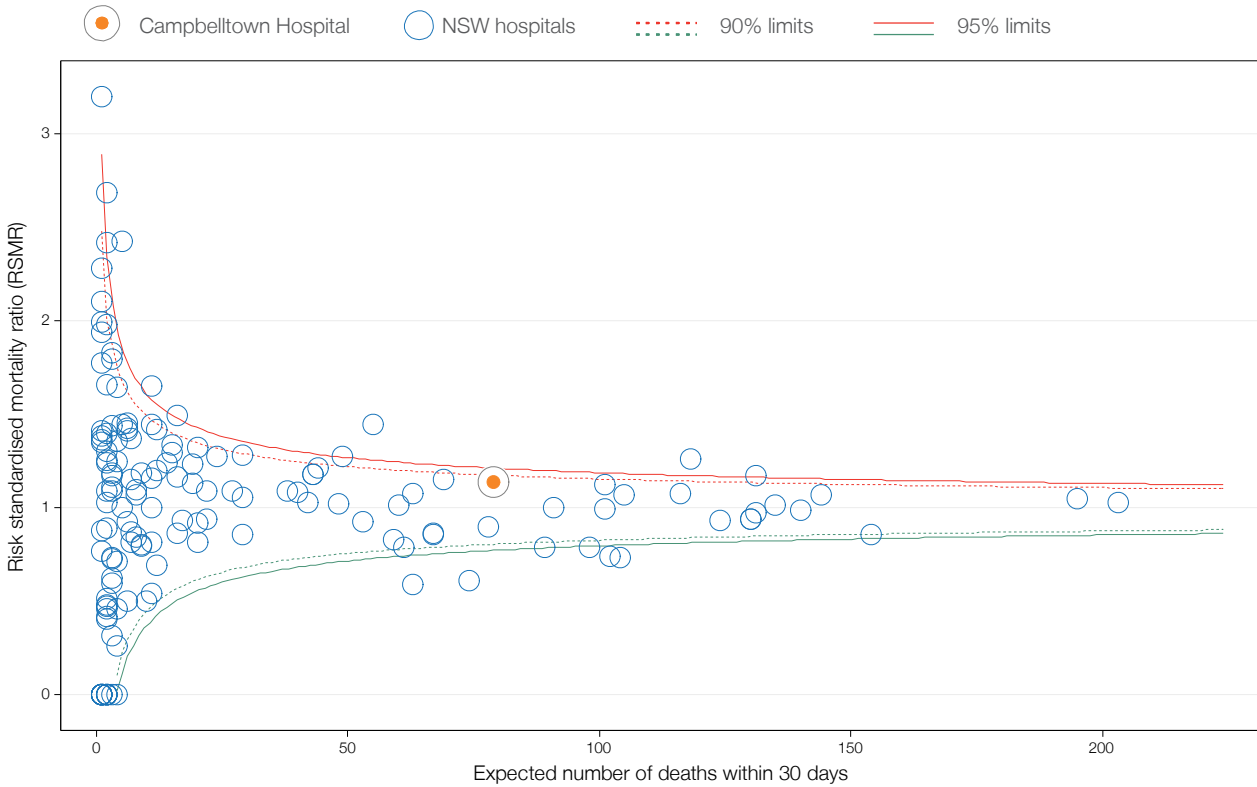
Mortality (all causes) among 852 pneumonia index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	11%	
Of all deaths:		
percentage in this hospital	59%	(66%)
percentage in another hospital following transfer	6%	(3%)
percentage after discharge	36%	(31%)
percentage on day of admission	7%	(6%)
percentage within 7 days	49%	(54%)

Survival of index cases following hospitalisation for pneumonia⁵
 Adjusted for average age and Charlson comorbidity score



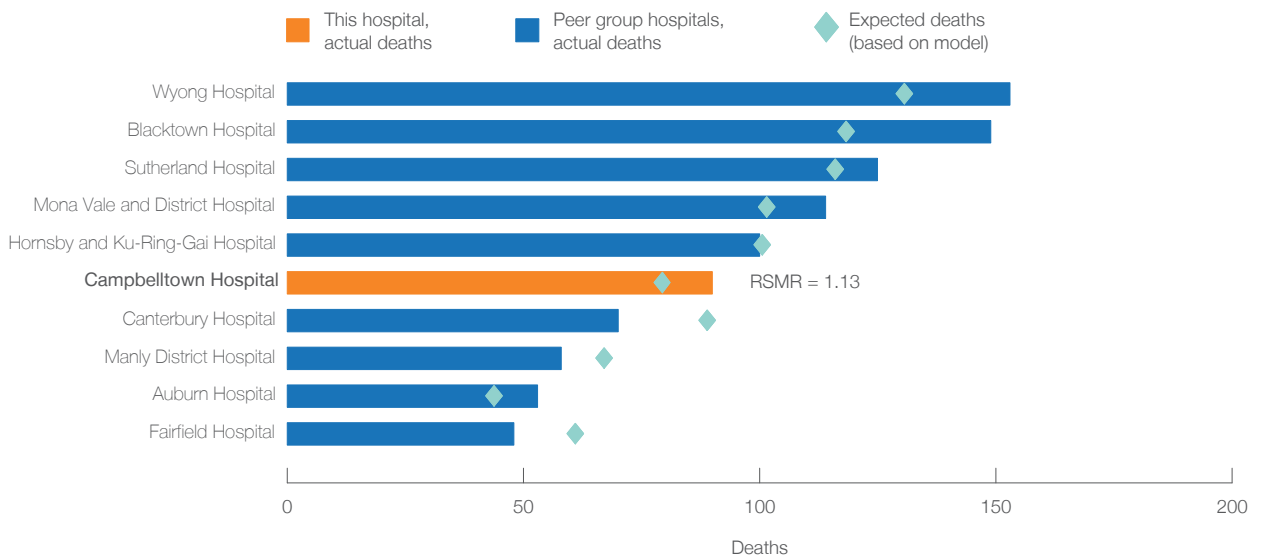
Campbelltown Hospital profile July 2009 - June 2012

Hospital-level pneumonia risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Campbelltown Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for pneumonia

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.98	1.25	1.13

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

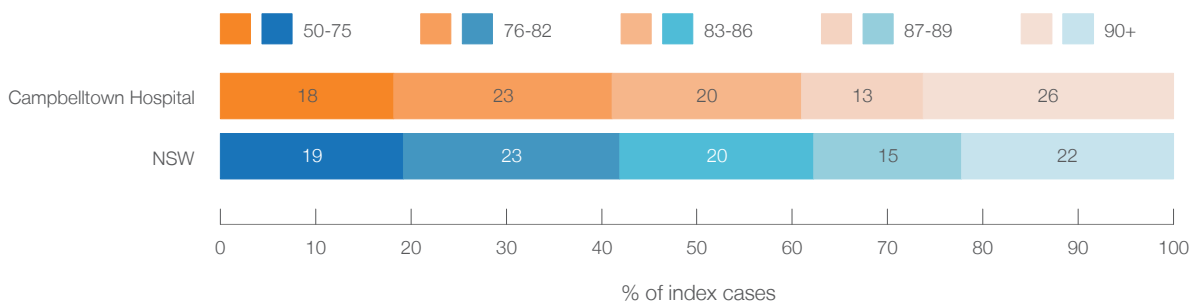
Year (financial years)	2000-02	2003-05	2006-08	2009-12
Risk-standardised mortality ratio	1.23	0.82	1.14	1.13

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

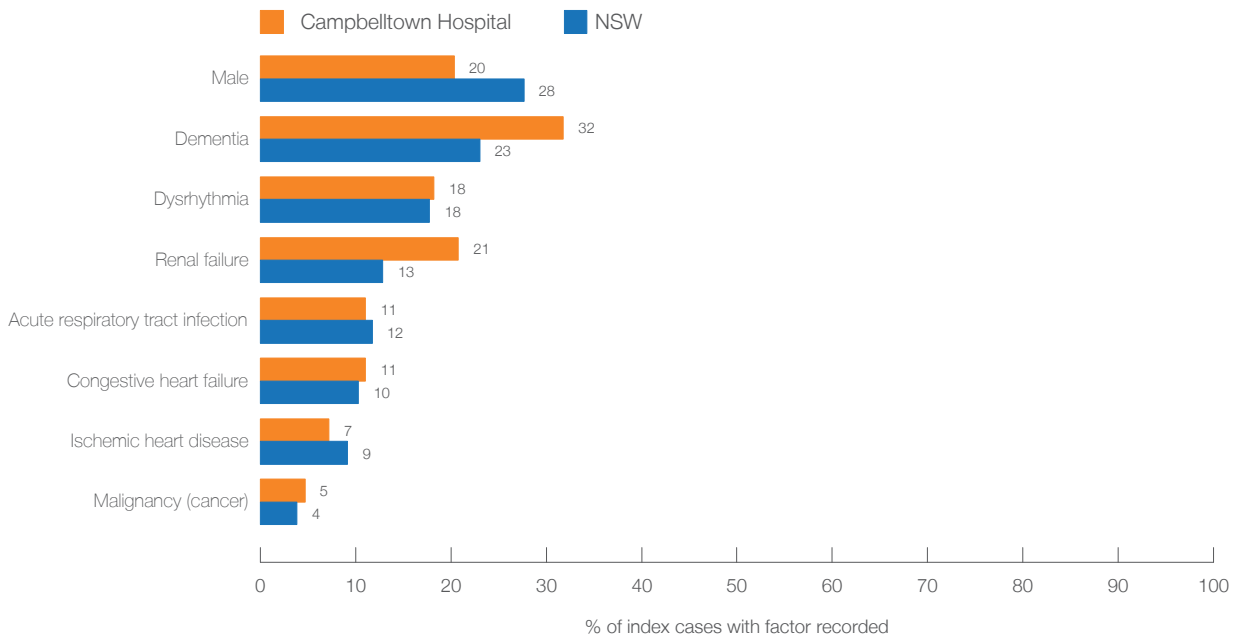
Campbelltown Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for hip fracture surgery

	This hospital	NSW
Total hip fracture surgery hospitalisations	240	16,355
Hip fracture surgery patients		
Presenting patients (index cases)¹	236	15,836
Patients not transferred to another hospital	131	10,739
Patients transferred out to another hospital	105	5,097

Age profile, index cases²



Significant patient factors and comorbidities, index cases³



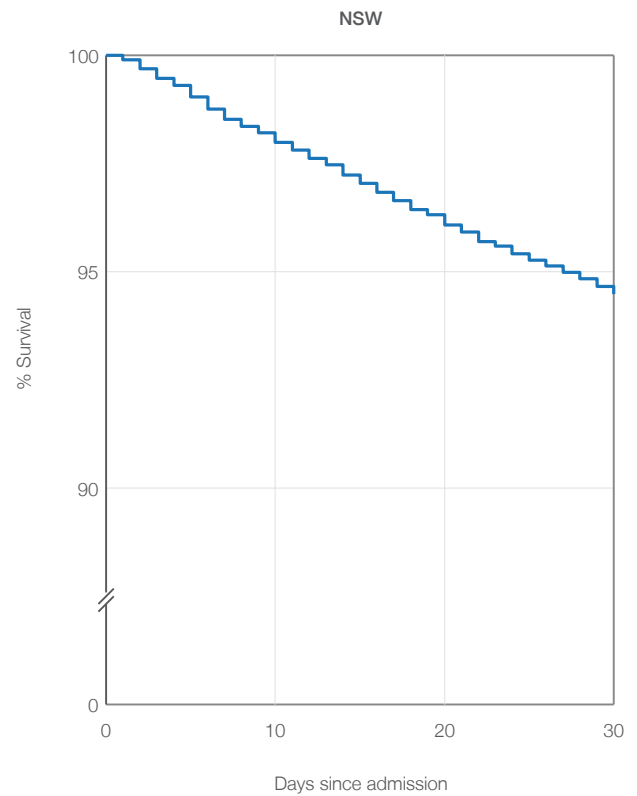
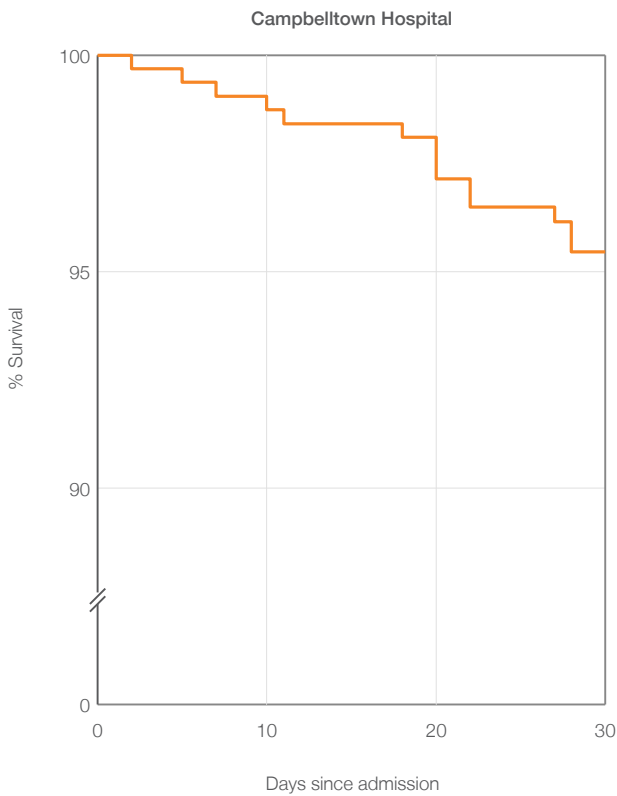
Campbelltown Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for hip fracture surgery

	This hospital percentage	NSW percentage
Mortality (all causes) among 236 hip fracture surgery index cases ⁴		
Percentages: index cases who died within 30 days of hospitalisation	6%	
Of all deaths:		
percentage in this hospital	57%	(50%)
percentage in another hospital following transfer	0%	(0%)
percentage after discharge	43%	(50%)
percentage on day of admission		not applicable for hip fracture surgery
percentage within 7 days	21%	(27%)

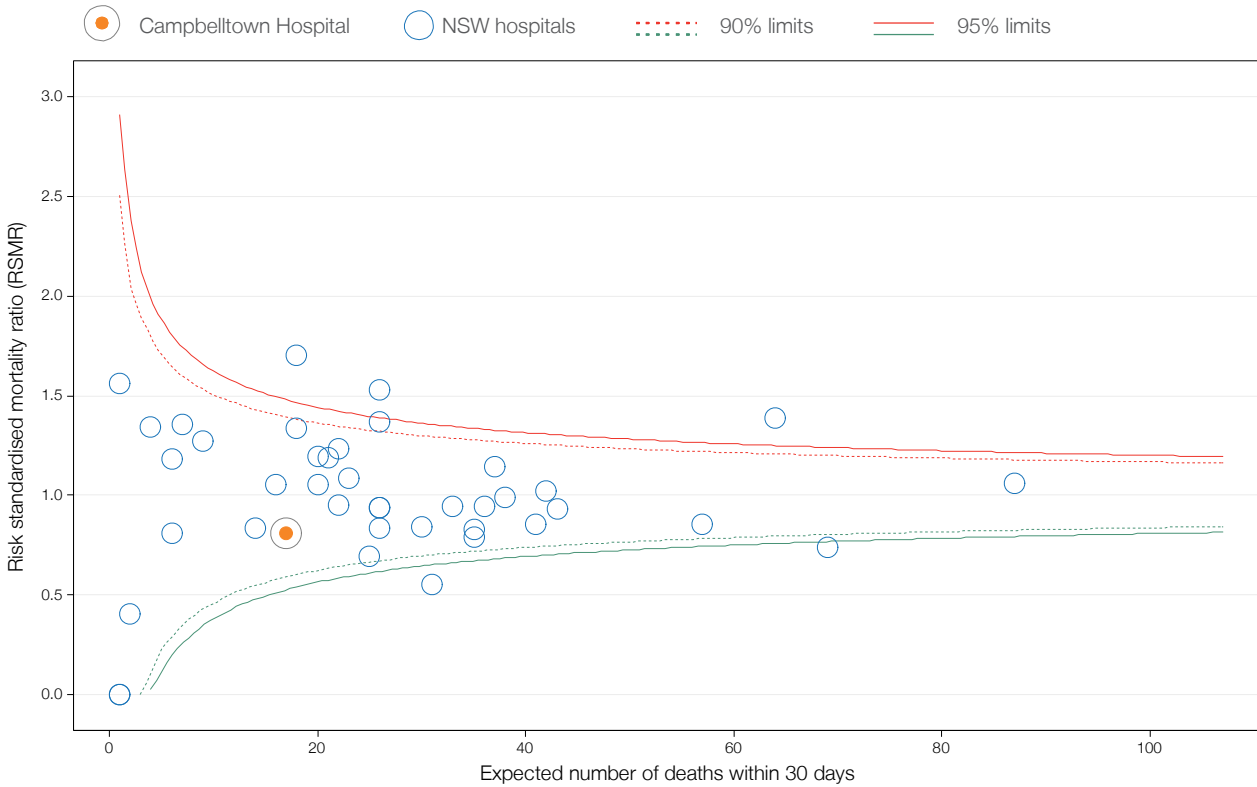
Survival of index cases following hospitalisation for hip fracture surgery⁵

Adjusted for average age and Charlson comorbidity score



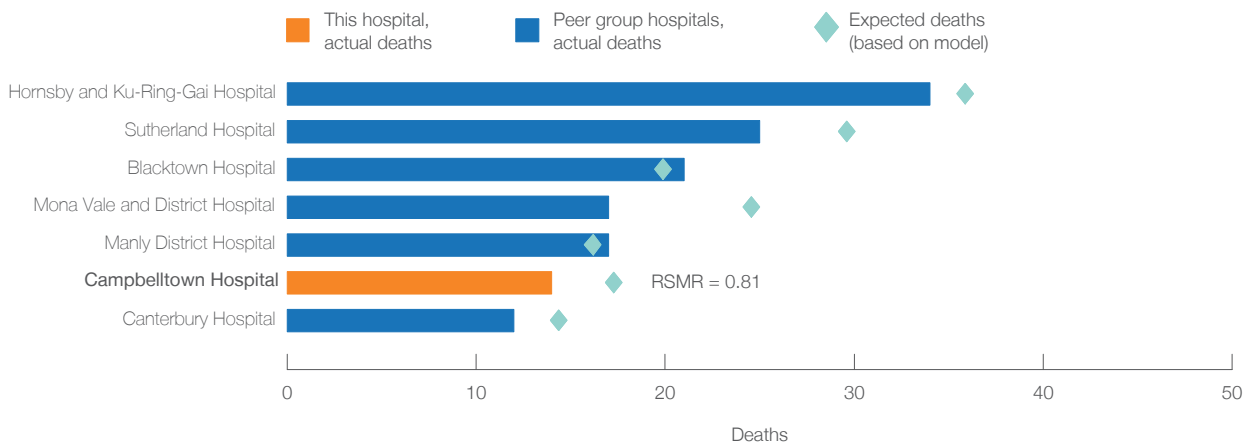
Campbelltown Hospital profile July 2009 - June 2012

Hospital-level hip fracture surgery risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Campbelltown Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for hip fracture surgery

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.87	0.92	0.81

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.62	1.00	1.11	0.81

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

Fairfield Hospital summary dashboard, July 2009 - June 2012

30-day mortality following hospitalisation for five conditions

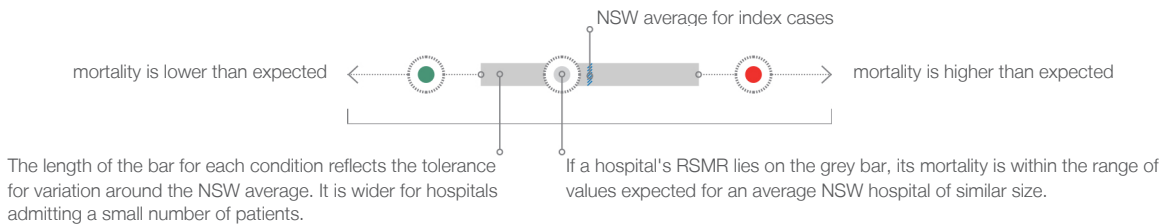
Hospital-specific risk-standardised mortality ratios (RSMRs) report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given its case mix. A ratio less than 1.0 indicates lower-than-expected mortality, and a ratio higher than 1.0 indicates higher-than-expected mortality. Small deviations from 1.0 are not considered to be meaningful. Funnel plots with 90% and 95% control limits around the NSW rate are used to identify hospitals with higher and lower mortality.

This measure is not designed to compare hospitals and cannot be used to measure the number of avoidable deaths. RSMRs do not distinguish deaths that are avoidable from those that are a reflection of the natural course of illness. They do not provide, by themselves, a diagnostic of quality and safety of care.

Risk-standardised mortality ratios (RSMRs) for five conditions, dashboard



How to interpret the dashboard



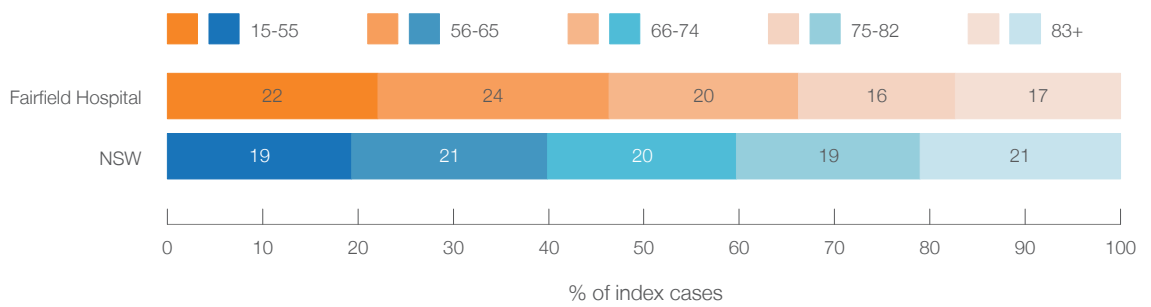
(†) Data for hospitals with an expected mortality of <1 are suppressed.
 (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
 (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
Notes: RSMR data are for patients with a hospitalisation noting the relevant condition as principal diagnosis. Patients include those discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care. Deaths are from any cause, in or out of hospital within 30 days of the hospitalisation admission date.
Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios for five conditions*.
Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

Fairfield Hospital profile July 2009 - June 2012

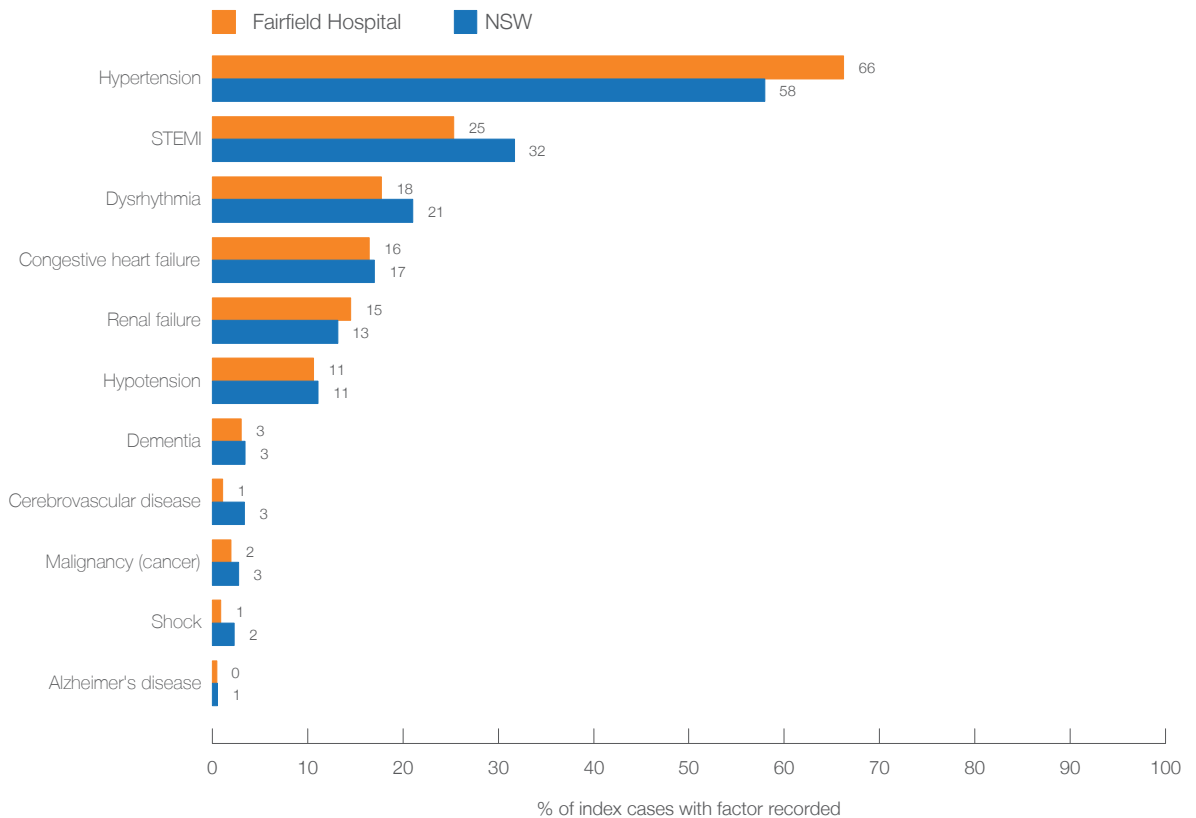
30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

	This hospital	NSW
Total Acute Myocardial Infarction (AMI) hospitalisations	545	37,794
Acute Myocardial Infarction (AMI) patients		
Presenting patients (index cases)¹	462	29,223
Patients not transferred to another hospital	208	18,303
Patients transferred out to another hospital	254	10,920

Age profile, index cases²



Significant patient factors and comorbidities, index cases³

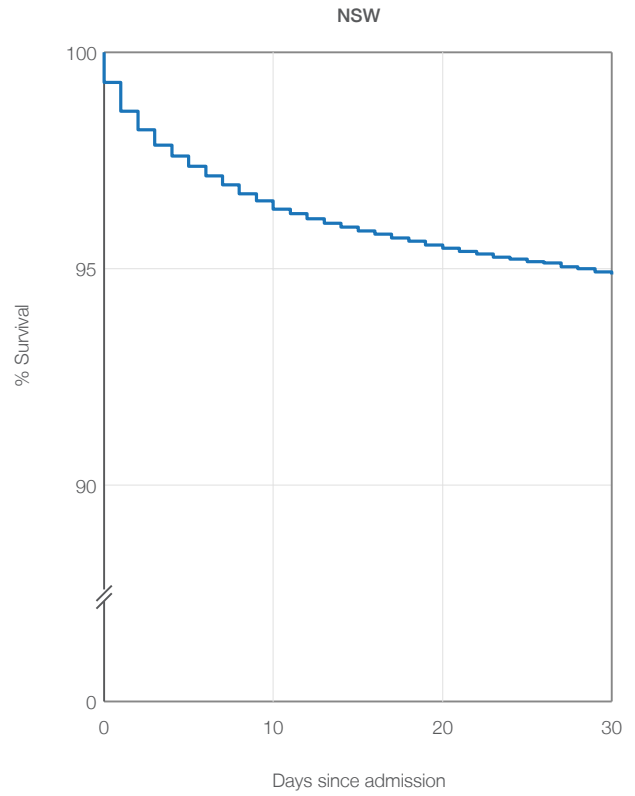
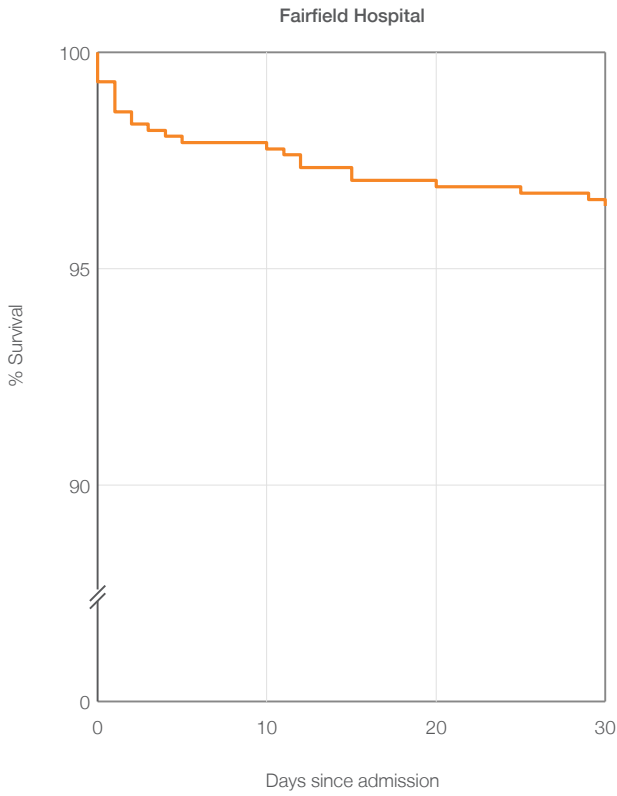


Fairfield Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

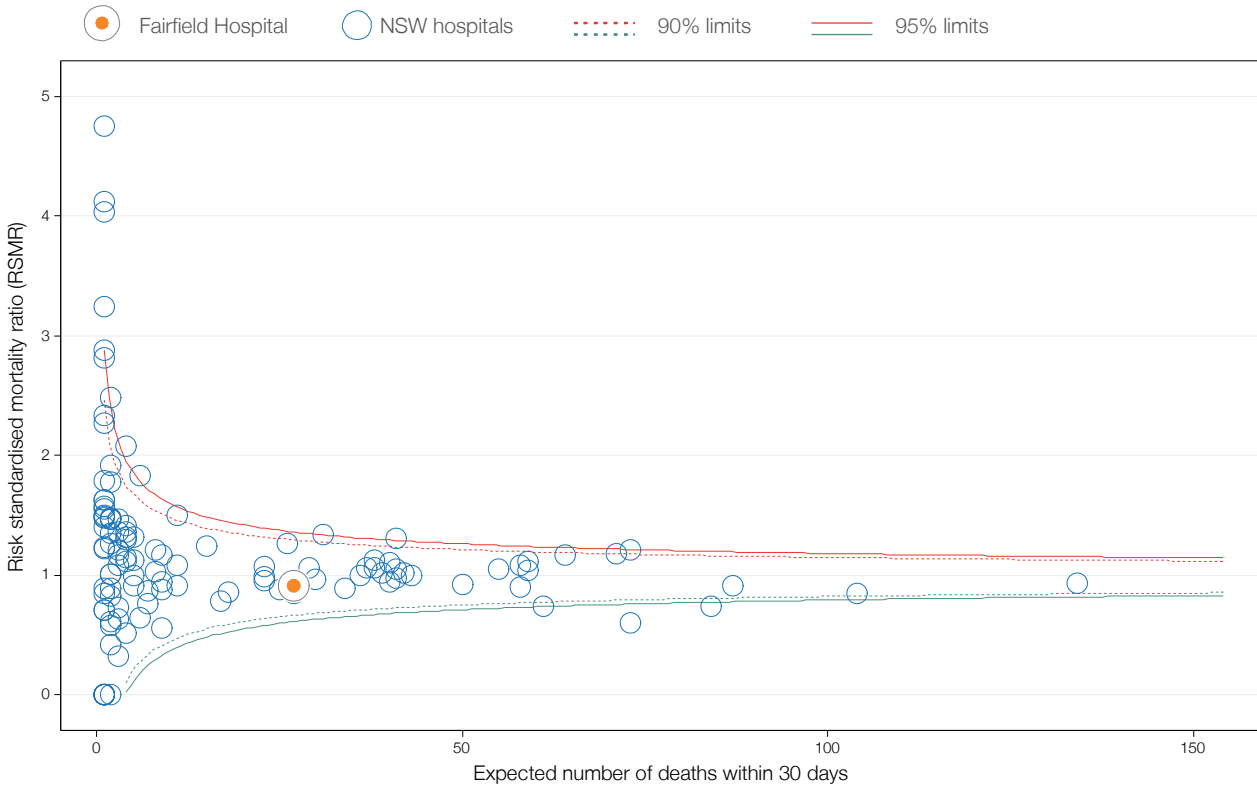
Mortality (all causes) among 462 Acute Myocardial Infarction (AMI) index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	5%	
Of all deaths:		
percentage in this hospital	48%	(64%)
percentage in another hospital following transfer	12%	(6%)
percentage after discharge	40%	(31%)
percentage on day of admission	20%	(14%)
percentage within 7 days	60%	(61%)

Survival of index cases following hospitalisation for Acute Myocardial Infarction (AMI) ⁵
Adjusted for average age and Charlson comorbidity score



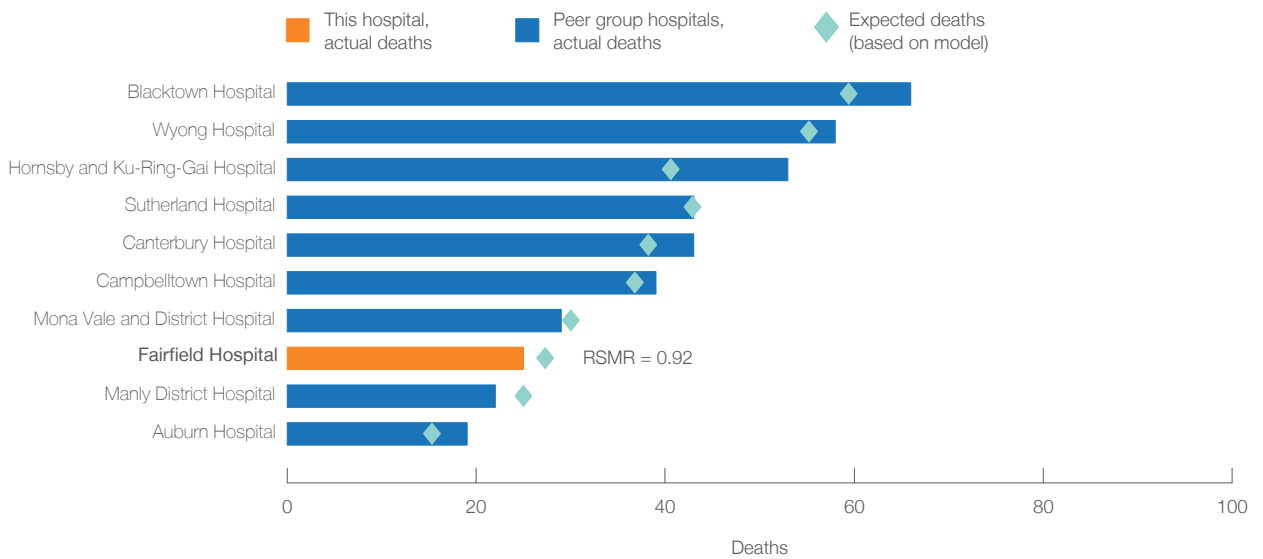
Fairfield Hospital profile July 2009 - June 2012

Hospital-level Acute Myocardial Infarction (AMI) risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Fairfield Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.72	0.84	0.92

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

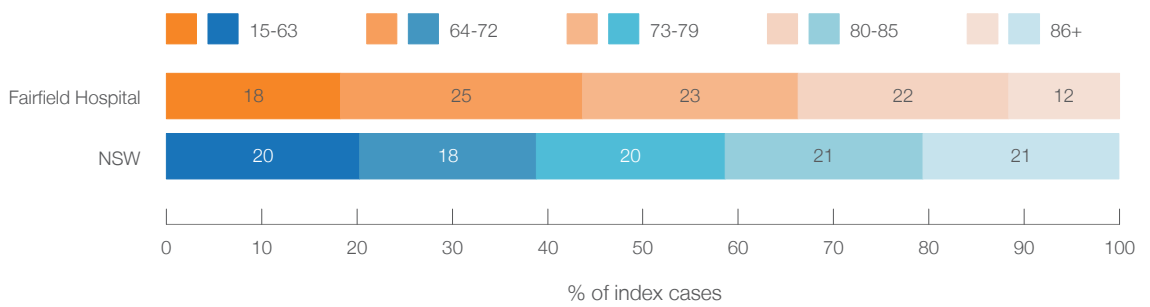
Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.89	1.23	0.87	0.92

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

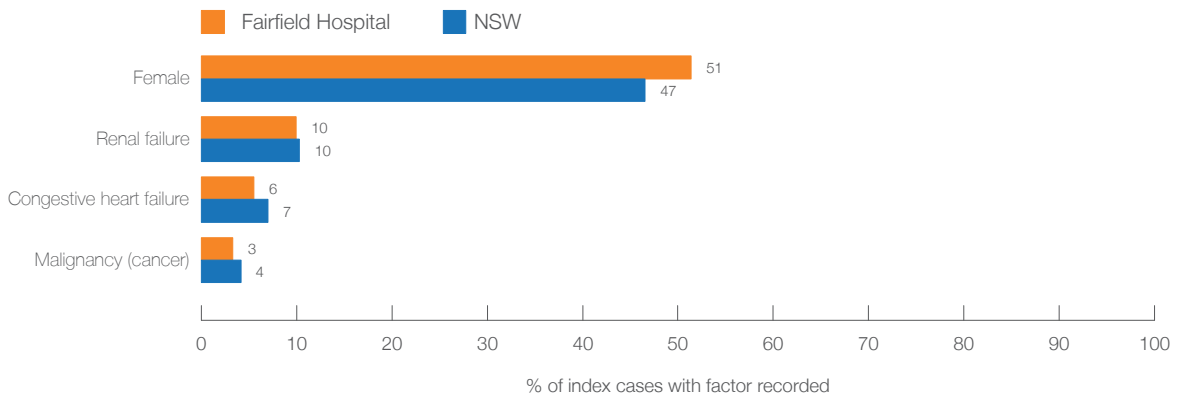
Fairfield Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for ischaemic stroke

	This hospital	NSW
Total ischaemic stroke hospitalisations	190	15,299
Ischaemic stroke patients		
Presenting patients (index cases)¹	181	14,205
Patients not transferred to another hospital	161	11,757
Patients transferred out to another hospital	20	2,448

Age profile, index cases²



Significant patient factors and comorbidities, index cases³



Fairfield Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for ischaemic stroke

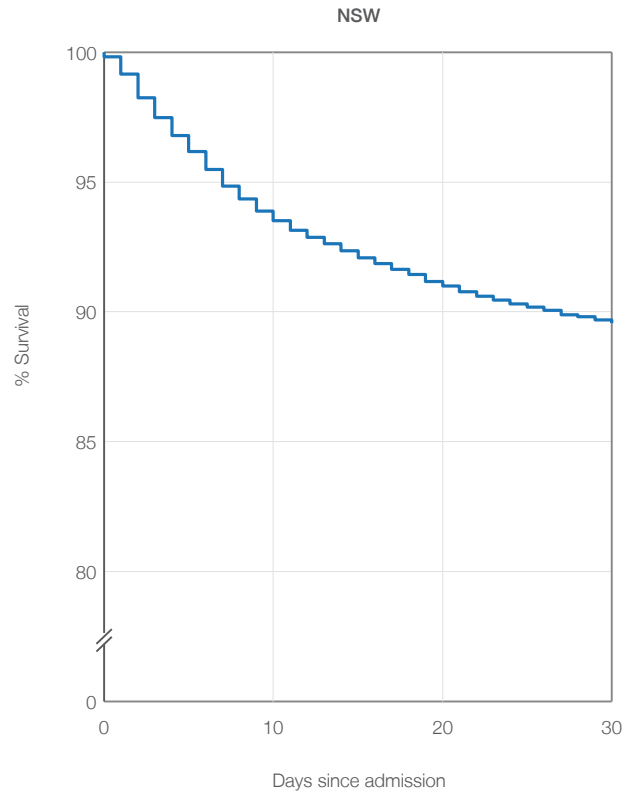
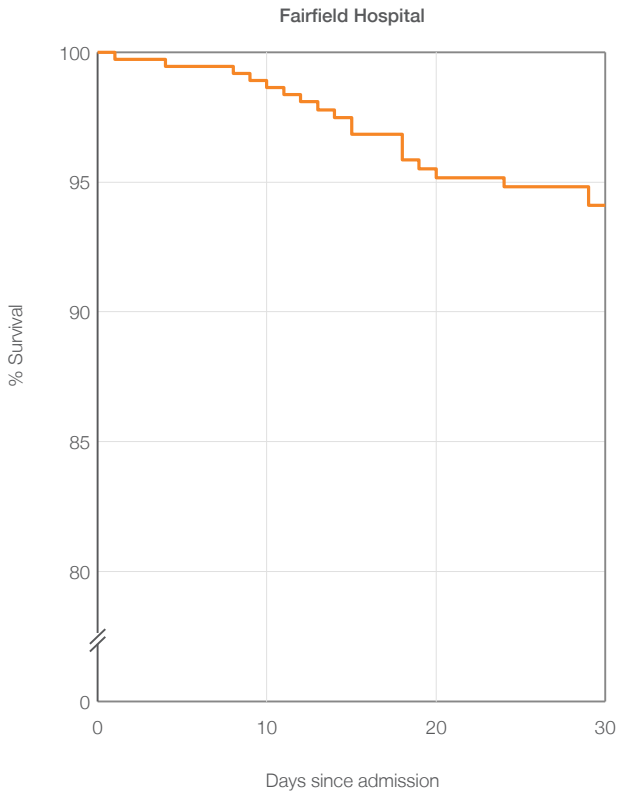
Mortality (all causes) among 181 ischaemic stroke index cases⁴

Percentages: index cases who died within 30 days of hospitalisation

Of all deaths:

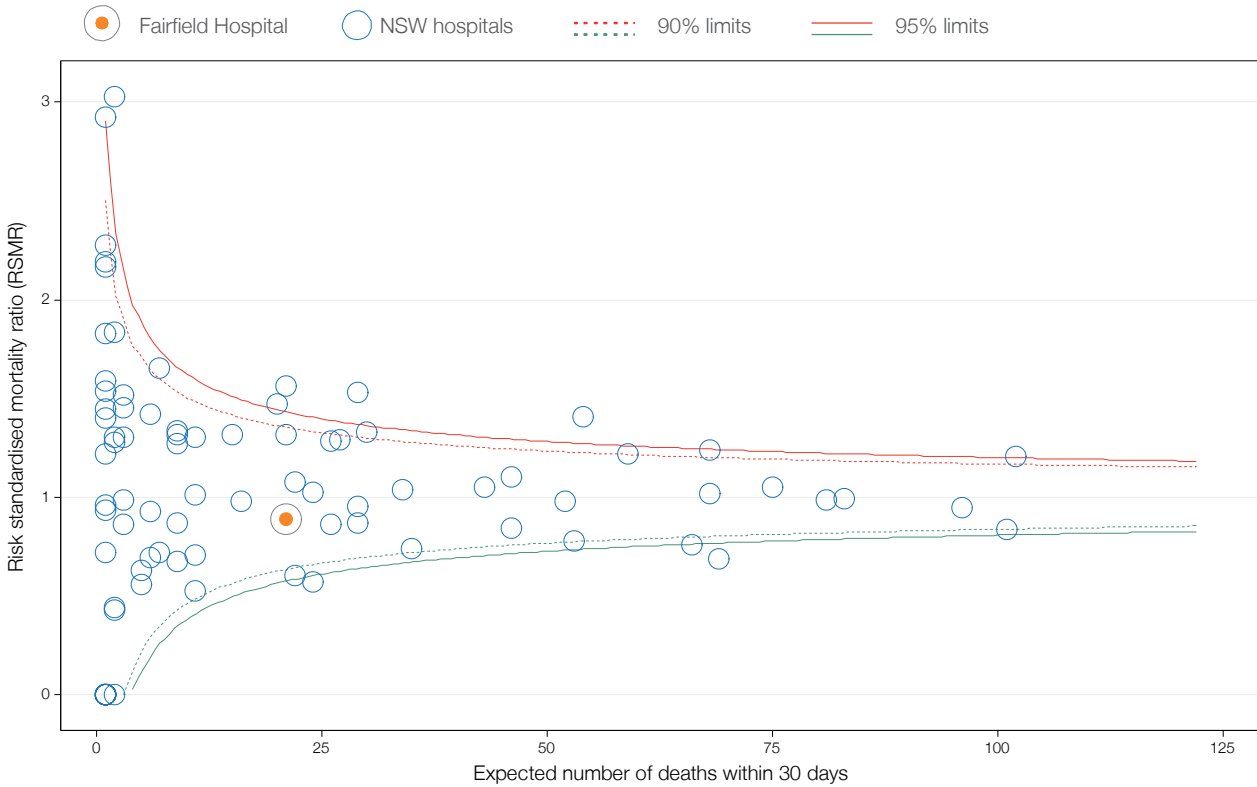
	This hospital percentage	NSW percentage
percentage in this hospital	74%	(67%)
percentage in another hospital following transfer	0%	(2%)
percentage after discharge	26%	(31%)
percentage on day of admission	0%	(2%)
percentage within 7 days	11%	(51%)

Survival of index cases following hospitalisation for ischaemic stroke⁵
 Adjusted for average age and Charlson comorbidity score



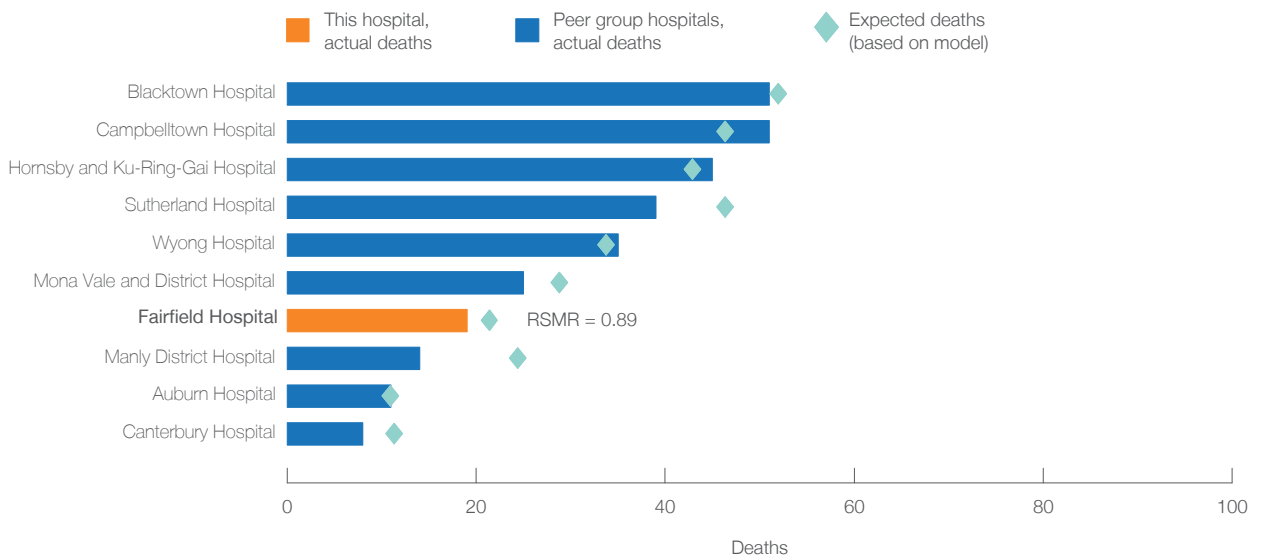
Fairfield Hospital profile July 2009 - June 2012

Hospital-level ischaemic stroke risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Fairfield Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for ischaemic stroke

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.79	0.89	0.89

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

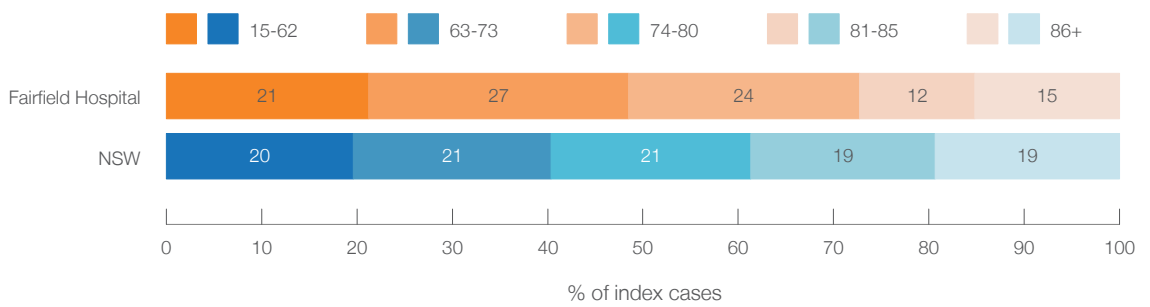
Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.29	0.78	0.81	0.89

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

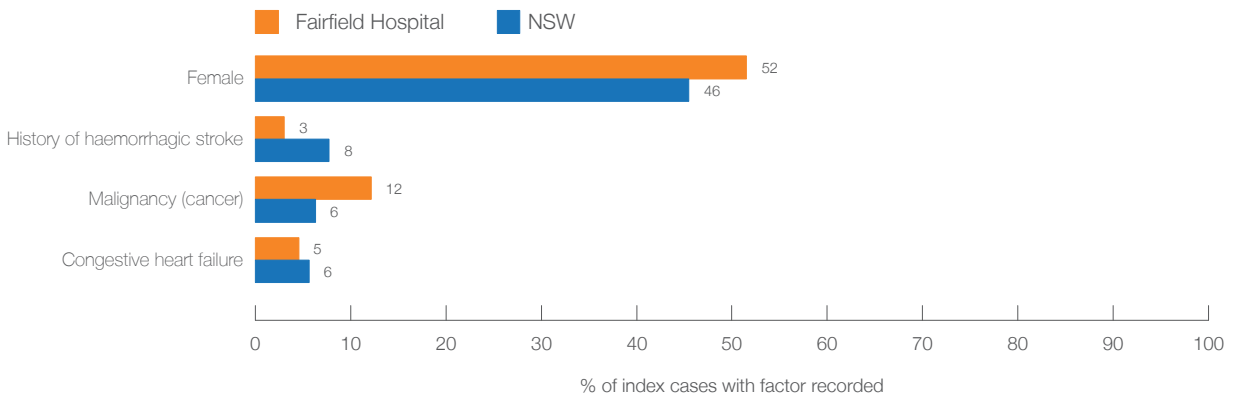
Fairfield Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for haemorrhagic stroke

	This hospital	NSW
Total haemorrhagic stroke hospitalisations	71	6,573
Haemorrhagic stroke patients		
Presenting patients (index cases)¹	66	5,681
Patients not transferred to another hospital	32	4,148
Patients transferred out to another hospital	34	1,533

Age profile, index cases²



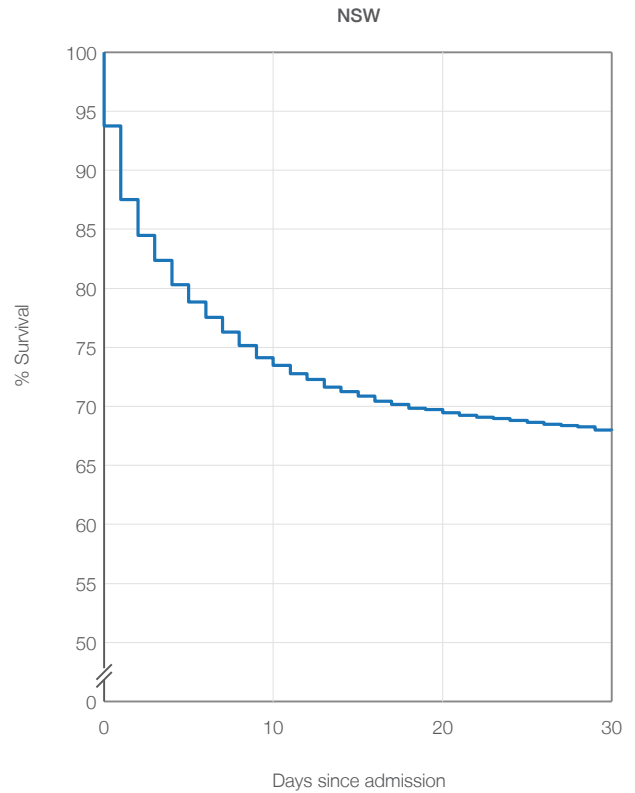
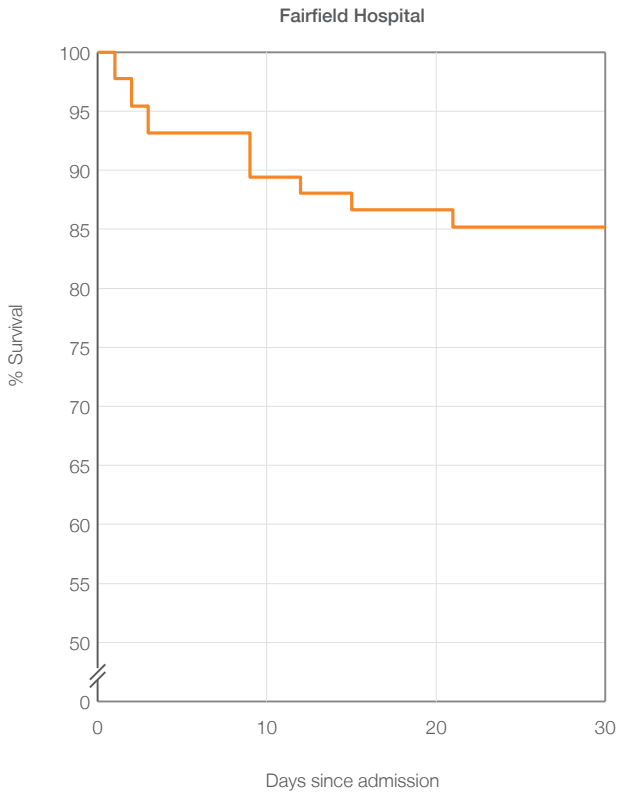
Significant patient factors and comorbidities, index cases³



Fairfield Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for haemorrhagic stroke

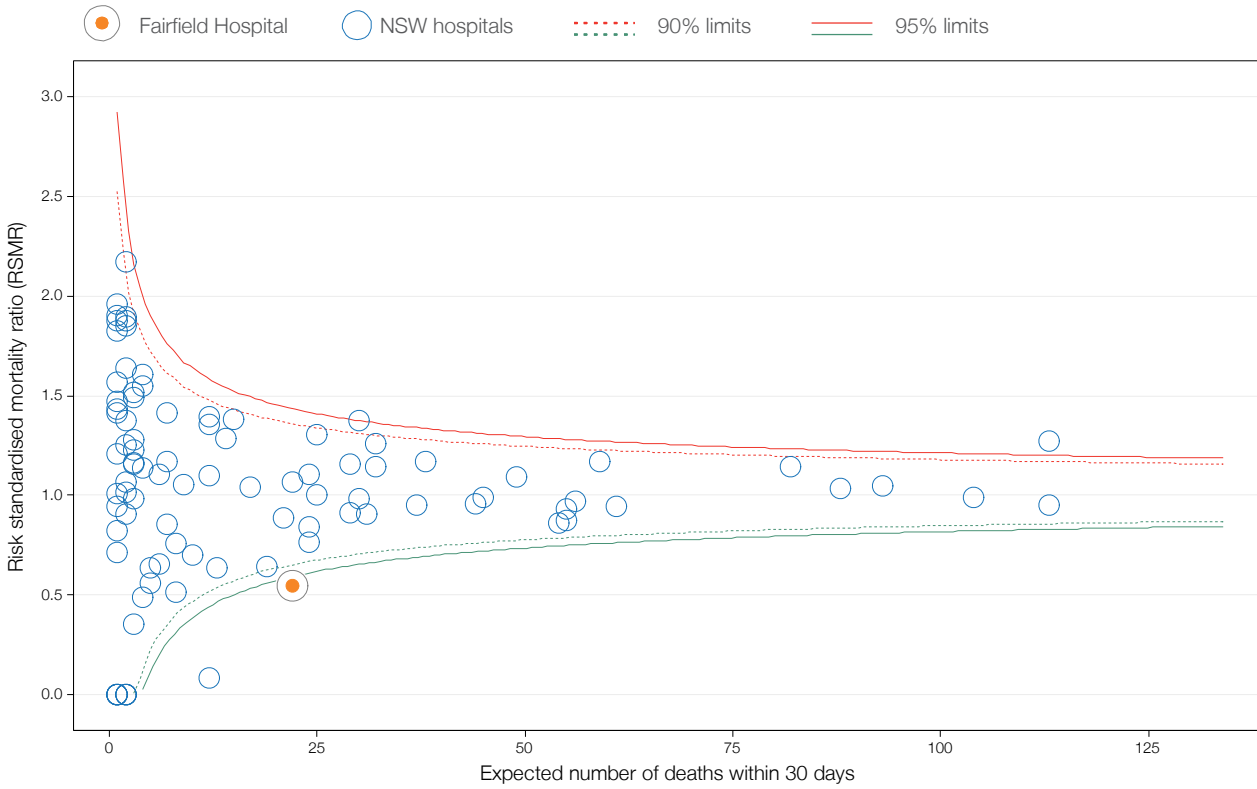
Mortality (all causes) among 66 haemorrhagic stroke index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	18%	
Of all deaths:		
percentage in this hospital	58%	(76%)
percentage in another hospital following transfer	17%	(3%)
percentage after discharge	25%	(21%)
percentage on day of admission	0%	(20%)
percentage within 7 days	50%	(75%)

Survival of index cases following hospitalisation for haemorrhagic stroke⁵
 Adjusted for average age and Charlson comorbidity score



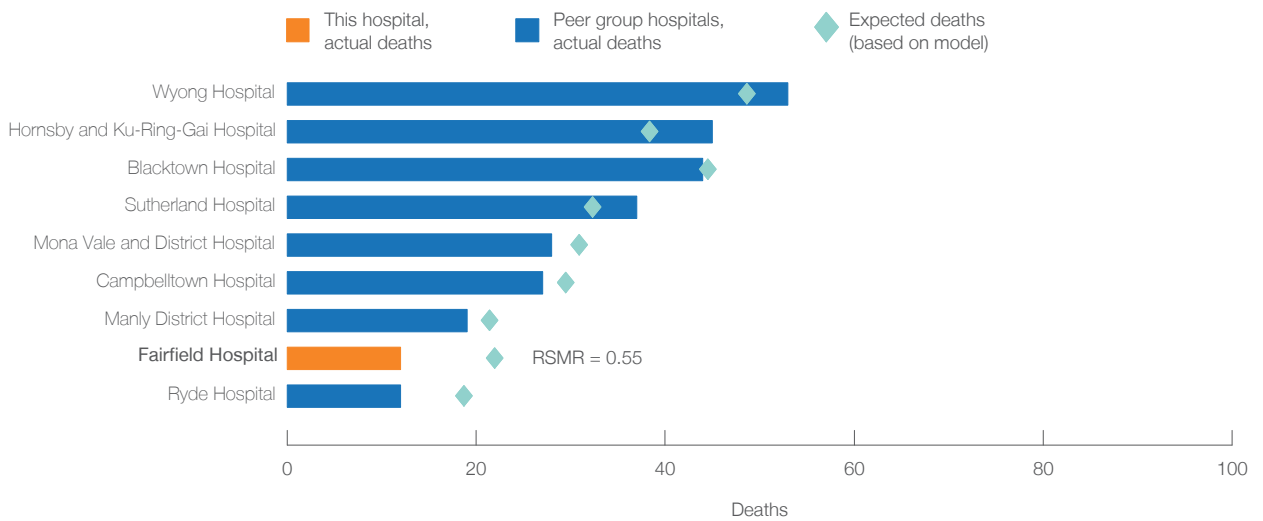
Fairfield Hospital profile July 2009 - June 2012

Hospital-level haemorrhagic stroke risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Fairfield Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for haemorrhagic stroke

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.54	0.57	0.55

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

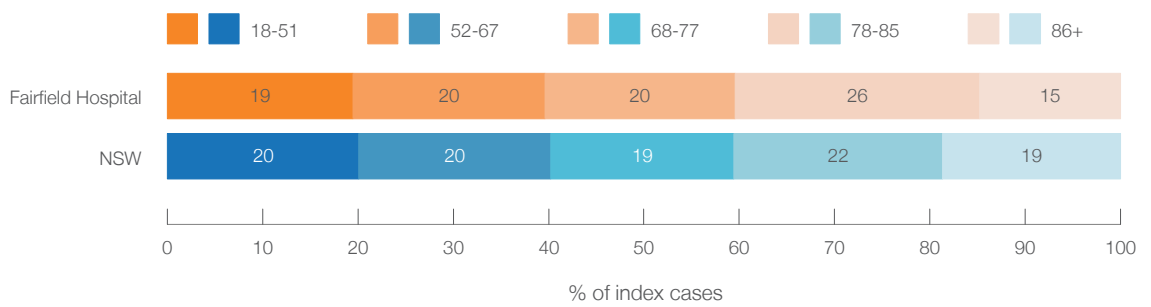
Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.25	0.65	0.99	0.55

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

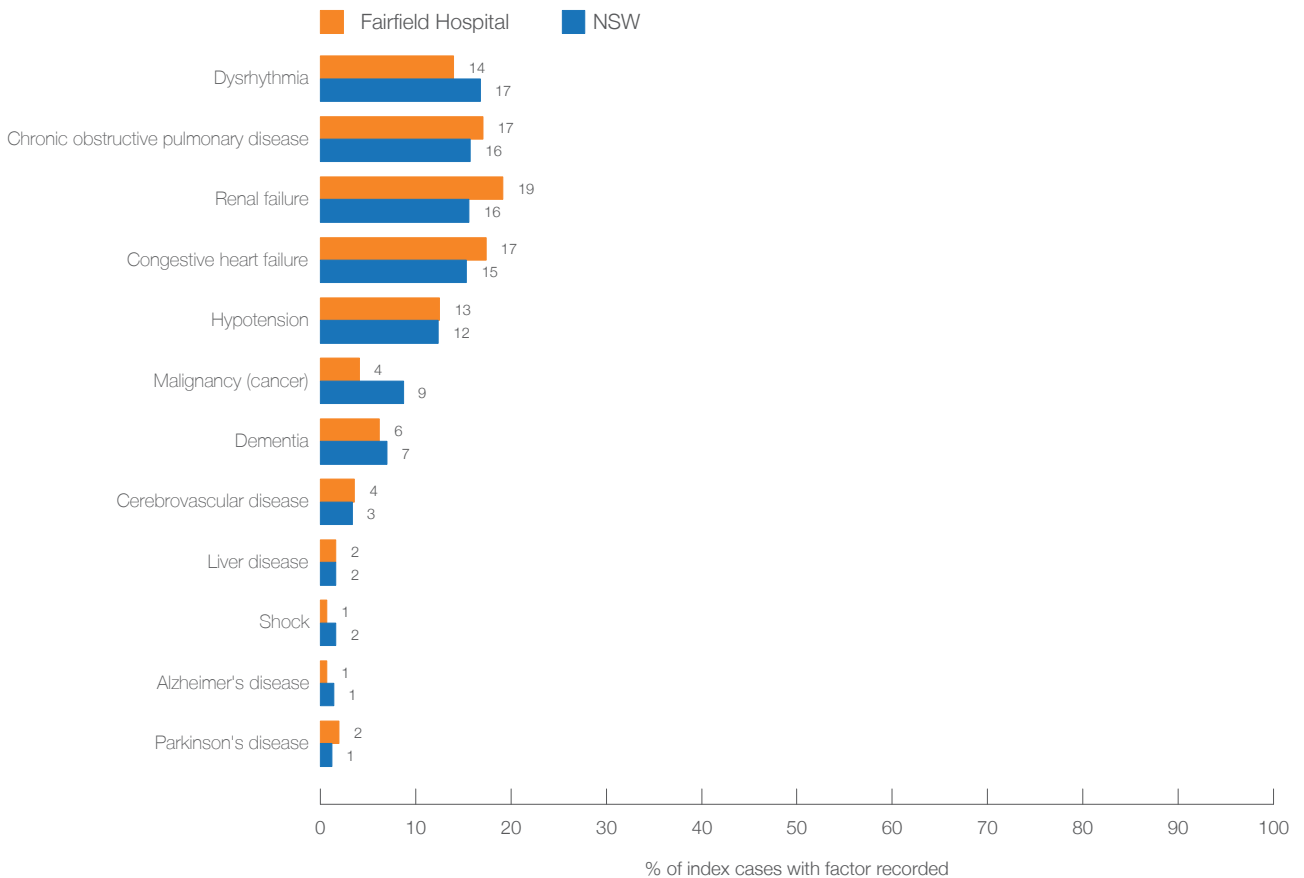
Fairfield Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for pneumonia

	This hospital	NSW
Total pneumonia hospitalisations	674	50,644
Pneumonia patients		
Presenting patients (index cases)¹	616	44,059
Patients not transferred to another hospital	563	39,655
Patients transferred out to another hospital	53	4,404

Age profile, index cases²



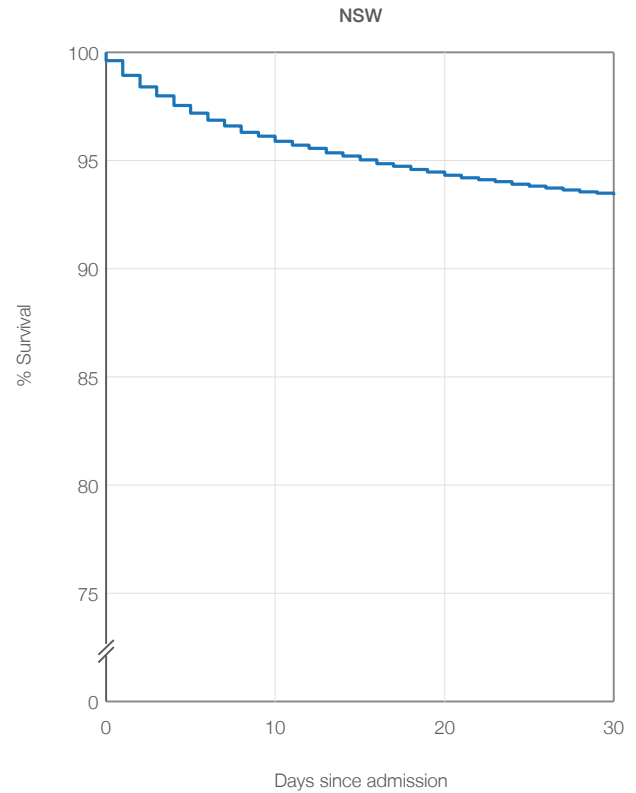
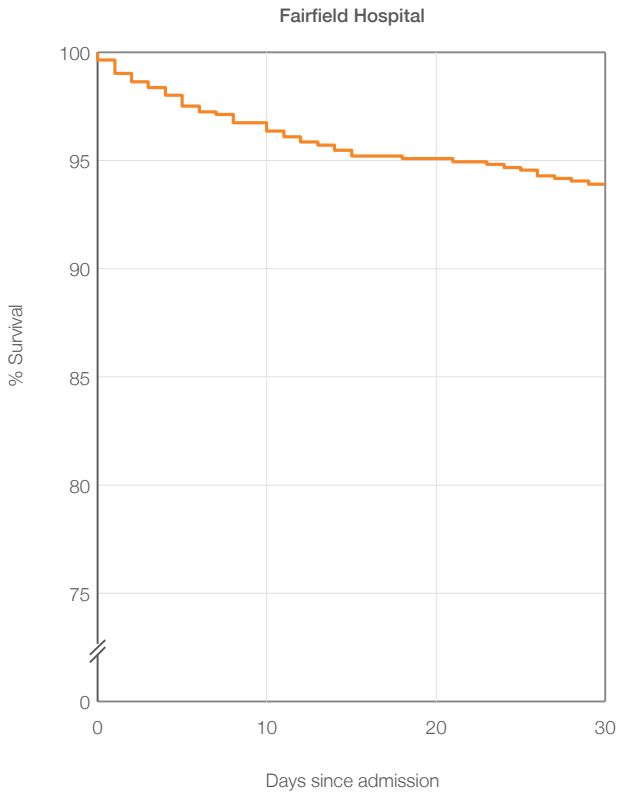
Significant patient factors and comorbidities, index cases³



Fairfield Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for pneumonia

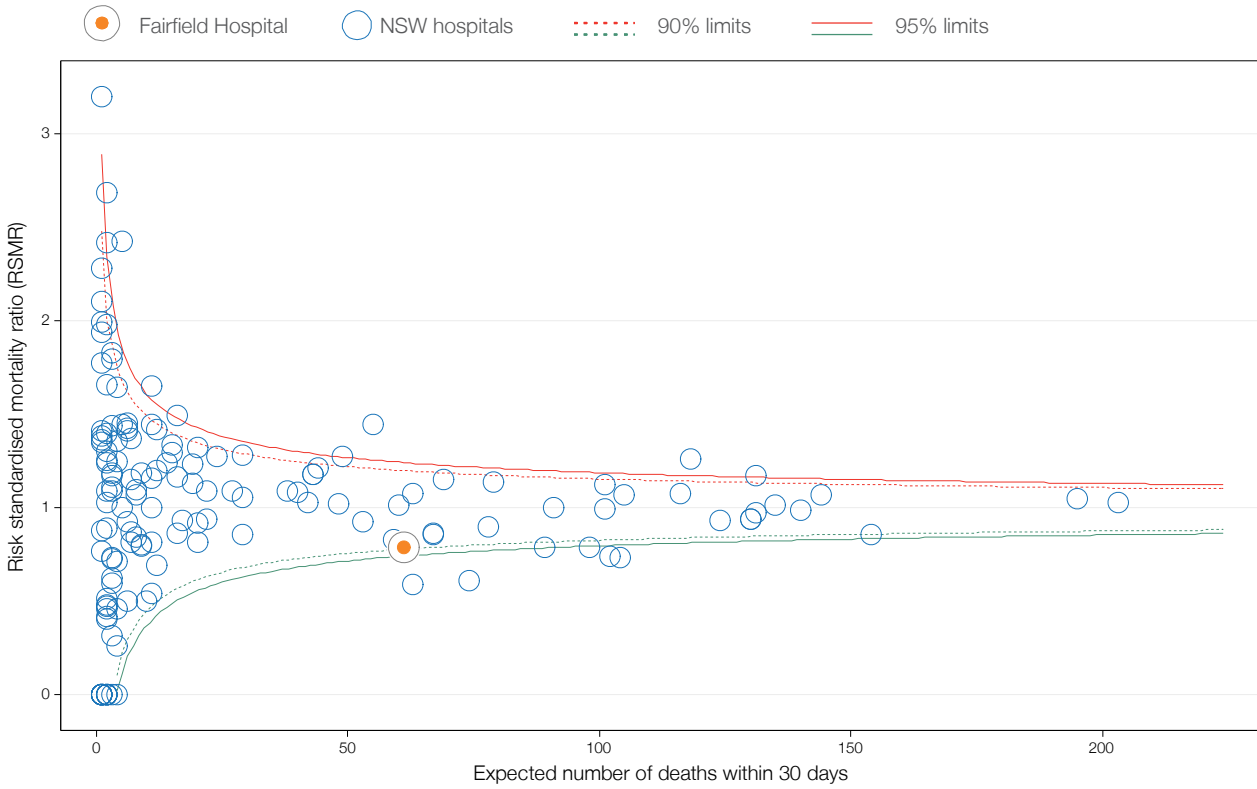
Mortality (all causes) among 616 pneumonia index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	8%	
Of all deaths:		
percentage in this hospital	52%	(66%)
percentage in another hospital following transfer	4%	(3%)
percentage after discharge	44%	(31%)
percentage on day of admission	6%	(6%)
percentage within 7 days	48%	(54%)

Survival of index cases following hospitalisation for pneumonia⁵
 Adjusted for average age and Charlson comorbidity score



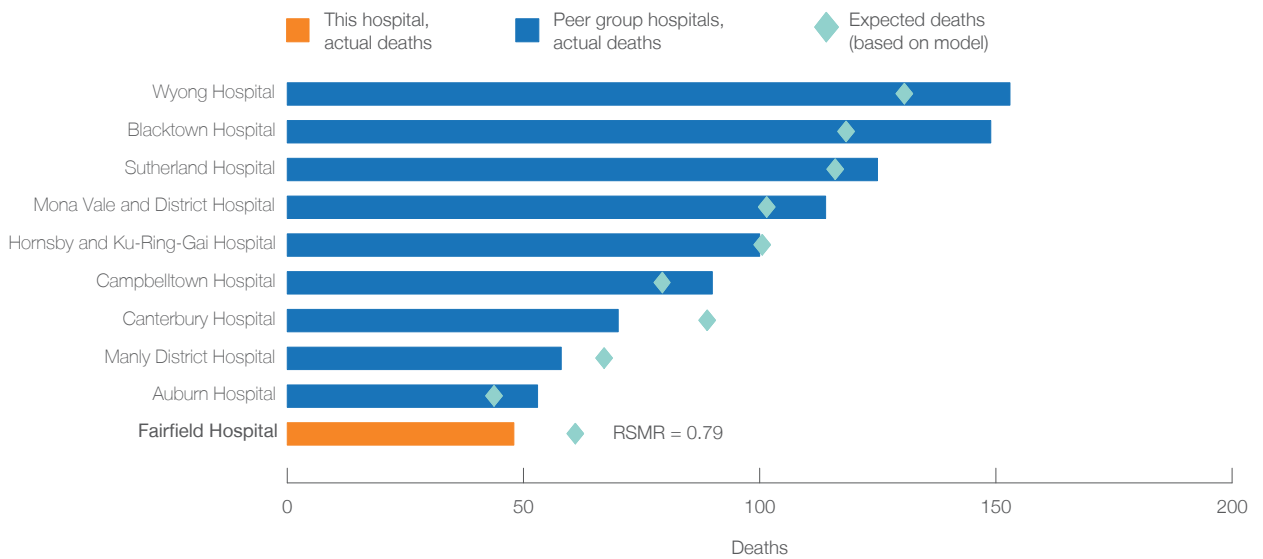
Fairfield Hospital profile July 2009 - June 2012

Hospital-level pneumonia risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Fairfield Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for pneumonia

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.72	0.78	0.79

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Year (financial years)	2000-02	2003-05	2006-08	2009-12
Risk-standardised mortality ratio	1.39	1.36	1.14	0.79

- (1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
- (2) Age at admission date.
- (3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
- (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
- (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
- (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
- (†) Data for hospitals with an expected mortality of < 1 are suppressed.
- (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
- (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
- Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
- Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

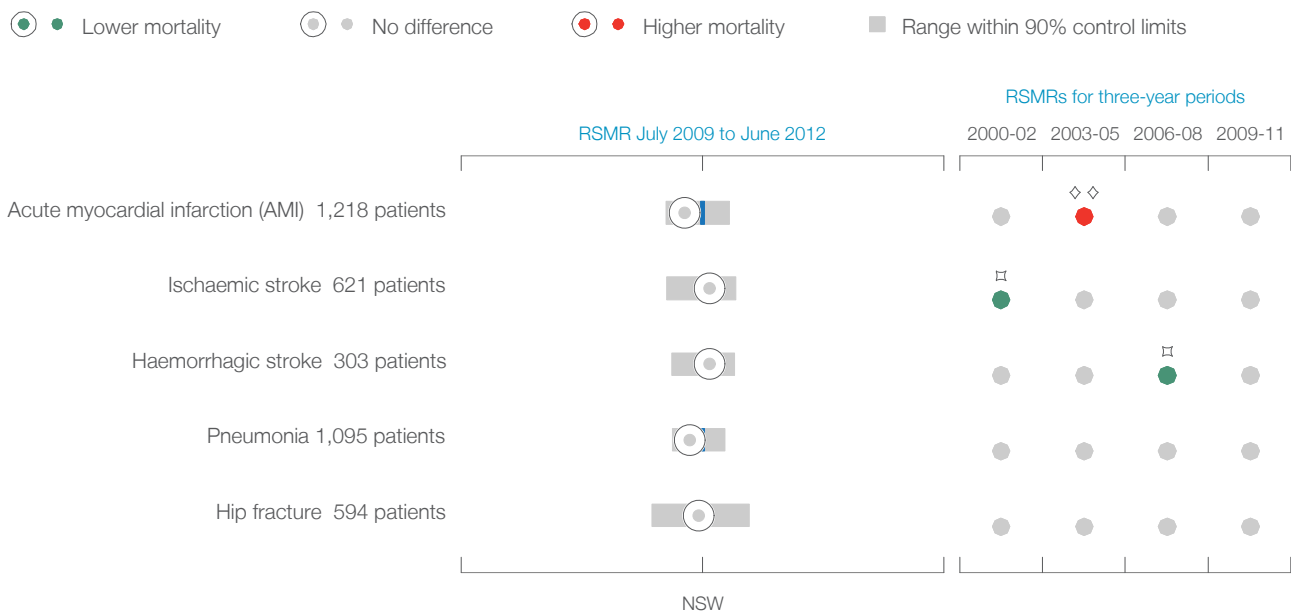
Liverpool Hospital summary dashboard, July 2009 - June 2012

30-day mortality following hospitalisation for five conditions

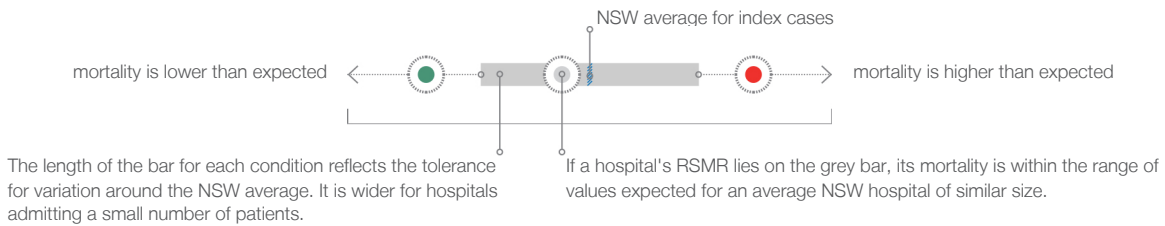
Hospital-specific risk-standardised mortality ratios (RSMRs) report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given its case mix. A ratio less than 1.0 indicates lower-than-expected mortality, and a ratio higher than 1.0 indicates higher-than-expected mortality. Small deviations from 1.0 are not considered to be meaningful. Funnel plots with 90% and 95% control limits around the NSW rate are used to identify hospitals with higher and lower mortality.

This measure is not designed to compare hospitals and cannot be used to measure the number of avoidable deaths. RSMRs do not distinguish deaths that are avoidable from those that are a reflection of the natural course of illness. They do not provide, by themselves, a diagnostic of quality and safety of care.

Risk-standardised mortality ratios (RSMRs) for five conditions, dashboard



How to interpret the dashboard



(†) Data for hospitals with an expected mortality of <1 are suppressed.
 (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
 (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.

Notes: RSMR data are for patients with a hospitalisation noting the relevant condition as principal diagnosis. Patients include those discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care. Deaths are from any cause, in or out of hospital within 30 days of the hospitalisation admission date.

Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios for five conditions*.

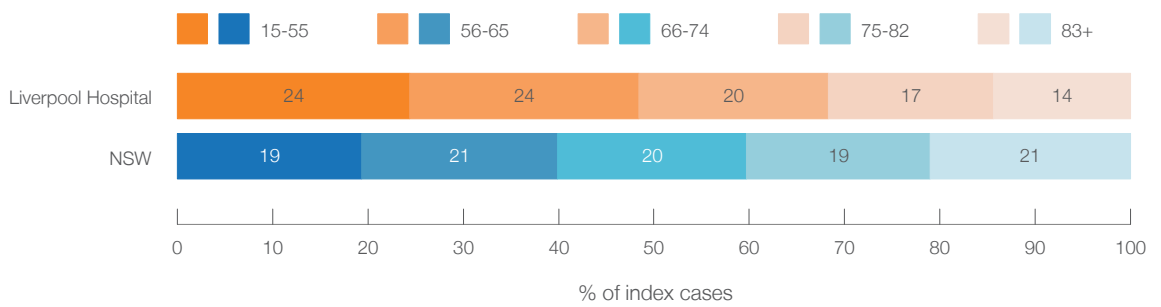
Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

Liverpool Hospital profile July 2009 - June 2012

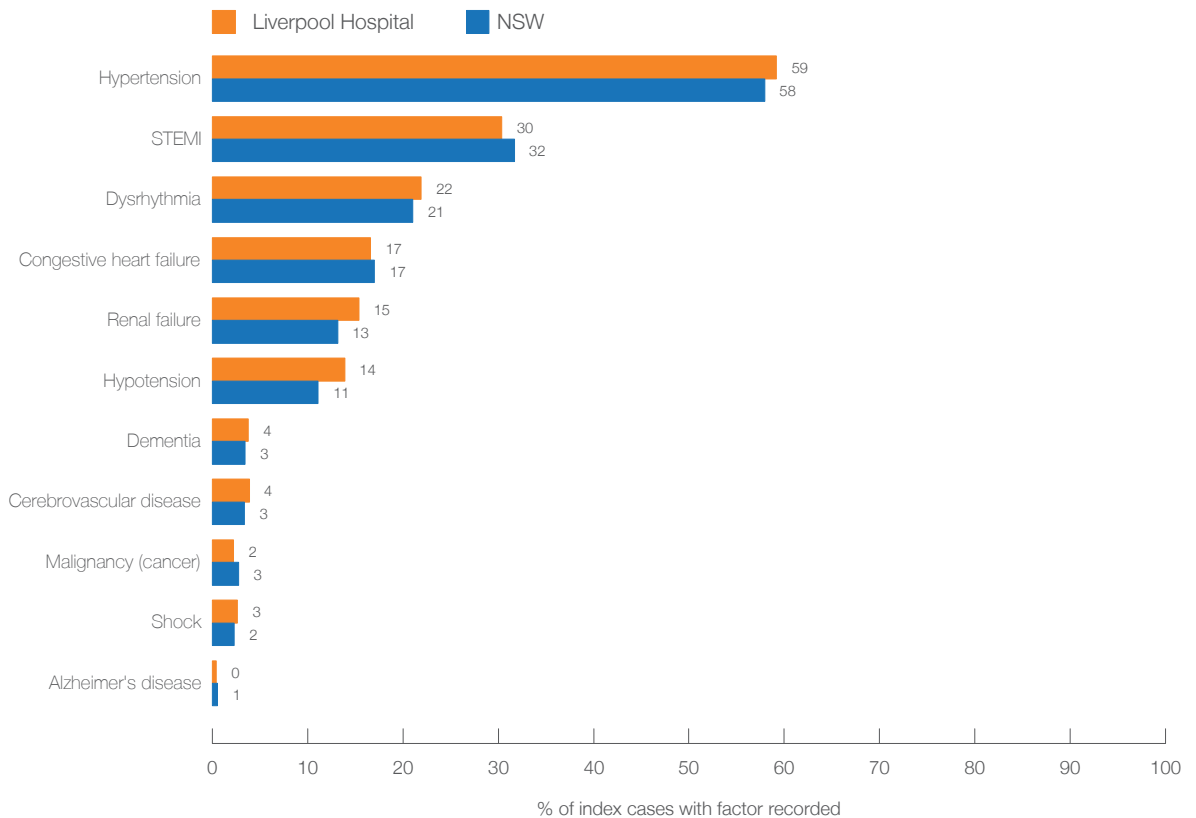
30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

	This hospital	NSW
Total Acute Myocardial Infarction (AMI) hospitalisations	1,493	37,794
Acute Myocardial Infarction (AMI) patients		
Presenting patients (index cases)¹	1,218	29,223
Patients not transferred to another hospital	1,185	18,303
Patients transferred out to another hospital	33	10,920

Age profile, index cases²



Significant patient factors and comorbidities, index cases³

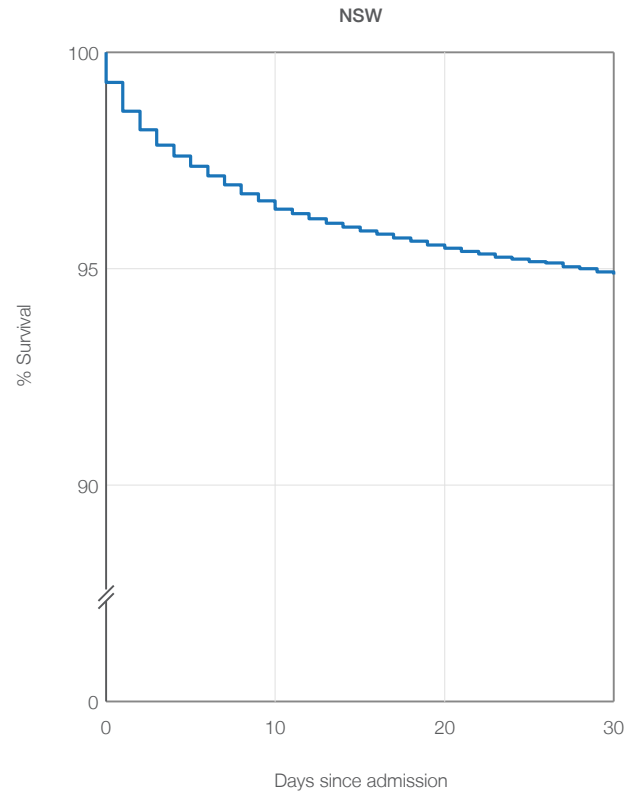
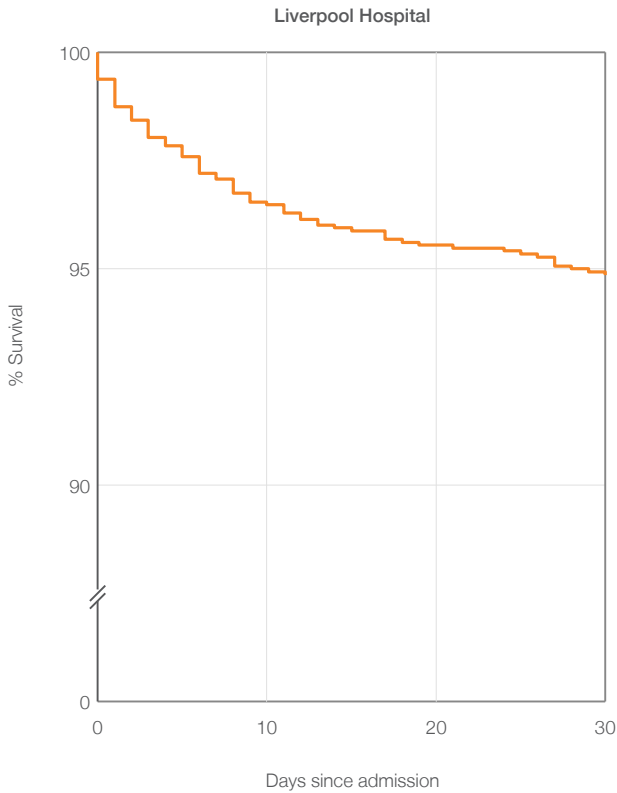


Liverpool Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

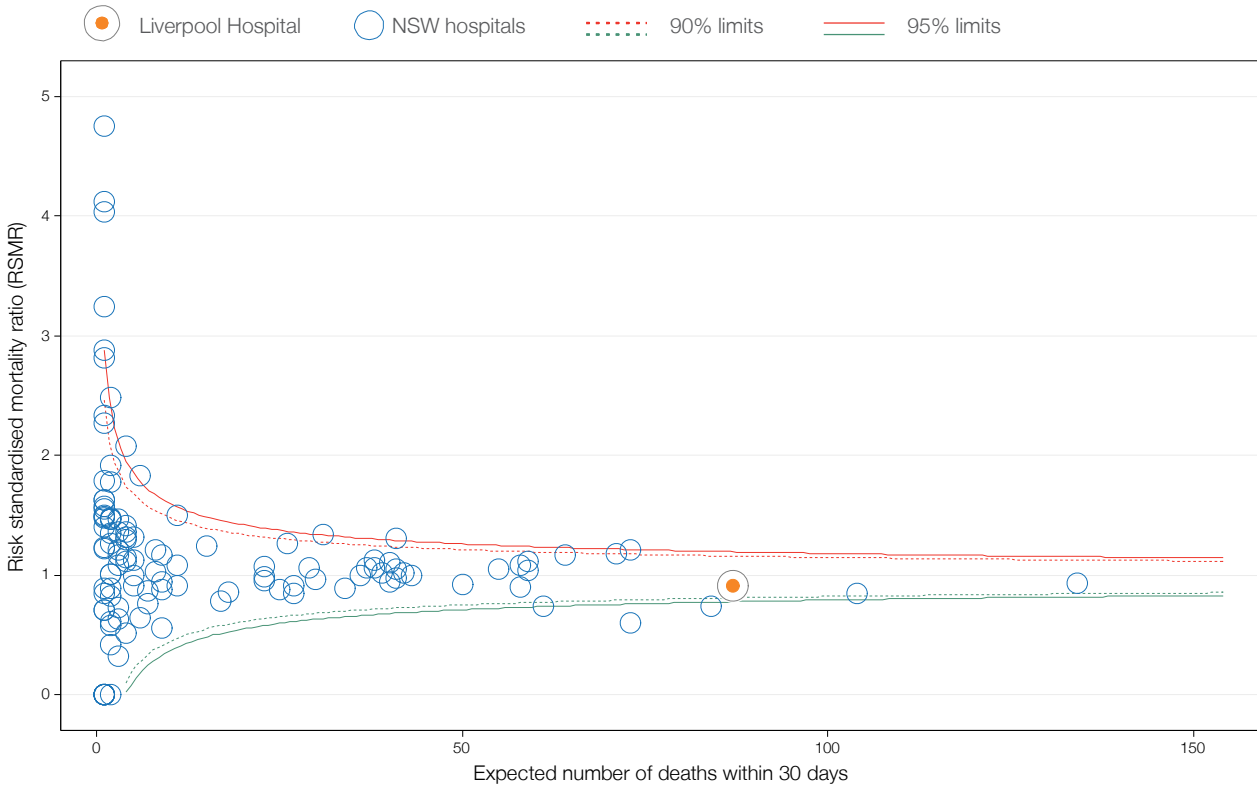
Mortality (all causes) among 1,218 Acute Myocardial Infarction (AMI) index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	6%	
Of all deaths:		
percentage in this hospital	85%	(64%)
percentage in another hospital following transfer	0%	(6%)
percentage after discharge	15%	(31%)
percentage on day of admission	13%	(14%)
percentage within 7 days	58%	(61%)

Survival of index cases following hospitalisation for Acute Myocardial Infarction (AMI)⁵
Adjusted for average age and Charlson comorbidity score



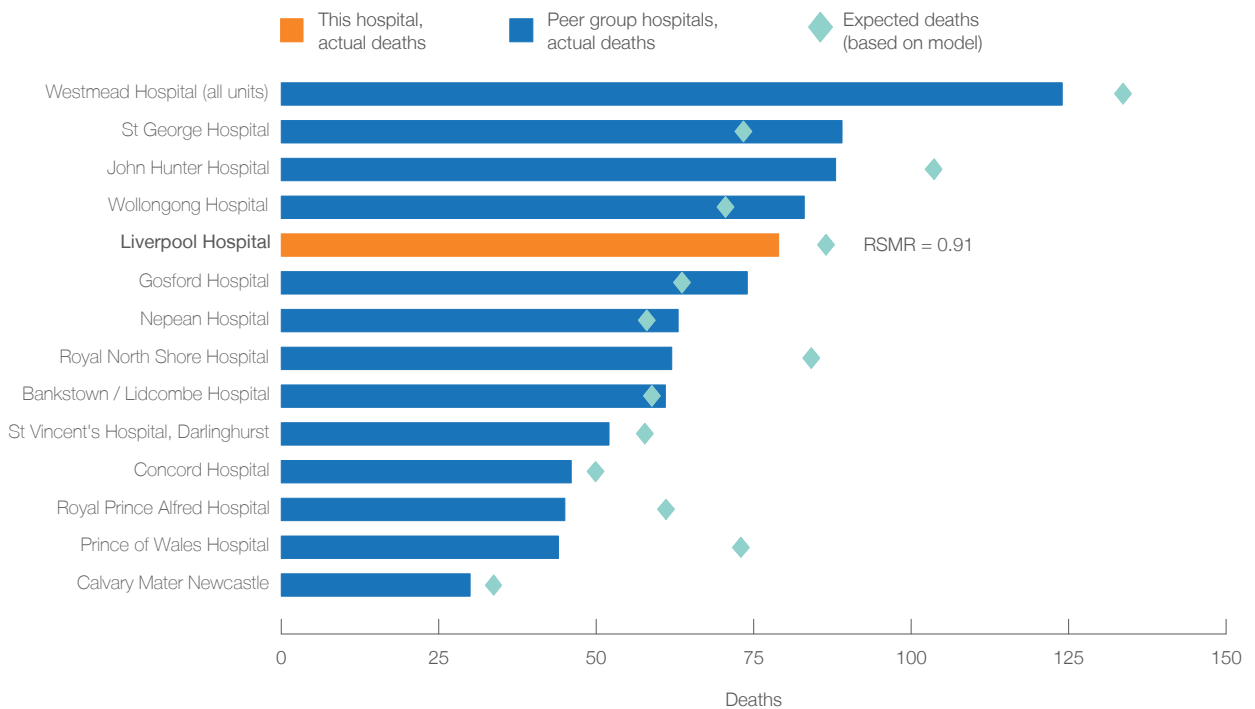
Liverpool Hospital profile July 2009 - June 2012

Hospital-level Acute Myocardial Infarction (AMI) risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.

Actual and expected deaths, compared to local peers



Liverpool Hospital profile July 2009 - June 2012

30-day mortality following hospitalisation for Acute Myocardial Infarction (AMI)

Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.86	1.03	0.91

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

■ Lower mortality
 ■ No difference
 ■ Higher mortality

Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.16	1.36	0.91	0.91

(1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.

(2) Age at admission date.

(3) Only those conditions that were shown to have a significant impact on mortality ($P < 0.05$) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.

(4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.

(5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.

(6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.

(†) Data for hospitals with an expected mortality of < 1 are suppressed.

(◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.

(□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.

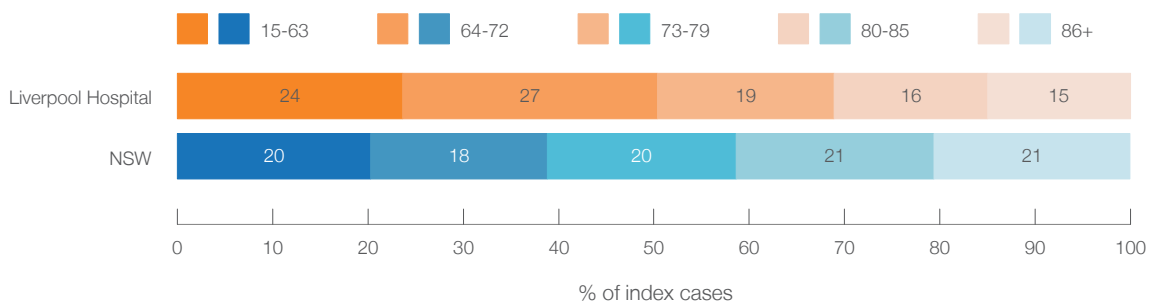
Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*

Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

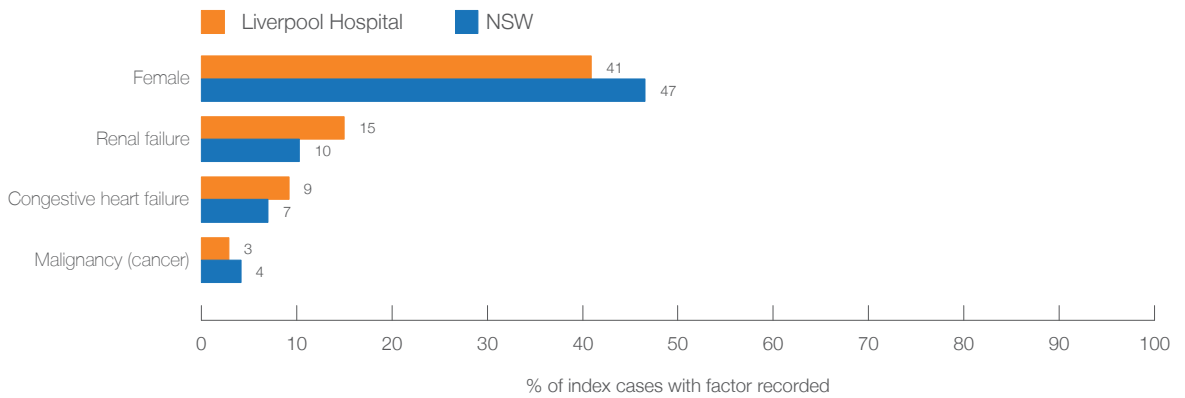
Liverpool Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for ischaemic stroke

	This hospital	NSW
Total ischaemic stroke hospitalisations	713	15,299
Ischaemic stroke patients		
Presenting patients (index cases)¹	621	14,205
Patients not transferred to another hospital	563	11,757
Patients transferred out to another hospital	58	2,448

Age profile, index cases²



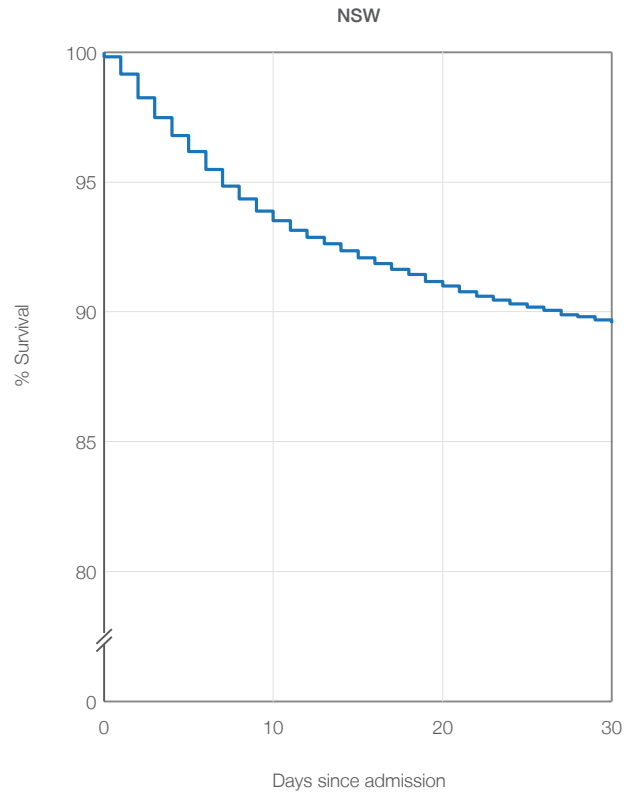
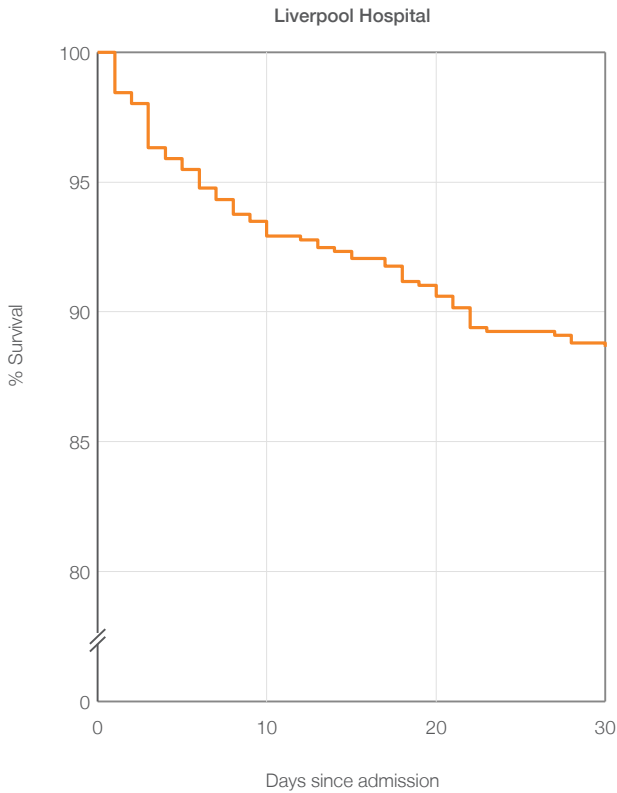
Significant patient factors and comorbidities, index cases³



Liverpool Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for ischaemic stroke

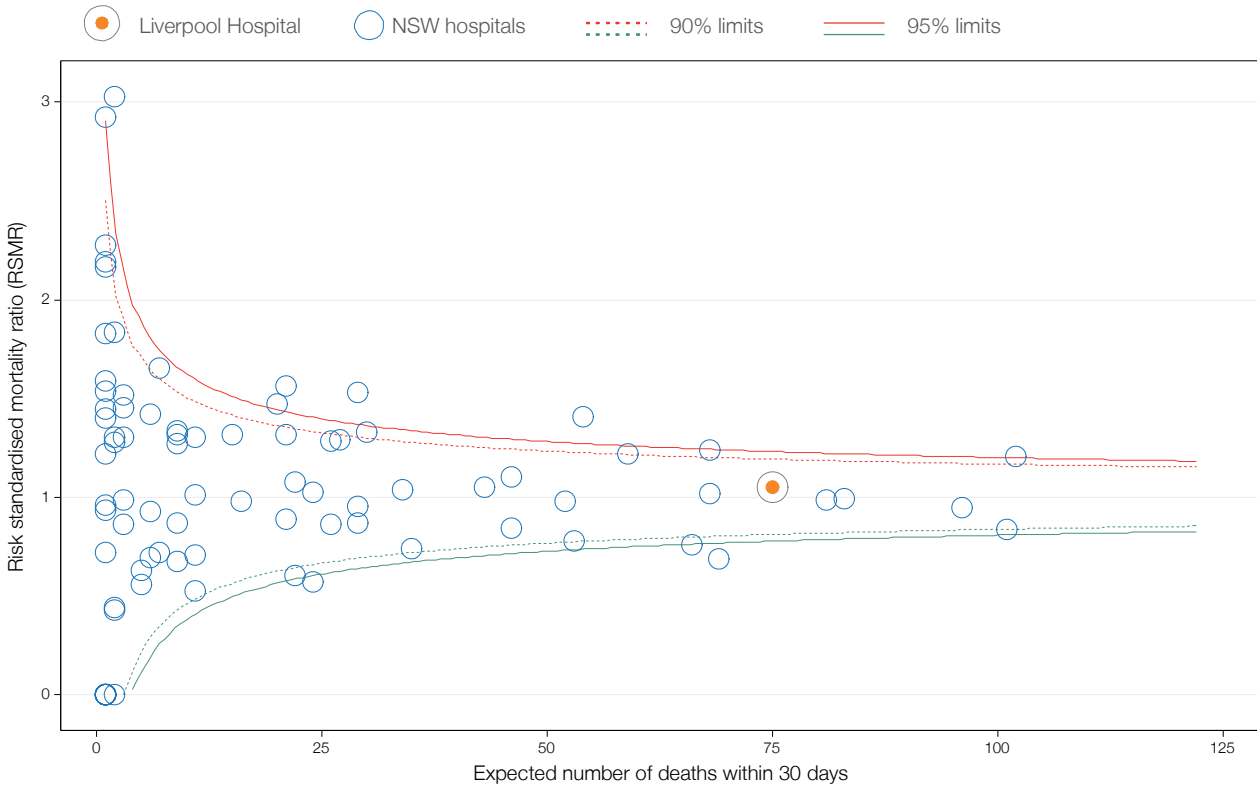
Mortality (all causes) among 621 ischaemic stroke index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	13%	
Of all deaths:		
percentage in this hospital	72%	(67%)
percentage in another hospital following transfer	1%	(2%)
percentage after discharge	27%	(31%)
percentage on day of admission	0%	(2%)
percentage within 7 days	51%	(51%)

Survival of index cases following hospitalisation for ischaemic stroke⁵
 Adjusted for average age and Charlson comorbidity score



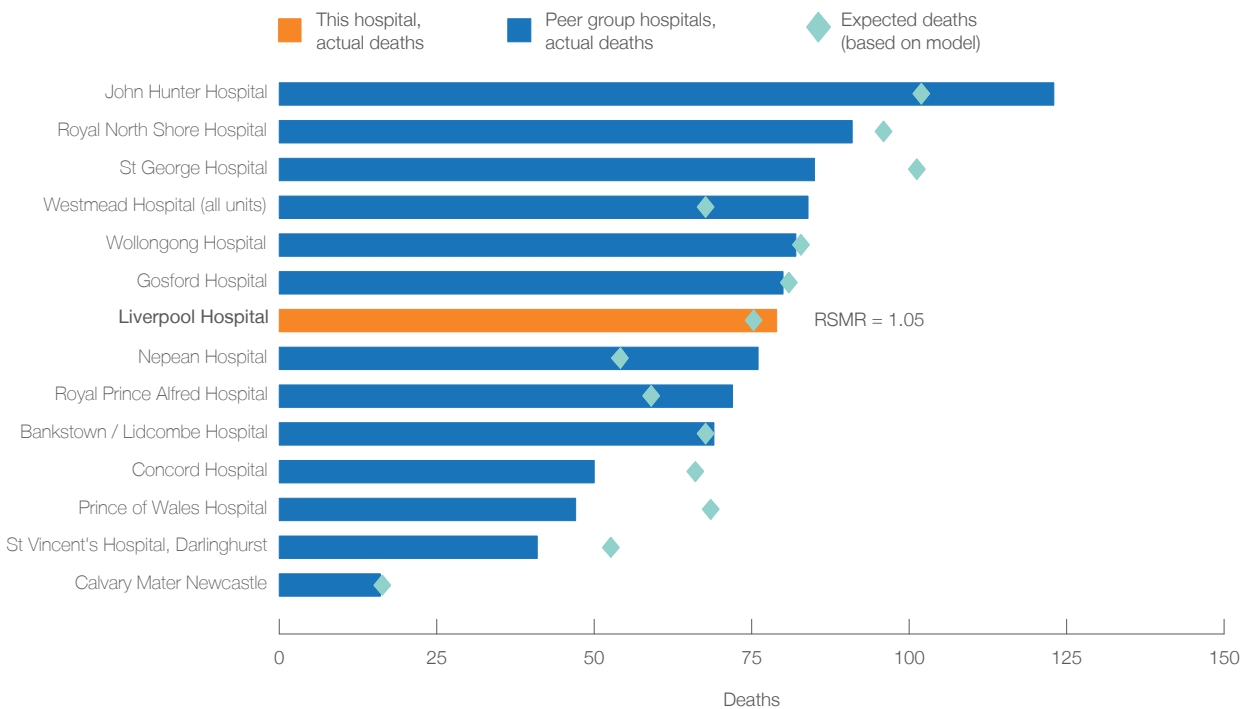
Liverpool Hospital profile July 2009 - June 2012

Hospital-level ischaemic stroke risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.




Actual and expected deaths, compared to local peers



Liverpool Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for ischaemic stroke




Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

 Lower mortality  No difference  Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.95	1.11	1.05

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

 Lower mortality  No difference  Higher mortality

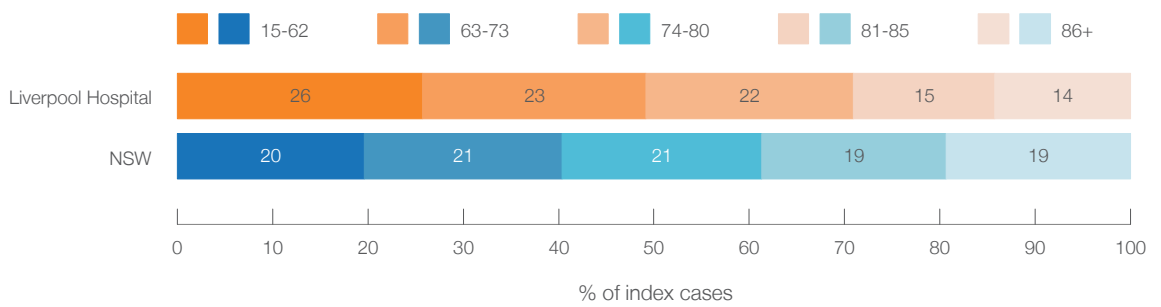
Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	0.99	0.96	1.02	1.05

(1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
 (2) Age at admission date.
 (3) Only those conditions that were shown to have a significant impact on mortality (P<0.05) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
 (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
 (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
 (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
 (†) Data for hospitals with an expected mortality of <1 are suppressed.
 (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
 (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
 Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
 Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

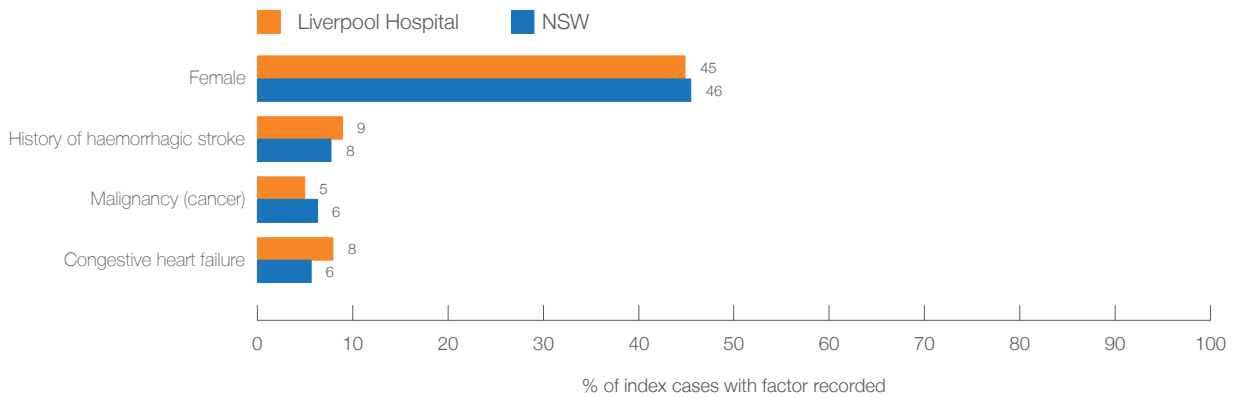
Liverpool Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for haemorrhagic stroke

	This hospital	NSW
Total haemorrhagic stroke hospitalisations	417	6,573
Haemorrhagic stroke patients		
Presenting patients (index cases)¹	303	5,681
Patients not transferred to another hospital	278	4,148
Patients transferred out to another hospital	25	1,533

Age profile, index cases²



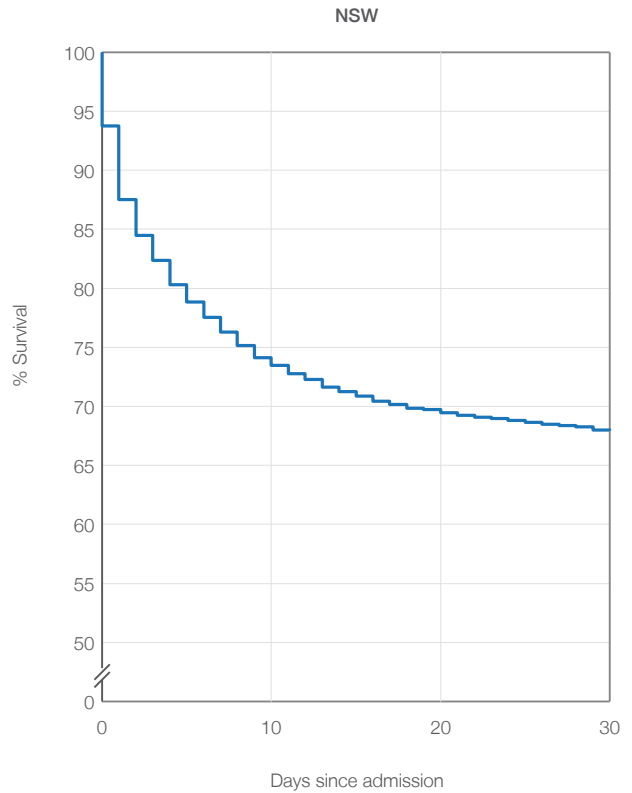
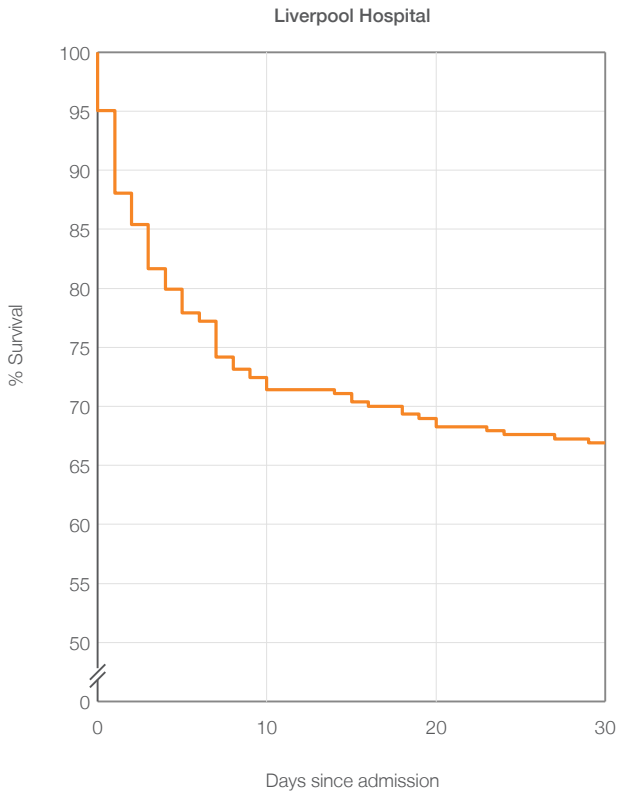
Significant patient factors and comorbidities, index cases³



Liverpool Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for haemorrhagic stroke

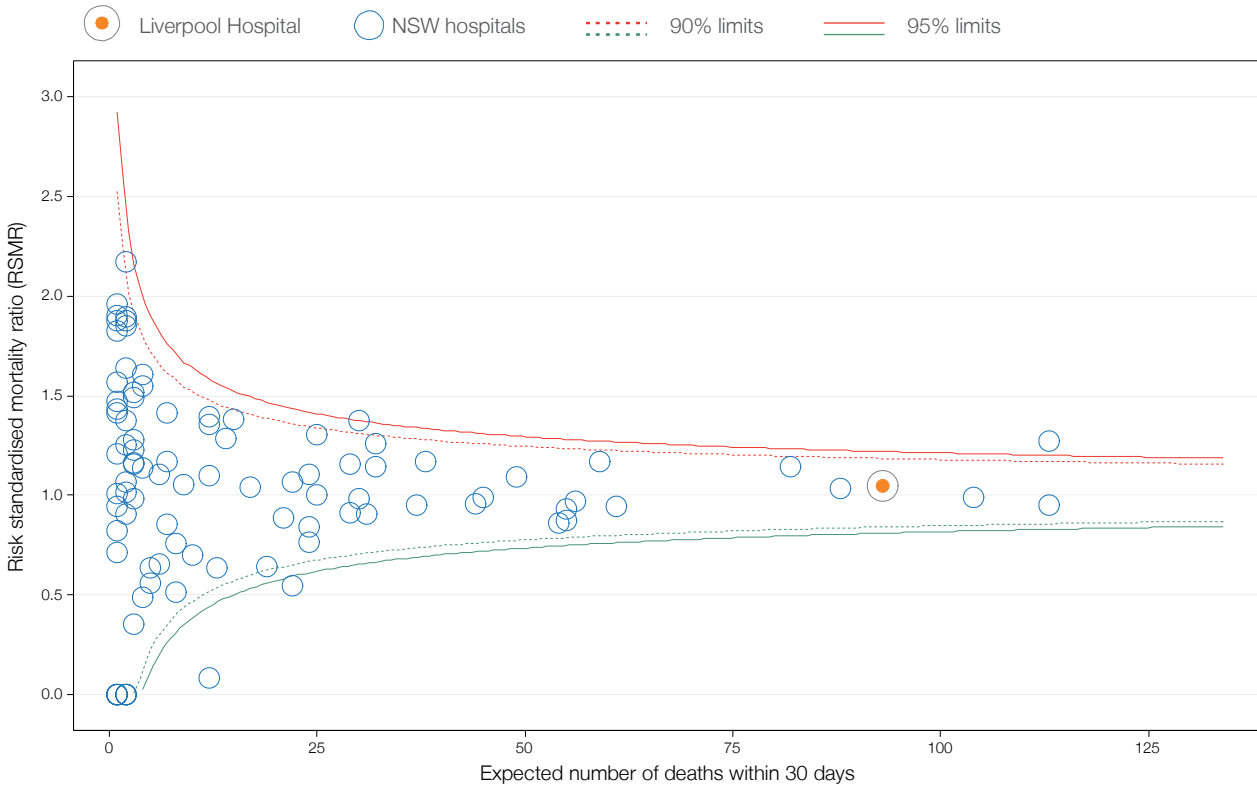
Mortality (all causes) among 303 haemorrhagic stroke index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	32%	
Of all deaths:		
percentage in this hospital	87%	(76%)
percentage in another hospital following transfer	0%	(3%)
percentage after discharge	13%	(21%)
percentage on day of admission	15%	(20%)
percentage within 7 days	79%	(75%)

Survival of index cases following hospitalisation for haemorrhagic stroke ⁵
 Adjusted for average age and Charlson comorbidity score



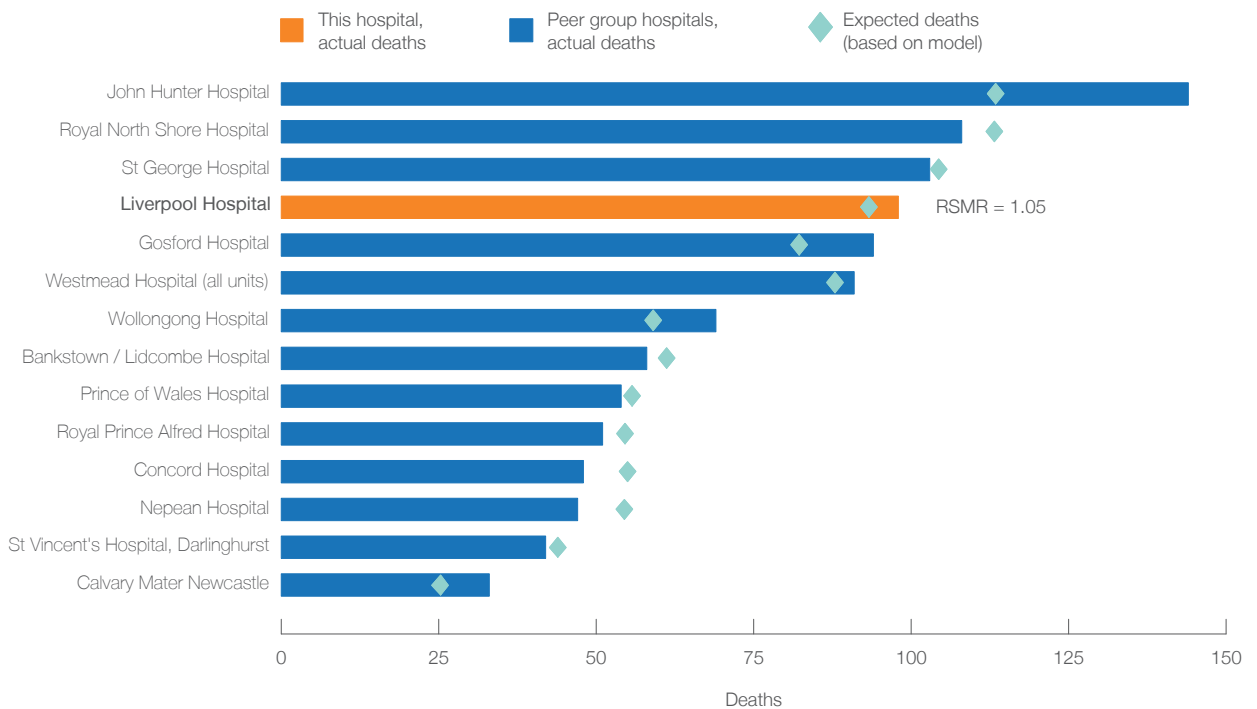
Liverpool Hospital profile July 2009 - June 2012

Hospital-level haemorrhagic stroke risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.




Actual and expected deaths, compared to local peers



Liverpool Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for haemorrhagic stroke




Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

 Lower mortality  No difference  Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.96	1.04	1.05

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

 Lower mortality  No difference  Higher mortality

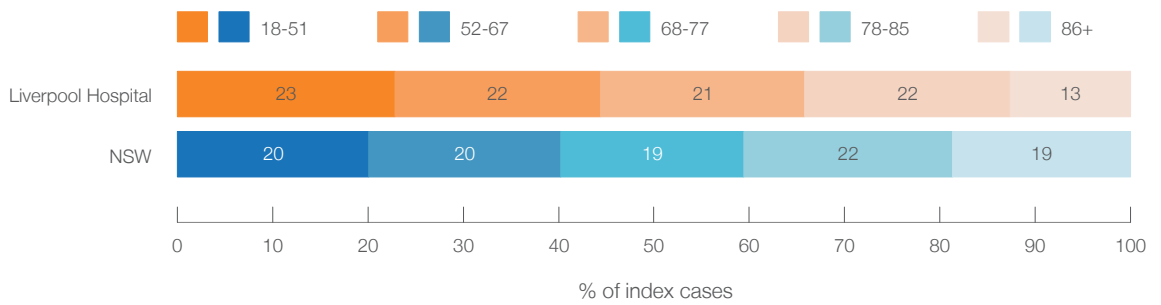
Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	1.30	1.12	0.83	1.05

(1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
 (2) Age at admission date.
 (3) Only those conditions that were shown to have a significant impact on mortality (P<0.05) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
 (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
 (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
 (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
 (†) Data for hospitals with an expected mortality of <1 are suppressed.
 (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
 (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
 Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
 Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

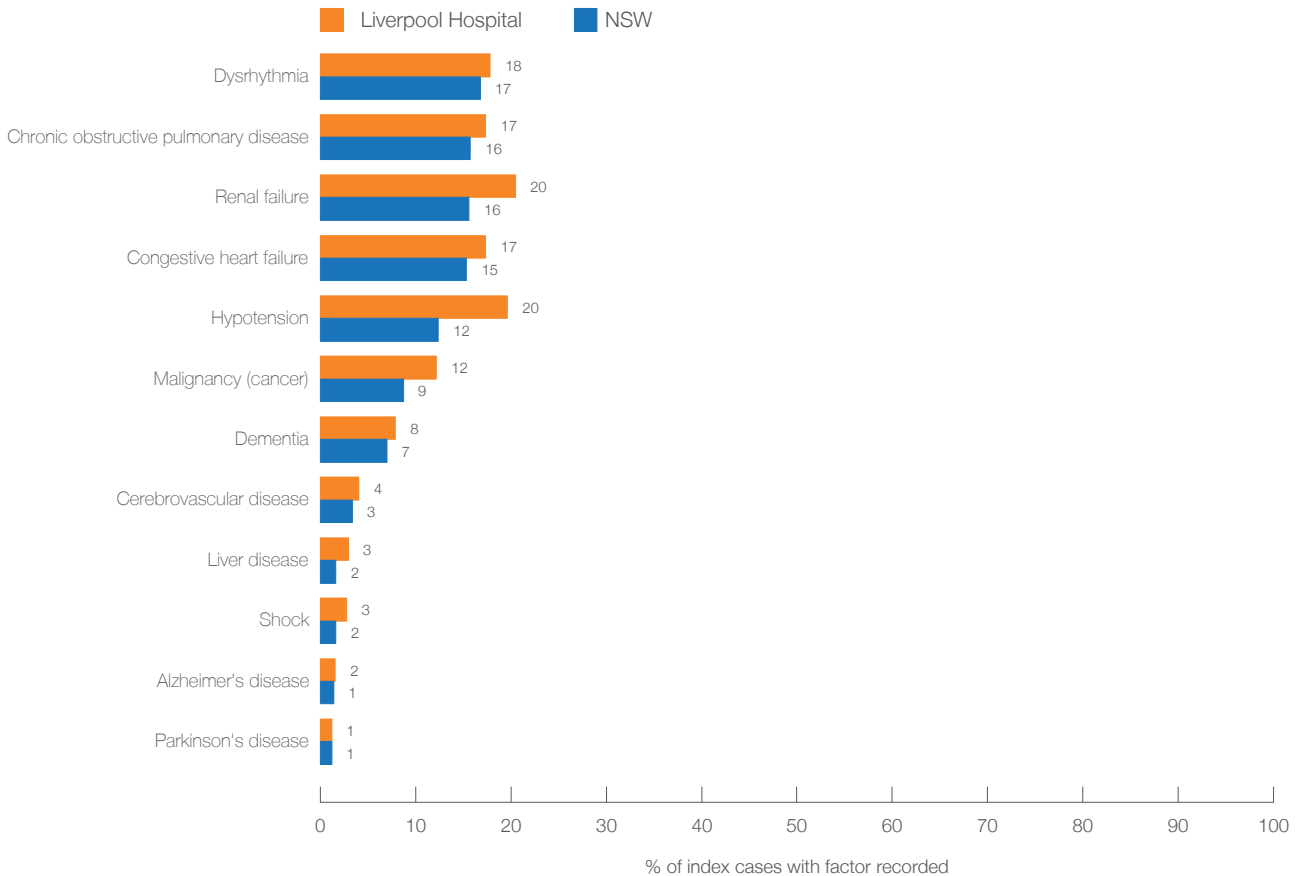
Liverpool Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for pneumonia

	This hospital	NSW
Total pneumonia hospitalisations	1,215	50,644
Pneumonia patients		
Presenting patients (index cases)¹	1,095	44,059
Patients not transferred to another hospital	1,079	39,655
Patients transferred out to another hospital	16	4,404

Age profile, index cases²



Significant patient factors and comorbidities, index cases³



Liverpool Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for pneumonia

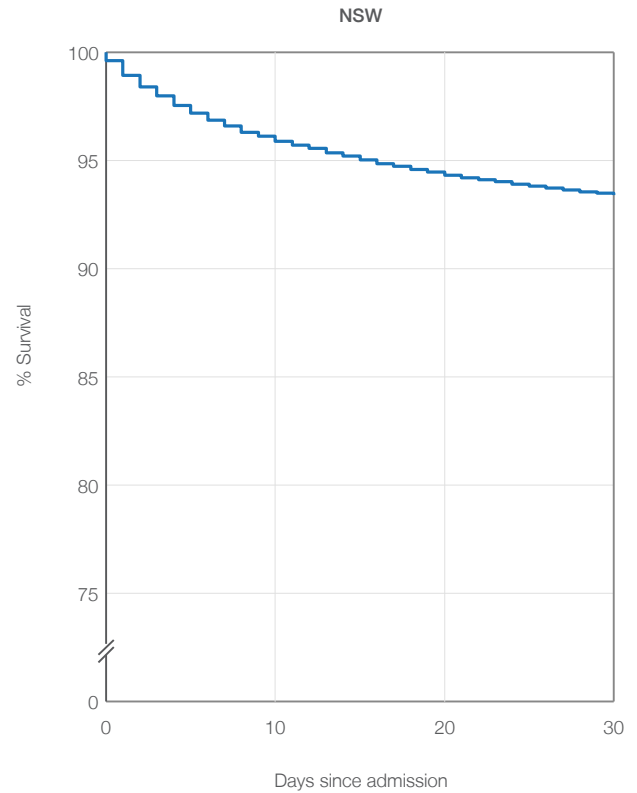
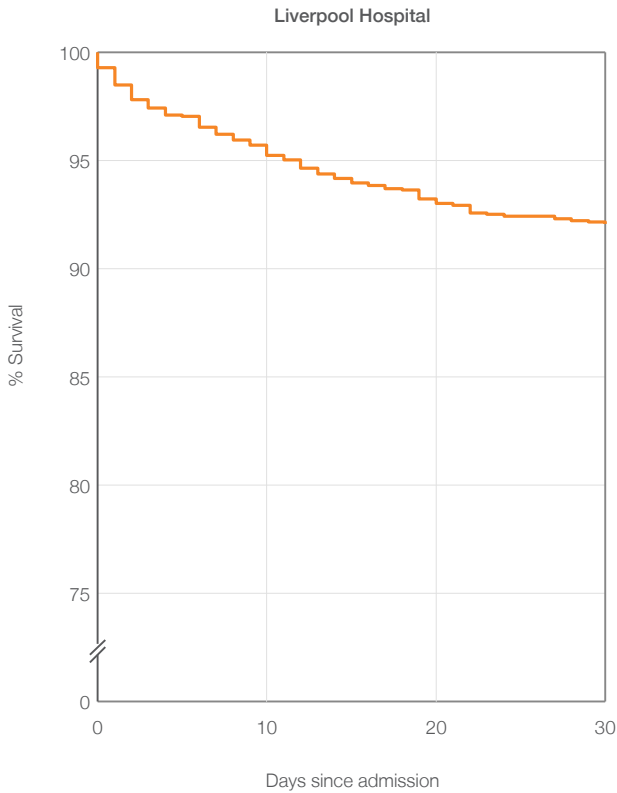
Mortality (all causes) among 1,095 pneumonia index cases⁴

Percentages: index cases who died within 30 days of hospitalisation

Of all deaths:

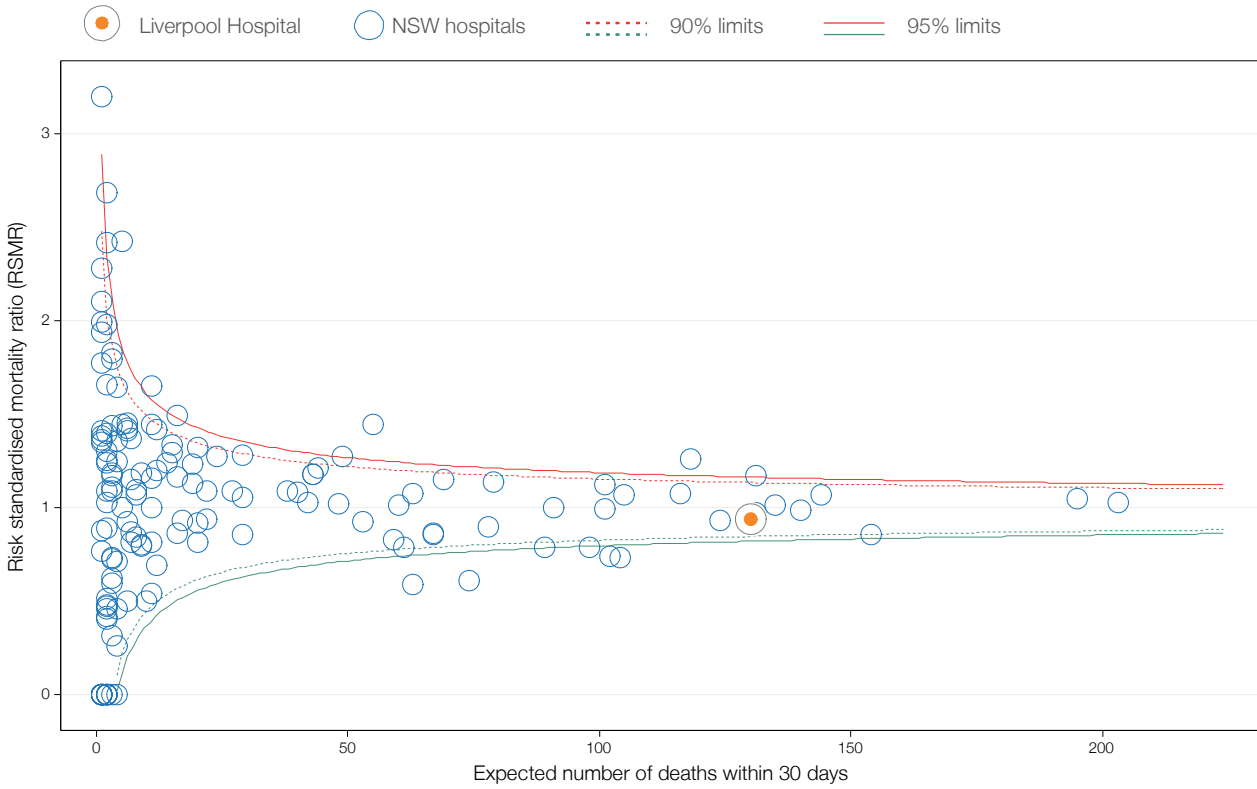
	This hospital percentage	NSW percentage
percentage in this hospital	70%	(66%)
percentage in another hospital following transfer	0%	(3%)
percentage after discharge	30%	(31%)
percentage on day of admission	10%	(6%)
percentage within 7 days	50%	(54%)

Survival of index cases following hospitalisation for pneumonia⁵
 Adjusted for average age and Charlson comorbidity score



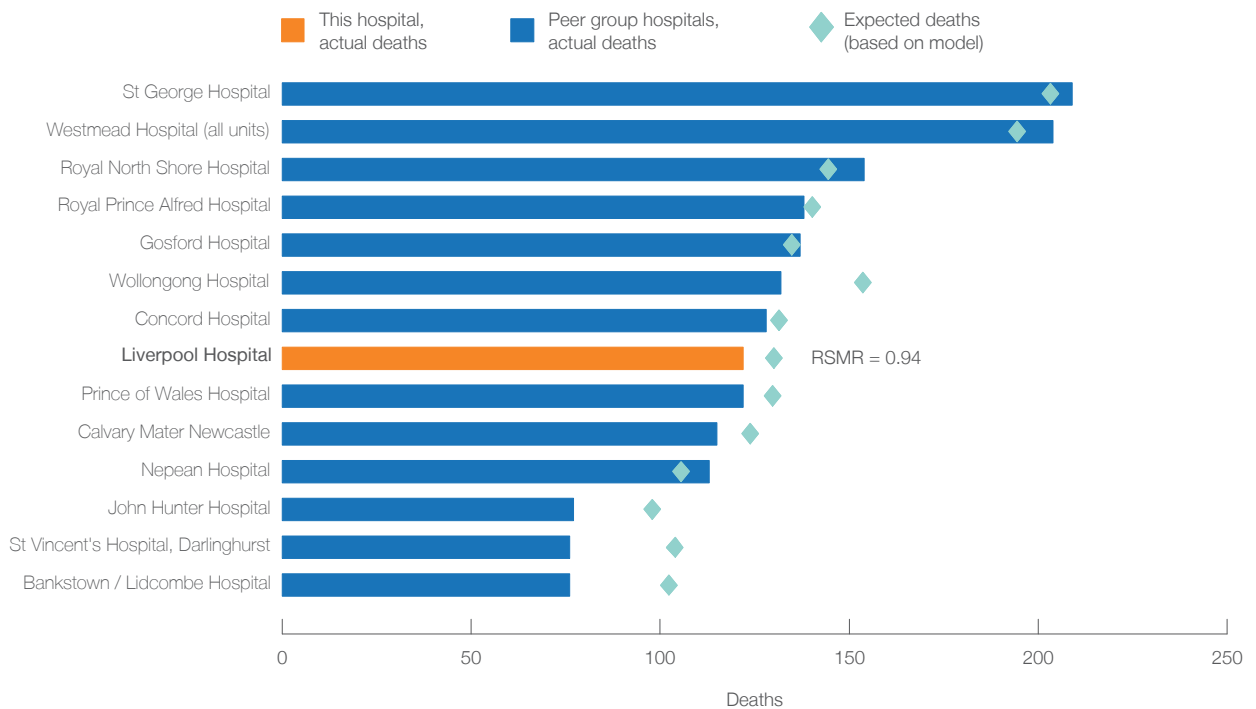
Liverpool Hospital profile July 2009 - June 2012

Hospital-level pneumonia risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.




Actual and expected deaths, compared to local peers



Liverpool Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for pneumonia




Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

 Lower mortality  No difference  Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
1.03	1.19	0.94

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

 Lower mortality  No difference  Higher mortality

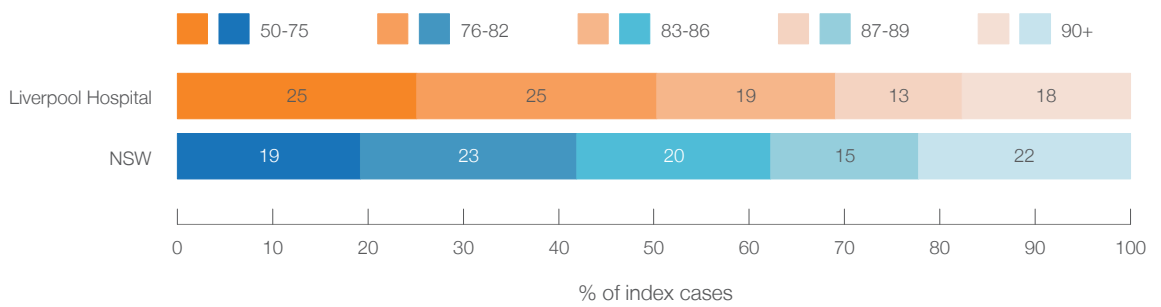
Year (financial years)	2000-02	2003-05	2006-08	2009-12
Risk-standardised mortality ratio	1.25	1.17	1.14	0.94

(1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
 (2) Age at admission date.
 (3) Only those conditions that were shown to have a significant impact on mortality (P<0.05) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
 (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
 (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
 (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
 (†) Data for hospitals with an expected mortality of <1 are suppressed.
 (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
 (□) Between 90% and 95% lower control limits; (□□) Outside 95% lower control limits.
 Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
 Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.

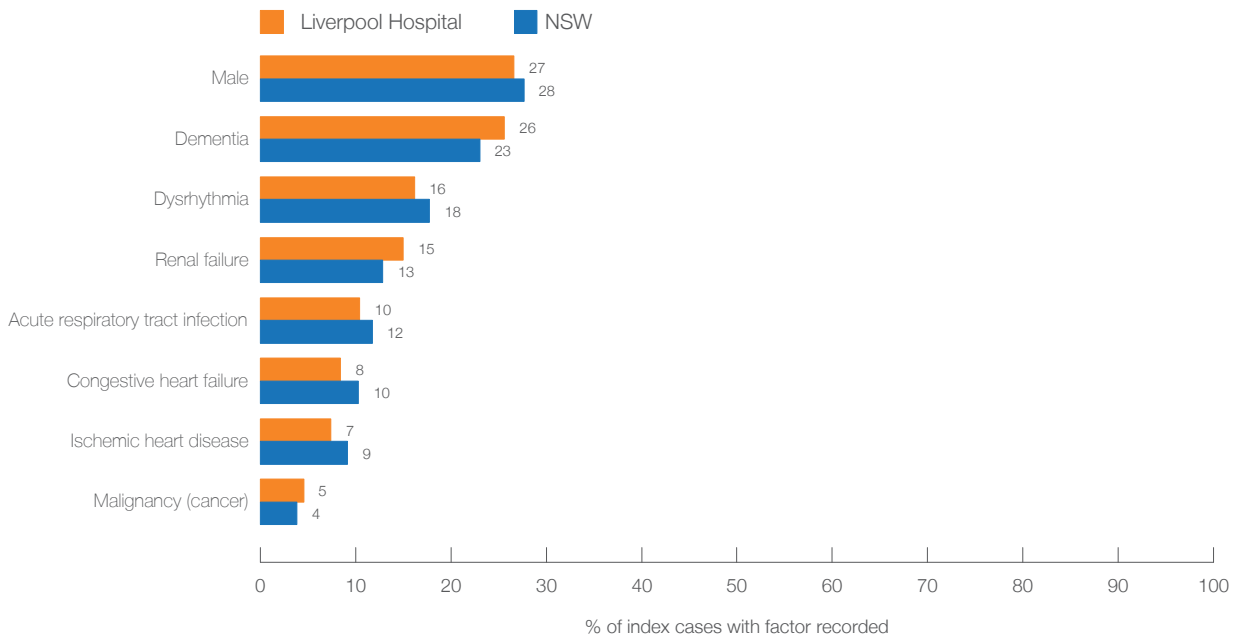
Liverpool Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for hip fracture surgery

	This hospital	NSW
Total hip fracture surgery hospitalisations	609	16,355
Hip fracture surgery patients		
Presenting patients (index cases)¹	594	15,836
Patients not transferred to another hospital	354	10,739
Patients transferred out to another hospital	240	5,097

Age profile, index cases²



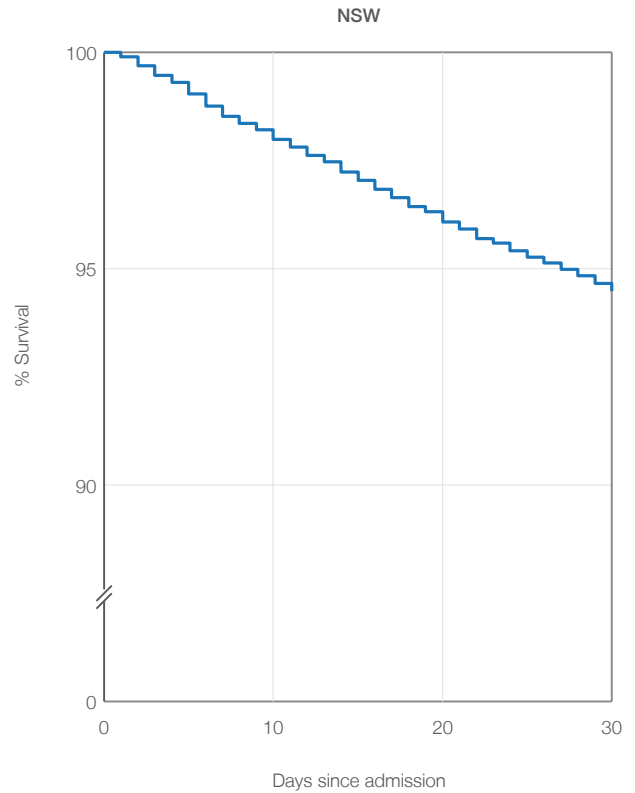
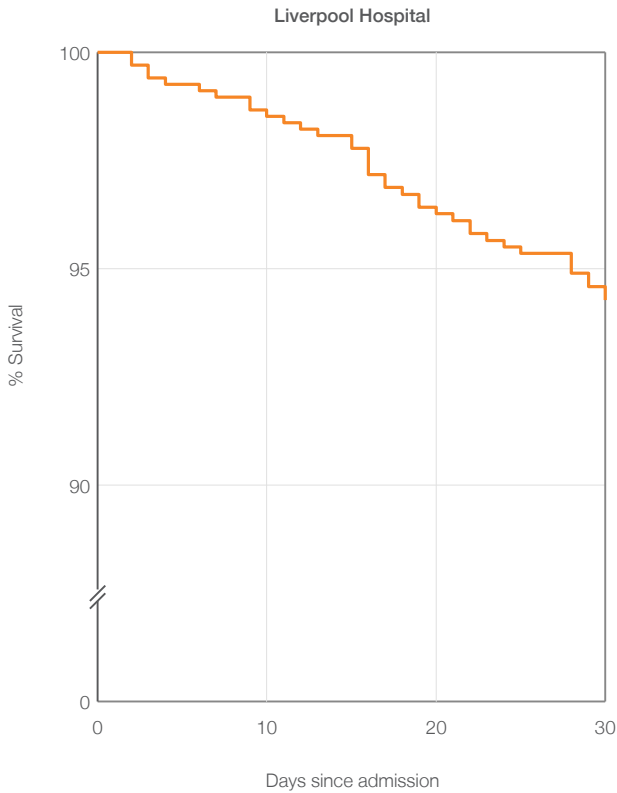
Significant patient factors and comorbidities, index cases³



Liverpool Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for hip fracture surgery

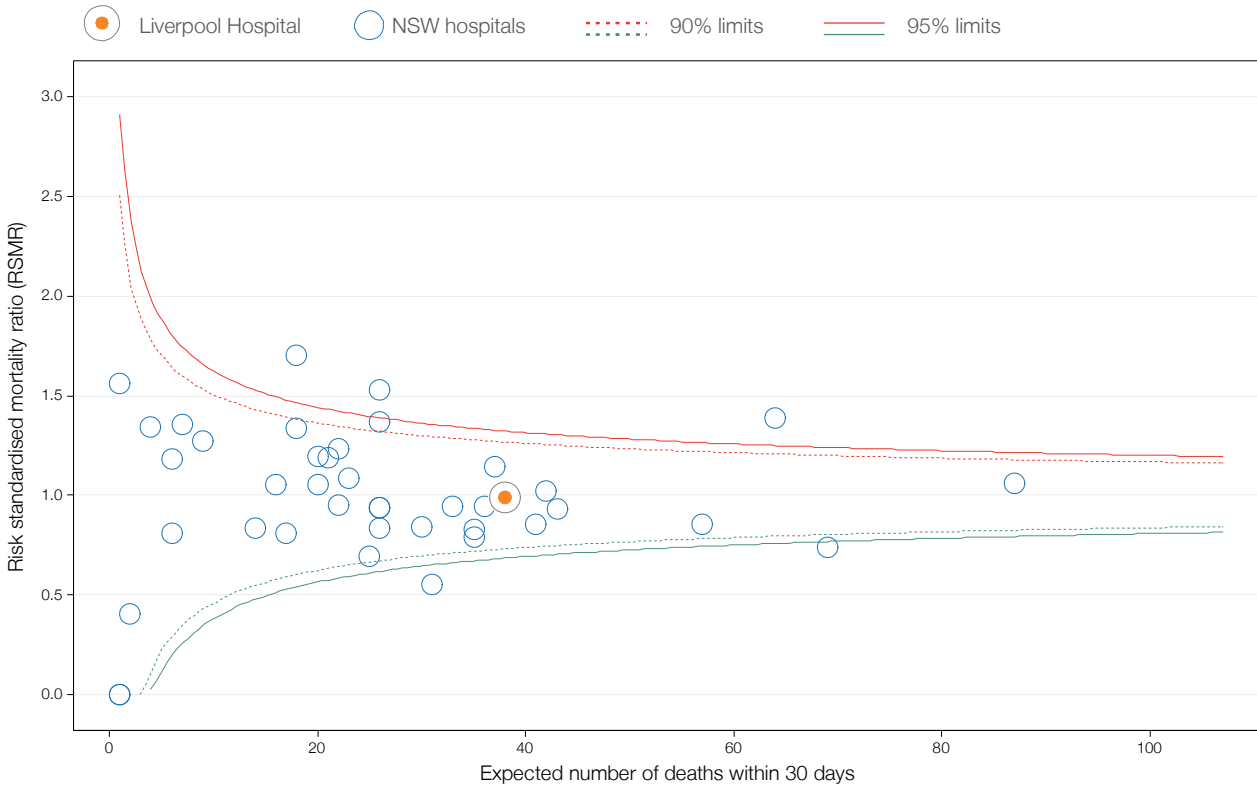
Mortality (all causes) among 594 hip fracture surgery index cases ⁴	This hospital percentage	NSW percentage
Percentages: index cases who died within 30 days of hospitalisation	6%	
Of all deaths:		
percentage in this hospital	76%	(50%)
percentage in another hospital following transfer	0%	(0%)
percentage after discharge	24%	(50%)
percentage on day of admission	not applicable for hip fracture surgery	
percentage within 7 days	18%	(27%)

Survival of index cases following hospitalisation for hip fracture surgery⁵
 Adjusted for average age and Charlson comorbidity score



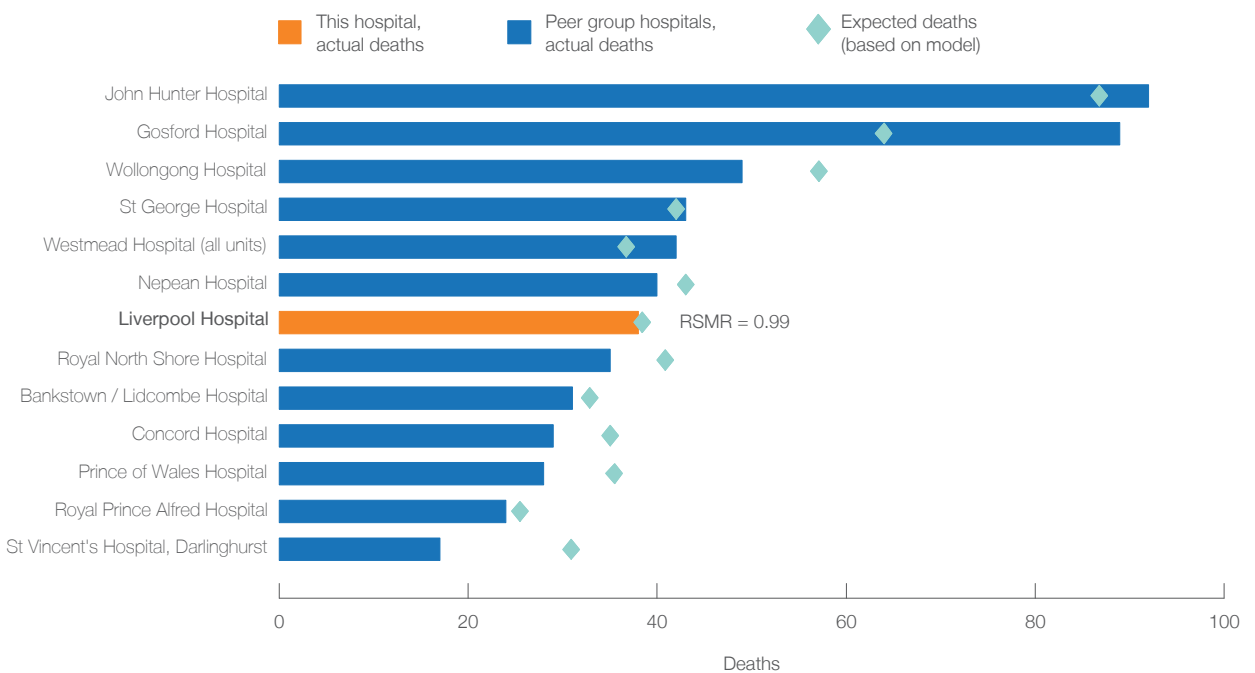
Liverpool Hospital profile July 2009 - June 2012

Hospital-level hip fracture surgery risk-standardised mortality ratio by number of expected deaths, NSW public hospitals



Hospital-specific RSMRs report the ratio of actual or 'observed' number of deaths to the 'expected' number of deaths. A hierarchical logistic regression model draws on the NSW patient population's characteristics and outcomes to estimate the expected number of deaths for each hospital, given the characteristics of its patients.




Actual and expected deaths, compared to local peers



Liverpool Hospital profile July 2009 - June 2012
 30-day mortality following hospitalisation for hip fracture surgery




Illustrating the effect of standardisation, July 2009 - June 2012

In order to make fair comparisons, a number of risk adjustments are made to mortality data. These take into account patient level factors that influence the likelihood of dying. The table below illustrates the cumulative effect of the statistical adjustments. For each ratio, hospitals are compared to the average NSW result, given their case mix.

 Lower mortality  No difference  Higher mortality

Unadjusted ratio	Age and sex standardised ratio	Risk-standardised mortality ratio
0.93	1.03	0.99

Time series risk-standardised mortality ratio, July 2000 - June 2012 ⁶

 Lower mortality  No difference  Higher mortality

Year (financial years)	2000-02	2003-05	2006-08	2009-11
Risk-standardised mortality ratio	0.82	0.82	0.74	0.99

(1) Index cases refer to patients discharged between July 2009 and June 2012 who were initially admitted to this hospital (regardless of whether they were subsequently transferred) in their last period of care.
 (2) Age at admission date.
 (3) Only those conditions that were shown to have a significant impact on mortality (P<0.05) are shown. Many are a result of end-organ damage resulting from comorbidities, such as diabetes. A broader set of comorbidities was screened for potential impacts on mortality. Comorbidities as recorded on patient record, with one year look back. STEMI refers to ST-elevation myocardial infarction.
 (4) Deaths are from any cause, in or out of hospital within 30 days of the index hospitalisation admission date.
 (5) Kaplan-Meier survival curve for 30-day following admission for haemorrhagic stroke, adjusted for average age and average Charlson comorbidity score. Survival curves depict the proportion of patients who were alive, day 0 – day 30.
 (6) To make RSMRs comparable over time, a reference population is required. Time series RSMRs for each hospital are based on the reference years (July 2009 - June 2012). Control limits are based on the NSW average within each period.
 (†) Data for hospitals with an expected mortality of <1 are suppressed.
 (◇) Between 90% and 95% upper control limits; (◇◇) Outside 95% upper control limits.
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 Details of analyses and risk adjustment are available in *Spotlight on Measurement: risk-standardised mortality ratios*
 Data source: SAPHaRI, Centre for Epidemiology and Evidence, NSW Ministry of Health.