



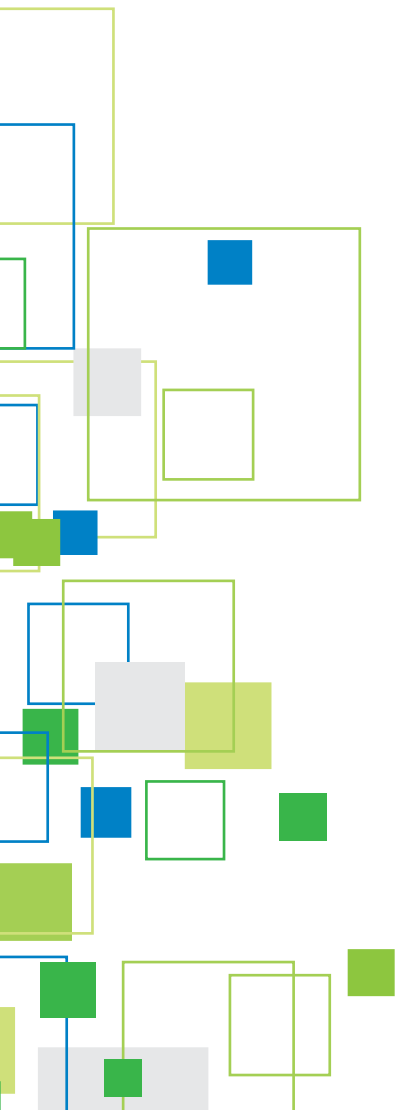
National Health Performance Authority

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## **Hospital Performance:**

Length of stay in public hospitals in 2011–12







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Length of stay in public hospitals in 2011–12

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## **Paper-based publications**

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# About the Authority

The National Health Performance Authority (the Authority) has been set up as an independent agency under the *National Health Reform Act 2011*. It commenced full operations in 2012.

Under the terms of the Act, the Authority monitors and reports on the performance of Local Hospital Networks, public and private hospitals, primary health care organisations and other bodies that provide health care services.

The Authority's reports give all Australians access to timely and impartial information that allows them to compare fairly their local health care organisations against other similar organisations and against national standards.

The reports let people see, often for the first time, how their local health care organisations measure up against comparable organisations across Australia.

The Authority's activities are also guided by a document known as the Performance and Accountability Framework agreed by the Council of Australian Governments. The framework contains 48 indicators that form the basis for the Authority's performance reports.

The Authority's role will include reporting on the performance of health care organisations against the 48 indicators in order to identify both high-performing Local Hospital Networks, Medicare Locals and hospitals (so effective practices can be shared), and Local Hospital Networks and Medicare Locals that perform poorly (so that steps can be taken to address problems).

The Authority releases reports on a quarterly basis, and also publishes performance data on the MyHospitals website ([www.myhospitals.gov.au](http://www.myhospitals.gov.au)), the MyHealthyCommunities website ([www.myhealthycommunities.gov.au](http://www.myhealthycommunities.gov.au)) and on [www.nhpa.gov.au](http://www.nhpa.gov.au)

The Authority consists of a Chairman, a Deputy Chairman and five other members, appointed for up to five years. Members of the Authority are:

- Ms Patricia Faulkner AO (Chairman)
- Mr John Walsh AM (Deputy Chairman)
- Dr David Filby PSM
- Prof Michael Reid
- Prof Bryant Stokes AM RFD (on leave)
- Prof Paul Torzillo AM
- Prof Claire Jackson.

The conclusions in this report are those of the Authority. No official endorsement from any Minister, department of health or health care organisation is intended or should be inferred.





# Summary

The length of time patients spend in hospital for specific conditions has a large impact on overall health system costs. Although longer hospital stays can be due to factors outside a hospital's control, it is also likely there are considerable opportunities to increase efficiency by reducing longer hospital stays, provided patients are not put at risk by being sent home too soon.

This report provides information on length of stay among patients who spent at least one night in a public hospital for one of 16 selected conditions and procedures. It compares average lengths of stay in Australia's 125 largest public hospitals against their peers, based on hospital size and location, for each of these conditions or procedures. All of the 16 are common and together they represent major areas of medical and surgical care.

Information about the average length of stay among patients offers some insight into the efficiency of hospitals and local health systems in the following ways:

- A shorter stay is more efficient from a hospital's perspective, making beds available more quickly to provide care for more patients, as well as reducing the cost per patient. However, stays that are too short may reduce the quality of care and result in poorer patient outcomes
- Longer stays are often due to complications and may be associated with a higher risk of adverse events

- Longer stays may also be due to factors unrelated to the patient's clinical condition, such as delays in consulting or coordinating care with other health professionals who have a role in assisting the patient's recovery. Longer stays can also occur if there are delays in ensuring the patient is accepted into another service, such as a rehabilitation facility, aged care home or community care service.<sup>1</sup>

The Council of Australian Governments (COAG), which approved the 48 indicators on which the Authority bases its work, included length of stay in hospital as one of the measures to be used to assess hospital efficiency. Length of stay is a useful measure because it means that among hospitals that are keeping patients in hospital longer than average, resources are being taken up that other hospitals with shorter lengths of stay can use for other patients.

The Authority has taken a number of steps to ensure comparisons are between similar patients as well as similar hospitals.

The report is the first in a series of reports by the Authority assessing efficiency and effectiveness of local health systems. It is accompanied by a companion report that examines variations in the number of potentially avoidable hospitalisations in local communities across the nation.

Because one patient may need to occupy a hospital bed for one day or for many days, this report quantifies hospital use in terms of 'bed days' (**Figure 1, page ix**).

In 2011–12, there were more than 5.7 million stays in public hospitals across Australia. These patients used a total of 19.1 million hospital bed days. Of these, 2.9 million stays lasted one or more nights, accounting for 16.3 million bed days.

In 2011–12, there were 382,006 stays of one or more nights in public hospitals for the 16 conditions and procedures presented in this report. This represents 7.7% of all bed days in public hospitals. These patients used a total of 1.48 million hospital bed days.

## Key findings

For each of the 16 conditions or procedures analysed in the report, the Authority found variation in the length of time similar patients spent in hospital, even among hospitals of similar size and rurality.

The specific breakdown for each condition and procedure is below.

### Childbirth

Childbirth is one of the most common reasons for admission to hospital.

#### *Vaginal delivery*

In 2011–12, there were 99,674 vaginal deliveries in public hospitals. On average these women spent 2.5 days in hospital, accounting for 253,367 bed days nationally. There was variation between similar hospitals in the average length of stay (**Figure 5, page 11**).

At **major metropolitan hospitals**, which account for 57% of the bed days for vaginal deliveries in public hospitals, the average length of stay was **60% longer** at some hospitals compared to others (range from 2.0 to 3.1 days).

#### *Caesarean delivery*

In 2011–12, there were 45,405 caesarean deliveries, accounting for 31% of all births in public hospitals. Across Australia, the caesarean rate has increased rapidly in recent years and is now higher than in most other comparable nations.<sup>2</sup>

On average women who had a caesarean delivery spent **50% longer** in hospital (an average of 3.8 days) than women who had a vaginal delivery, accounting for 172,834 bed days nationally. There was variation between similar hospitals in the average length of stay.

At **major metropolitan hospitals**, which account for 57% of the bed days for caesarean deliveries in public hospitals, the average length of stay was **60% longer** at some hospitals compared to others (range from 3.0 to 4.7 days) (**Figure 5, page 11**).

### Medical conditions

The report looks at four common medical conditions. For three of these conditions, lung disease (COPD), heart failure, and kidney and urinary tract infections, the Authority assesses the impact of complications or comorbidities.

#### *Cellulitis*

In 2011–12, there were 39,308 stays in public hospitals for cellulitis. On average these patients spent 3.8 days in hospital, accounting for 149,355 bed days nationally. There was variation between similar hospitals in the average length of stay (**Figure 7, page 15**).

At **major metropolitan hospitals**, which account for 39% of the bed days for cellulitis cases in public hospitals, the average length of stay was more than **twice as long** at some hospitals compared to others (range from 2.1 to 5.5 days).

### **Chronic obstructive pulmonary disease (COPD) without complications**

In 2011–12, there were 36,590 stays in public hospitals for COPD without complications. On average these patients spent 5.0 days in hospital, accounting for 183,567 bed days nationally. There was variation between similar hospitals in the average length of stay (**Figure 9, page 17**).

At **major metropolitan hospitals**, which account for 39% of the bed days for COPD cases without complications in public hospitals, the average length of stay was **80% longer** at some hospitals compared to others (range from 3.5 to 6.3 days).

### **COPD with complications**

People with COPD were considered to be a complex admission or had a complication 25% of the time. On average these people spent **69% longer** in hospital, or 8.5 days in hospital, accounting for 80,610 bed days nationally (**Figure 9, page 17**).

### **Heart failure without complications**

In 2011–12, there were 20,518 stays in public hospitals for heart failure without complications. On average these patients spent 5.1 days in hospital, accounting for 105,526 bed days nationally. There was variation between similar hospitals in the average length of stay (**Figure 11, page 19**).

At **major metropolitan hospitals**, which account for 45% of the bed days for heart failure cases without complications in public hospitals, the average length of stay was **twice as long** at some hospitals compared to others (range from 3.2 to 6.7 days).

### **Heart failure with complications**

People with heart failure were considered to be a complex admission or had a complication 35% of the time. On average these people spent **twice as long** in hospital, on average 9.9 days in hospital, accounting for 105,526 bed days nationally (**Figure 11, page 19**).

### **Kidney and urinary tract infections without complications**

In 2011–12, there were 28,844 stays in public hospitals for kidney and urinary tract infections without complications. On average these patients spent 3.2 days in hospital, accounting for 92,108 bed days nationally. There was variation between similar hospitals in the average length of stay (**Figure 13, page 21**).

At **major metropolitan hospitals**, which account for 44% of the bed days for kidney and urinary tract infection cases without complications in public hospitals, the average length of stay was nearly **twice as long** at some hospitals compared to others (range from 2.0 to 4.4 days).

### **Kidney and urinary tract infections with complications**

People with kidney and urinary tract infections were considered to be a complex admission or had a complication 33% of the time. On average these people with complications spent **more than twice as long** in hospital (7.5 days) compared to patients without complications, accounting for 88,436 bed days nationally (**Figure 13, page 21**).

### **Surgical procedures**

This report looks at seven common surgical procedures and assesses the impact of differences between similar hospitals in length of stay.

### Appendix removal

In 2011–12, there were 19,817 stays for appendix removal. On average these patients spent 2.2 days in hospital. There was variation between similar hospitals in the average length of stay (**Figure 15, page 25**).

At **major metropolitan hospitals**, which account for 54% of bed days for these procedures, the average length of stay was nearly **twice as long** at some hospitals compared to others (range from 1.6 to 3.0 days).

### Gallbladder removal

In 2011–12, there were 20,959 stays for gallbladder removal. On average these patients spent 1.9 days in hospital. There was variation between similar hospitals in the average length of stay (**Figure 17, page 27**).

At **major metropolitan hospitals**, which account for 54% of bed days for these procedures, the average length of stay was **nearly three times longer** at some hospitals compared to others (range from 1.1 to 3.2 days).

### Knee replacement and hip replacement

In 2011–12, there were 10,199 stays for knee replacement and 10,549 for hip replacement. On average these patients spent 5.5 and 6.4 days in hospital, respectively. There was variation between similar hospitals in the average length of stay (**Figure 25, page 33**).

At **major metropolitan hospitals**, which account for 41% of bed days for knee replacements, the average length of stay was **more than twice as long** at some hospitals compared to others (range from 3.3 to 8.7 days).

At **major metropolitan hospitals**, which account for 53% of bed days for hip replacements, the average length of stay was **nearly four times longer** at some hospitals compared to others (range from 3.8 to 15.0 days).

### Other procedures

The number of stays and average length of stay related to hysterectomy, gynaecological reconstructive procedures and prostate removal are on **pages 28 to 31 and 34 to 35**.

### Next steps

Hospitals are encouraged to use these results to better understand how they manage patients and how they compare to other similar hospitals across Australia. Hospitals can use these methods to investigate other conditions and procedures that are important to them to understand the impact of changing how they manage patients.

The Authority will continue to engage health care providers to understand their needs with regards to comparable measures of hospital efficiency and with the public to improve their understanding how health services are supplied to the community.

### Efficiency and effectiveness in Australia's health care system

Efficiency and effectiveness are important factors to consider in assessing health system performance. Spending resources on a particular activity means they are not available for other activities. It is important to ensure that services are directed in ways that will achieve the best possible outcomes, and that services deliver anticipated outcomes at an acceptable level.

The Performance and Accountability Framework, which contains the 48 COAG-agreed indicators that shape the Authority's work, recognises the importance of efficiency and effectiveness by including a number of indicators for each. Relative length of stay is an efficiency indicator for hospitals and is intended to help assess how efficiently hospitals provide services.

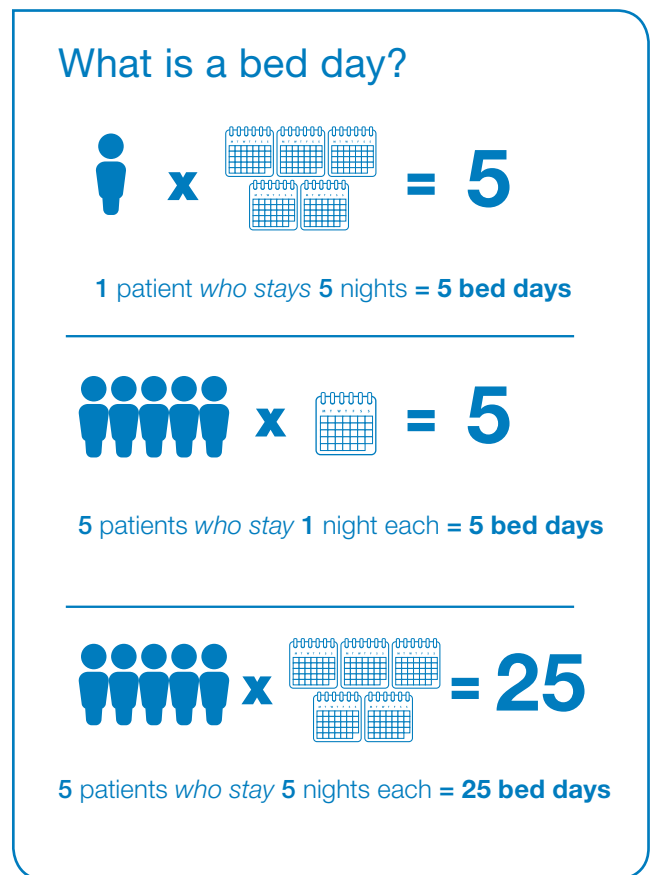
Another perspective on efficiency and effectiveness in Australia's health system is provided in a separate report being published simultaneously by the Authority.

*Healthy Communities: Selected potentially avoidable hospitalisations in 2011–12* analyses variations in the geographic distribution of admissions to hospital for 21 conditions considered potentially avoidable.

Selected potentially avoidable hospitalisations is included in the Performance and Accountability Framework as one of the effectiveness indicators for Medicare Locals, which are meant to measure how well services for community-based care achieve the stated objectives, particularly with regard to safety and quality. A higher rate of potentially avoidable hospitalisations may indicate poorer functioning of health services outside hospitals, and an inappropriate use of hospital bed capacity. However, rates of potentially avoidable hospitalisations may also reflect variations in the prevalence of certain conditions in the community.

The report can be found at [www.myhealthycommunities.gov.au](http://www.myhealthycommunities.gov.au)

**Figure 1: How hospital use is measured**



Information on average length of stay for 16 clinical conditions and procedures for more than 600 public hospitals is available on the National Health Performance Authority website at [www.myhospitals.gov.au](http://www.myhospitals.gov.au)



# Introduction

## About this report

The Authority bases its performance reports on the 48 indicators agreed by the Council of Australian Governments (COAG). In this report, the Authority has focused on the indicator Relative Stay Index for multi-day stay patients.

This report provides information on length of stay among patients who spent at least one night in a public hospital for one of 16 selected conditions and procedures. It compares average length of stay in Australia's 125 largest public hospitals against their peers, based on hospital size and location. This type of information is now available for more than 600 hospitals at [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

This information is intended to help clinicians, health managers, administrators and the public understand how length of stay differs across the country. The efficiency of Australia's health system would increase if steps were taken to enable more people to safely return home from hospital as soon as possible.

## Why variation in average length of stay matters

This report examines an indicator that offers some insight into the efficiency of hospitals and local health systems: the average length of stay among patients who spent at least one night in hospital.

A shorter length of stay is typically considered more efficient from a hospital's perspective, making beds available more quickly to provide care for more patients, as well as reducing the cost per patient.<sup>3</sup>

However, stays that are too short may reduce the quality of care and patients who are sent home before they are ready may experience poorer outcomes.<sup>4</sup> Some evidence suggests that shorter stays can lead to higher readmission rates, leading to additional costs and more time in hospital.<sup>5</sup>

Evidence suggests longer stays may be associated with higher hospital infection rates and other adverse events.<sup>6</sup> But as shown in this report, longer stays are often due to complications, which can more than double the average length of stay. Complications can be caused by a number of factors, including some that are intrinsic to the patient and their condition, meaning they do not reflect on the quality or efficiency of the hospital care they receive.

As a result, the Authority makes no determination in this report that any particular hospital is performing well or poorly in relation to length of stay. It intends this new information to be used by health professionals to identify the impact of enabling more people to safely return home from hospital as soon as possible.

## About the data

The most appropriate way to compare a hospital's average length of stay and identify potential opportunities for improvement is to focus on specific conditions and performance relative to similar hospitals.



This report presents average length of stay for 16 selected conditions and procedures (**See Box 1, page 4**). These conditions and procedures provide a cross-section of the three major acute care activity categories: childbirth, medical conditions and surgical procedures. These 16 conditions or procedures are some of the most frequently seen by health professionals in public hospitals.

The average length of stay is the total number of days spent in a hospital divided by the number of stays, and only includes the stays of patients who spent one or more nights in hospital.

The following patient stays were excluded from the analyses to improve the comparability of hospitals across Australia:

- Same-day stays
- Non-acute care stays
- Rapid patient transfers to other hospitals
- Patients who died in hospital.

Data used by the Authority to calculate the measures in this report were provided by the states and territories to the Admitted Patient Care National Minimum Data Set 2011–12. This data provides information about the hospital stays of all public and private patients in Australia.

For more detail on how length of stay is determined, see *Hospital Performance: Length of stay in public hospitals in 2011–12, Technical Supplement*.

## Fair comparisons

Direct comparisons between hospitals are not necessarily fair because hospitals differ in the services they provide and the types of patients to whom they provide care.

The Authority has taken a number of steps to ensure comparisons are between similar patients as well as similar hospitals.

To enable fairer comparisons, the Authority has allocated public hospitals to peer groups based on size and rurality. This report presents comparison figures for the four largest peer groups:

- Major metropolitan
- Major regional
- Large metropolitan
- Large regional.

Specialist women's and children's hospitals are treated separately for this report. Women's hospitals are presented as part of the major metropolitan group for childbirth, hysterectomy, and gynaecological reconstructive procedures and contribute to the peer group average.

Children's hospitals have high numbers of stays for appendix removal, cellulitis, and kidney and urinary tract infections without complications. For these conditions, they form their own peer group (excluding women's hospitals) and comparisons are presented on the MyHospitals website.



Another way this report facilitates fair comparisons is in presenting the length of stay of patients for a single condition or procedure at a time. Patients with complications and other health conditions that make their cases more complex are considered separately to patients without these factors. In addition, the analysis excluded same-day patients, patients who were transferred to other hospitals, or who died during their stay, increasing the similarity of the patients in the analysis. Furthermore, many of the conditions or procedures (including childbirth, cellulitis, lung disease and heart failure) tend to affect people with similar characteristics, which can variously include age, gender, lifestyle factors and pre-existing health conditions. Taken together, this removes a number of factors that may otherwise have partially explained the variations observed in lengths of stay.

## Improving comparisons

In preparing this report, the Authority investigated the feasibility of producing a measure of each hospital's overall length of stay, the relative stay index. This type of index, however, would not identify clinical areas to target improvement. Therefore, this report focuses on clinical conditions that are common and represent major areas of medical and surgical care.

The Authority undertook to risk-adjust and age-standardise the length of stay data to improve comparability between hospitals. The Authority concluded that the low number of stays for some conditions and procedures in some hospitals made this approach technically unreasonable.

## Box 1: The 16 selected conditions and procedures

The Authority selected the following 16 conditions and procedures in conjunction with technical and clinical stakeholder committees:

### Childbirth

- Vaginal delivery
- Caesarean delivery

### Medical conditions

- Cellulitis
- Heart failure without complications
- Heart failure with complications
- COPD without complications
- COPD with complications
- Kidney and urinary tract infections without complications
- Kidney and urinary tract infections with complications

### Surgical procedures

- Appendix removal
- Gallbladder removal
- Gynaecological reconstructive procedures
- Hysterectomy
- Knee replacement
- Hip replacement
- Prostate removal

For details on how these were selected, see *Hospital Performance: Length of stay in public hospitals in 2011–12, Technical Supplement*.

# Key findings

In 2011–12, there were more than 5.7 million stays in public hospitals across Australia. These patients used a total of 19.1 million hospital bed days and had an average length of stay of 5.6 days. Of these, 2.9 million stays lasted one or more nights, accounting for 16.3 million bed days.

In 2011–12, 125 major and large public hospitals accounted for 4.6 million stays and 14.2 million hospital bed days.

In 2011–12, there were 382,006 stays of one or more nights in public hospitals for the 16 conditions and procedures presented in this report. These patients used a total of 1.48 million hospital bed days. This represents 7.7% of all bed days in public hospitals. Of the 382,006 stays, 82% were in major and large public hospitals. The following sections refer only to this subgroup of stays.

## Number of stays

Childbirth is one of the most common reasons for admission to hospital. For women admitted for childbirth without complications, vaginal delivery is most common, accounting for 69% of births, meaning the caesarean rate is 31%.

The presence of medical complications or comorbidities exerts a marked effect on the length of time patients spend in hospital. Comorbidities are conditions, diseases or disorders that are additional to the primary diagnosis and often lead to worse health outcomes and more complex clinical management. Of the four medical conditions considered in this report:

- COPD with complications occurs in 25% of all COPD cases
- Heart failure with complications occurs in 35% of all heart failure cases

- Kidney and urinary tract infections with complications occurs in 33% of all kidney and urinary tract infection cases.

Patients admitted for medical conditions with complications are disproportionately more likely to be admitted to major metropolitan hospitals.

Of the seven surgical procedures in this report, gallbladder removal and appendix removal were the most common. **Figure 2, page 6** shows the number of overnight stays in **all** public hospitals for each of the 16 conditions and procedures.

## Number of bed days

For women admitted for childbirth, the majority of bed days are used following vaginal delivery (59%). Caesarean deliveries account for 31% of stays, but 41% of bed days.

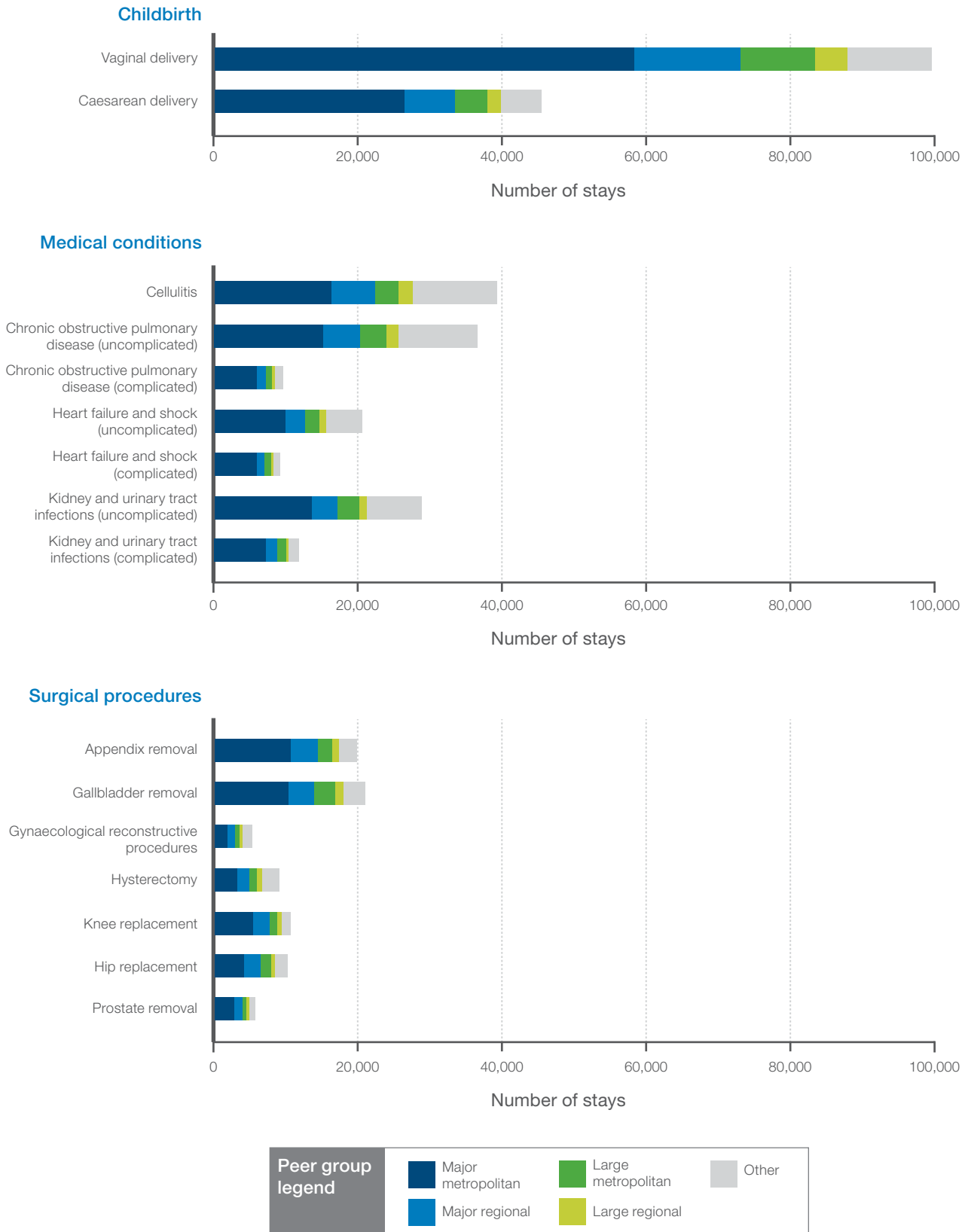
Among medical conditions:

- COPD with complications accounts for 36% of all COPD bed days
- Heart failure with complications accounts for 51% of all heart failure bed days
- Kidney and urinary tract infections with complications accounts for 54% of all kidney and urinary tract infections bed days.

Of the surgical procedures, knee replacement and hip replacements accounted for the most bed days, whereas gynaecological reconstructive procedures and prostate removal accounted for the least.

**Figure 3, page 7** shows the number of bed days patients occupied for overnight stays in **all** public hospitals for each of the 16 conditions and procedures.

**Figure 2: Stays in all public hospitals for 16 conditions and procedures, by peer group, 2011–12**

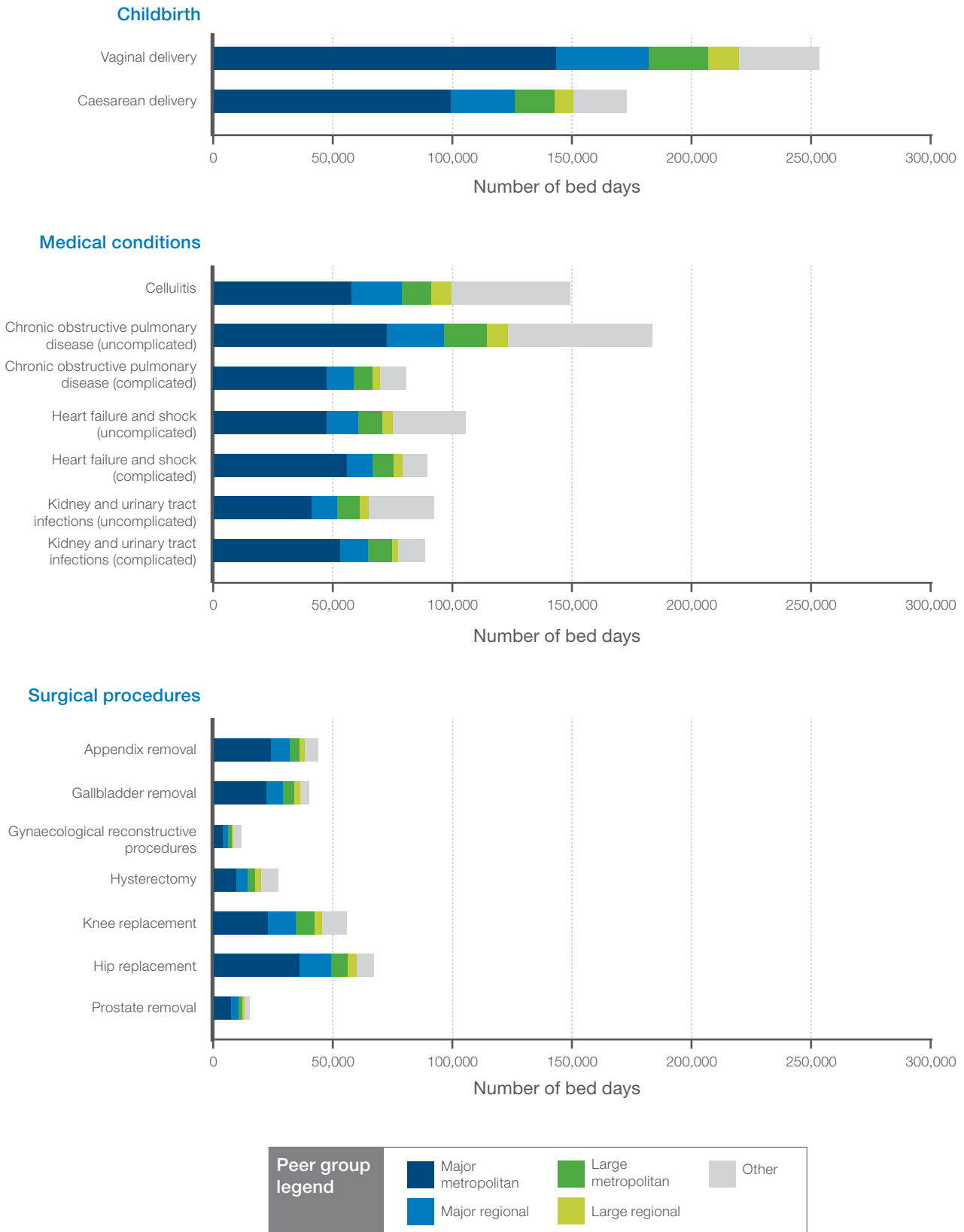


**Note:** This report defines a “stay” as a period of care in a hospital for a single type of care, for example, acute care, rehabilitation or palliative care. If a patient changes from one type of care to another, or transfers hospital, this would be two episodes of care.

For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.

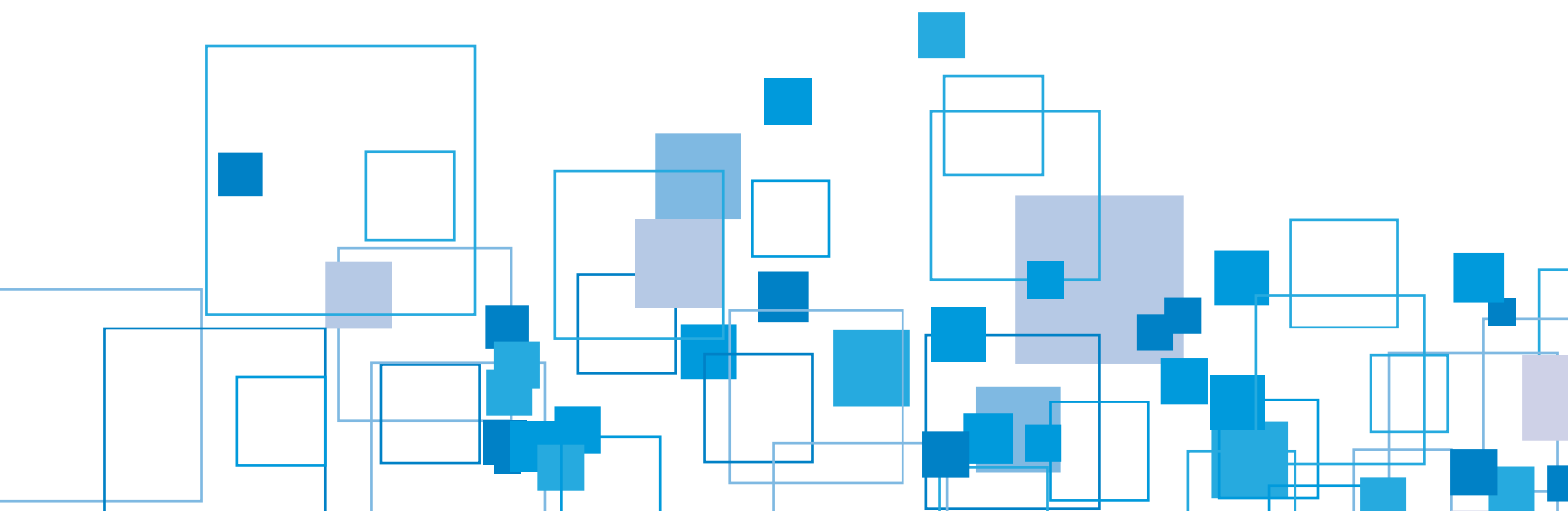
**Figure 3: Bed days in all public hospitals for 16 conditions and procedures, by peer group, 2011–12**



**Note:** This report defines a “stay” as a period of care in a hospital for a single type of care, for example, acute care, rehabilitation or palliative care. If a patient changes from one type of care to another, or transfers hospital, this would be two episodes of care.

For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.



# Length of stay for childbirth

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Length of stay in public hospitals in 2011–12

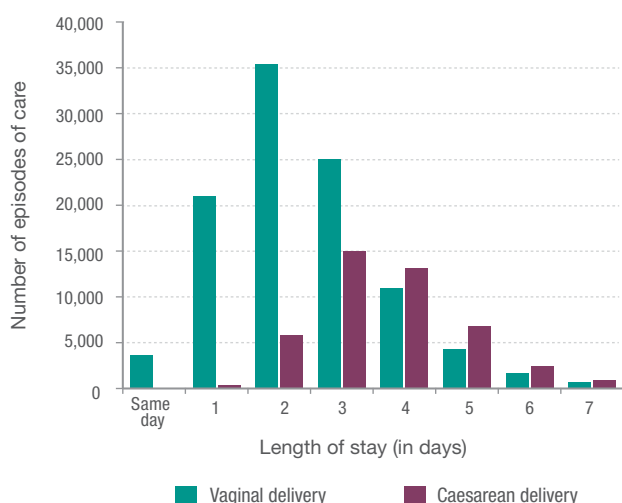
# Vaginal delivery and caesarean delivery

Around 300,000 children are born in Australia each year<sup>7</sup>, and about 70% of these births take place in public hospitals. The data presented here relate to women who had a vaginal or caesarean delivery without complications or comorbidities and who stayed one or more nights.

In 2011–12, there were 99,674 vaginal deliveries and 45,405 caesarean deliveries, accounting for 253,367 and 172,834 bed days respectively.

**Figure 4** shows the distribution of bed days for each type of delivery.

**Figure 4: Length of stay for vaginal and caesarean deliveries in public hospitals, 2011–12**



On average, women who had a vaginal delivery spent 2.5 days in hospital while women who had a caesarean delivery spent 3.8 days, or 50% more time, in hospital.

There was also variation between hospitals in the same peer group for the same type of delivery (**Figure 5**).

At **major metropolitan hospitals**, the average length of stay for vaginal delivery was 60% longer at some hospitals than others (ranging from 2.0 to 3.1 days). The average for caesarean delivery was also 60% longer at some hospitals (ranging from 3.0 to 4.7 days).

At **major regional hospitals**, the average length of stay for vaginal delivery was 60% longer at some hospitals (ranging from 2.1 to 3.4 days). The average for caesarean delivery was also 60% longer at some hospitals (ranging from 3.0 to 4.8 days).

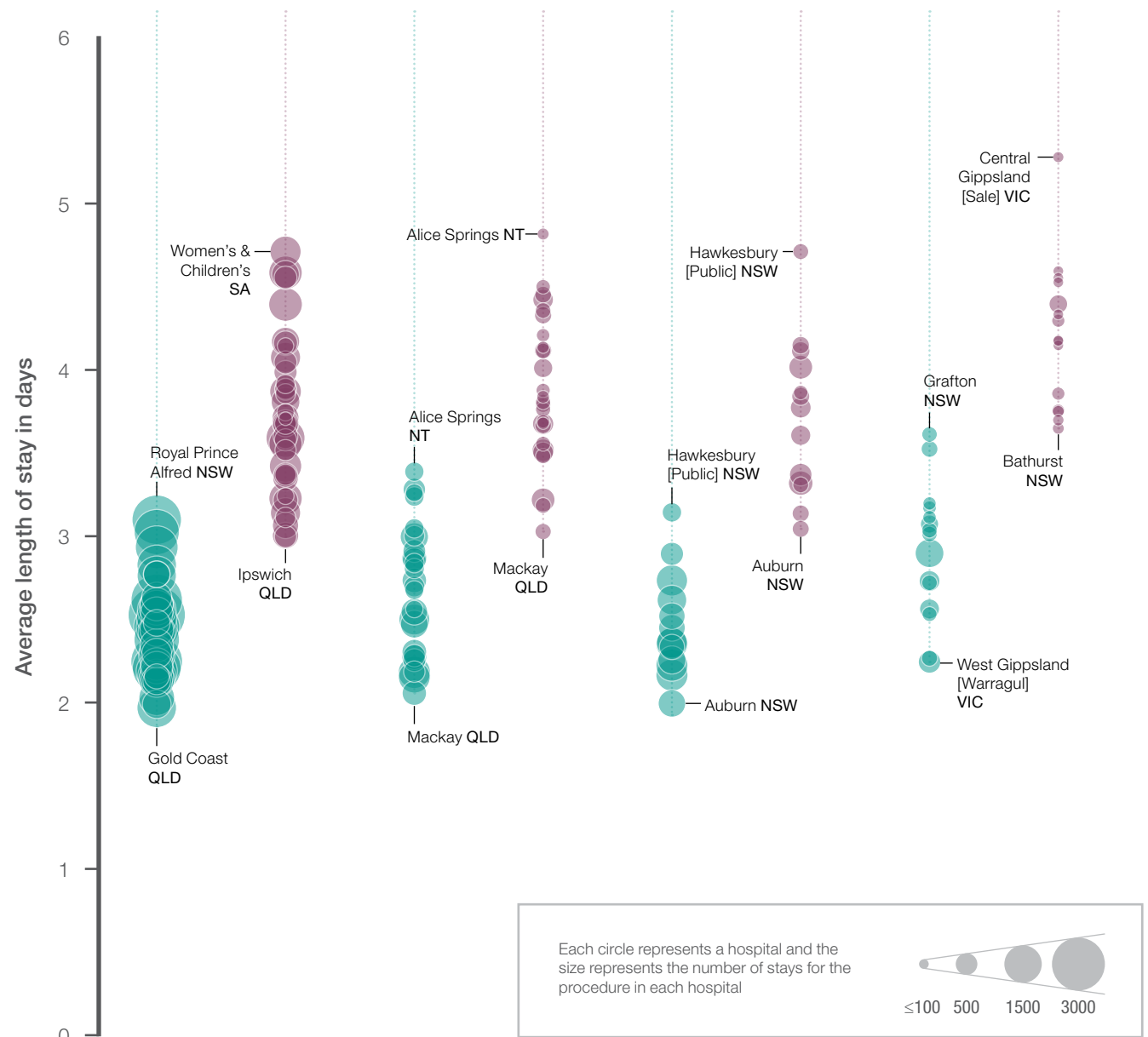
At **large metropolitan hospitals**, the average length of stay for vaginal delivery was 60% longer at some hospitals (ranging from 2.0 to 3.1 days). The average for caesarean delivery was 50% longer at some hospitals (ranging from 3.0 to 4.7 days).

At **large regional hospitals**, the average length of stay for vaginal delivery was 60% longer at some hospitals (ranging from 2.2 to 3.6 days). The average for caesarean delivery was 40% longer at some hospitals (ranging from 3.6 to 5.3 days).



**Figure 5: Average length of stay for vaginal and caesarean delivery in major and large public hospitals, 2011–12**

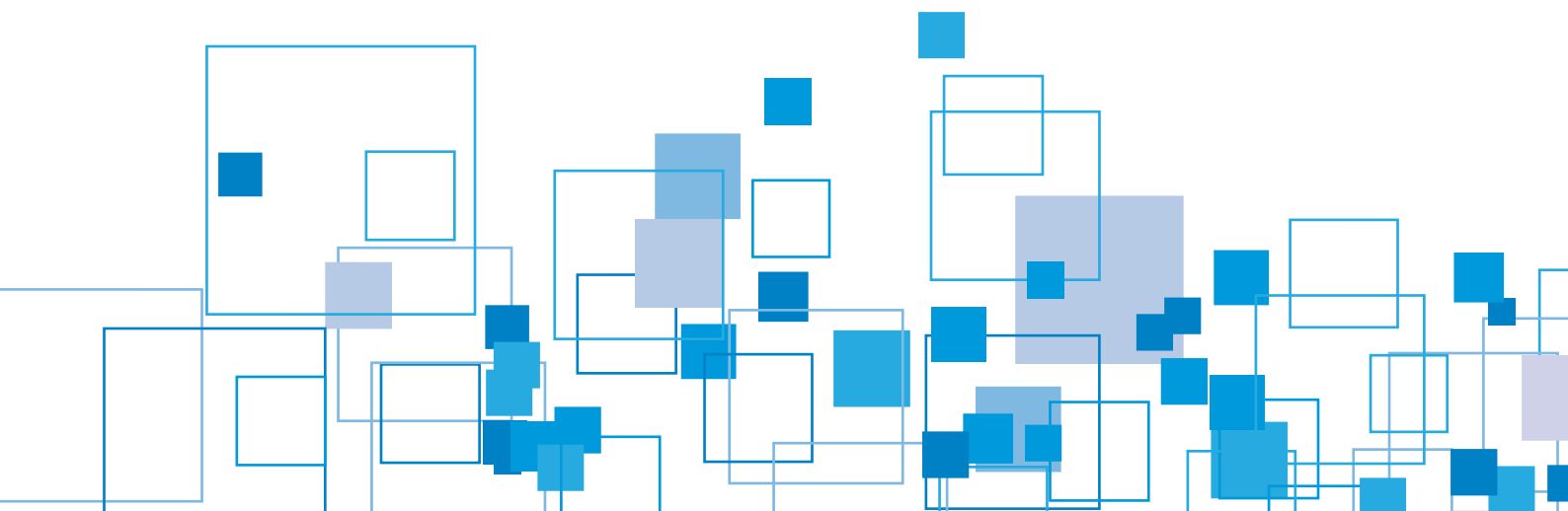
|                | Major metropolitan |        | Major regional |        | Large metropolitan |        | Large regional |       |
|----------------|--------------------|--------|----------------|--------|--------------------|--------|----------------|-------|
| Stays          | 58,281             | 26,398 | 14,834         | 6,976  | 10,338             | 4,588  | 4,539          | 1,871 |
| Bed days       | 143,254            | 99,188 | 38,690         | 26,683 | 24,986             | 16,912 | 12,939         | 7,840 |
| Percentage     | 57%                | 57%    | 15%            | 15%    | 10%                | 10%    | 5%             | 5%    |
| Caesarean rate |                    | 31%    |                | 32%    |                    | 31%    |                | 29%   |



**Notes:**

- This report defines a "stay" as a period of care in a hospital for a single type of care, for example, acute care, rehabilitation or palliative care. If a patient changes from one type of care to another, or transfers hospital, this would be two episodes of care.
- Percentage refers to percentage of bed days in all public hospitals.
- For these conditions, specialist women's hospitals are reported in the major metropolitan peer group and in the peer group's stays and bed day counts.
- For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

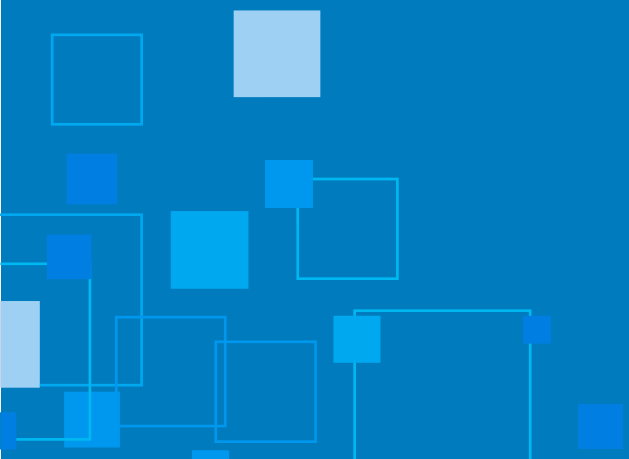
**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.



# Length of stay for selected medical conditions

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Length of stay in public hospitals in 2011–12



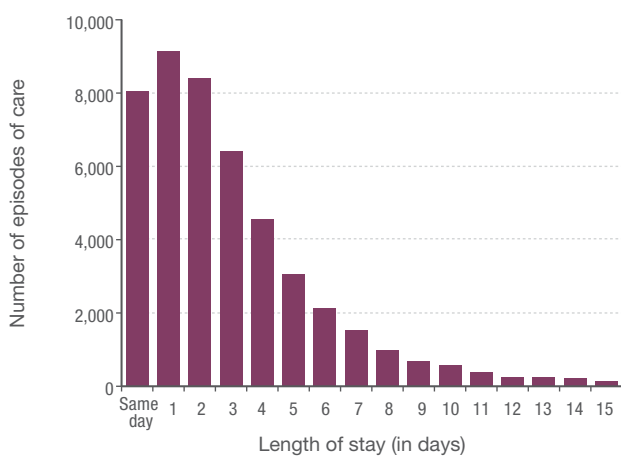
# Cellulitis

Cellulitis is a bacterial infection of the skin and underlying tissue, which is usually treated with antibiotics. The data presented here relate to people who stayed one or more nights for cellulitis without complications or comorbidities.

In 2011–12, there were 39,308 stays in public hospitals for these cellulitis cases, accounting for 149,355 bed days. **Figure 6** shows the distribution of bed days for cellulitis.

On average, people admitted for treatment of cellulitis spent 3.8 days in hospital. **Figure 7** shows the variation in the average length of stay for hospitals, presented by peer group.

**Figure 6: Length of stay for cellulitis in public hospitals, 2011–12**



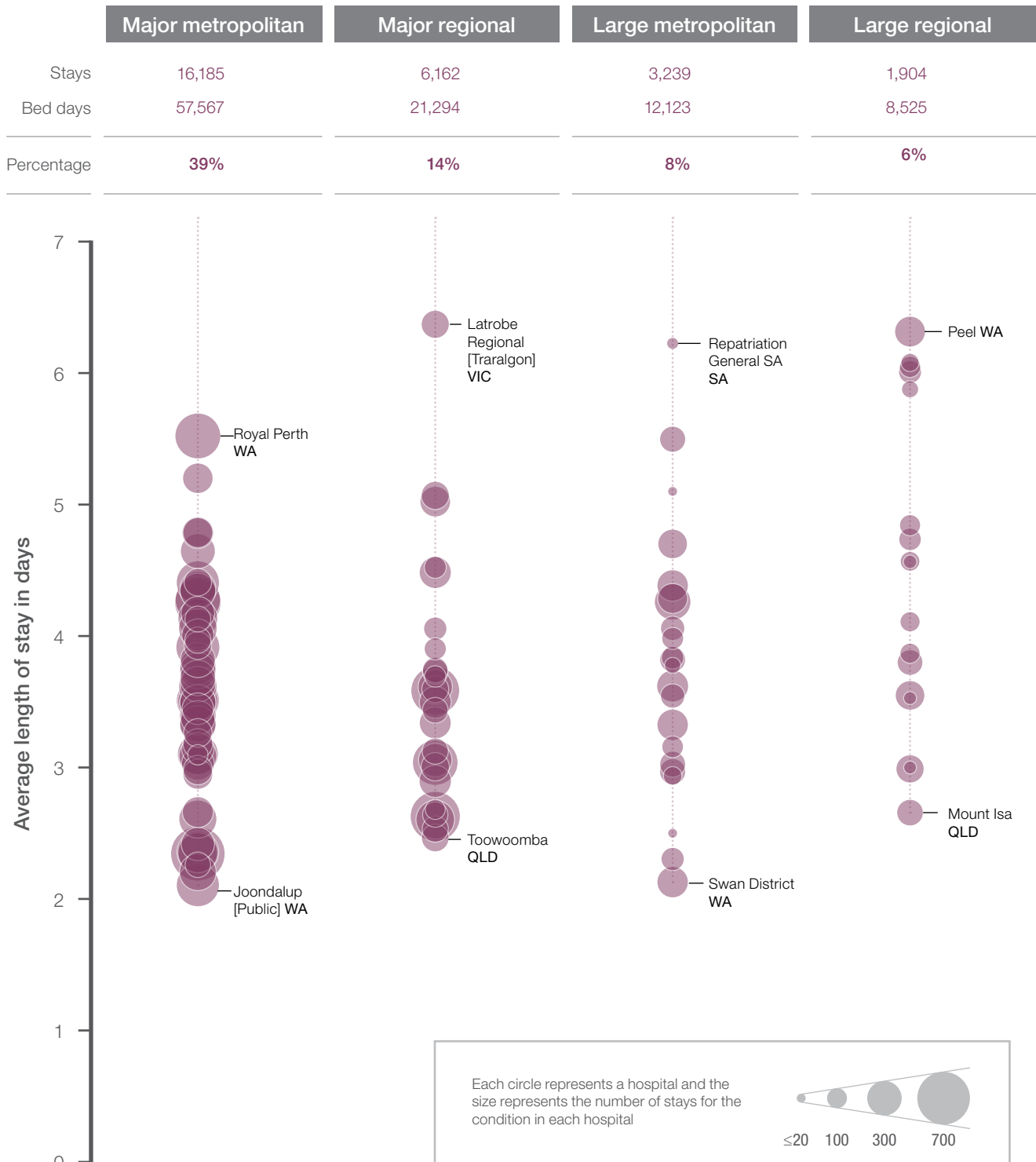
At **major metropolitan hospitals**, the average length of stay for cellulitis was 2.6 times longer at some hospitals than others (ranging from 2.1 to 5.5 days).

At **major regional hospitals**, the average length of stay for cellulitis was 2.6 times longer at some hospitals than others (ranging from 2.5 to 6.4 days).

At **large metropolitan hospitals**, the average length of stay for cellulitis was 2.9 times longer at some hospitals than others (ranging from 2.1 to 6.2 days).

At **large regional hospitals**, the average length of stay for cellulitis was 2.4 times longer at some hospitals than others (ranging from 2.7 to 6.3 days).

Figure 7: Average length of stay for cellulitis in major and large public hospitals, 2011–12



**Note:**

- This report defines a "stay" as a period of care in a hospital for a single type of care, for example, acute care, rehabilitation or palliative care. If a patient changes from one type of care to another, or transfers hospital, this would be two episodes of care.
- Percentage refers to percentage of bed days in all public hospitals.
- For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.

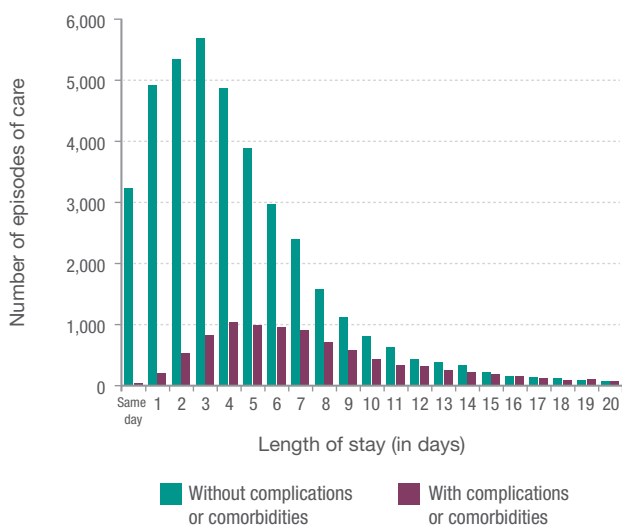
# Chronic Obstructive Pulmonary Disease

## COPD without and with complications or comorbidities

Chronic Obstructive Pulmonary Disease (COPD) is a progressive lung disease characterised by narrowing of the airways and reduced lung volume. This condition is commonly caused by smoking or other lung irritants, and includes diagnoses such as emphysema and chronic bronchitis. The data presented here relate to people who stayed one or more nights for COPD without and with complications or comorbidities.

In 2011–12, there were 36,590 stays for COPD without complications and 9,513 stays for COPD with complications, accounting for 183,567 and 80,610 bed days respectively. **Figure 8** shows the distribution of bed days for COPD.

**Figure 8: Length of stay for COPD public hospitals, 2011–12**



On average, people admitted for treatment of COPD without complications spent 5.0 days in hospital while people admitted for treatment of COPD with complications spent 8.5 days or 69% longer in hospital. **Figure 9** shows the variation in the average length of stay for hospitals, presented by peer group.

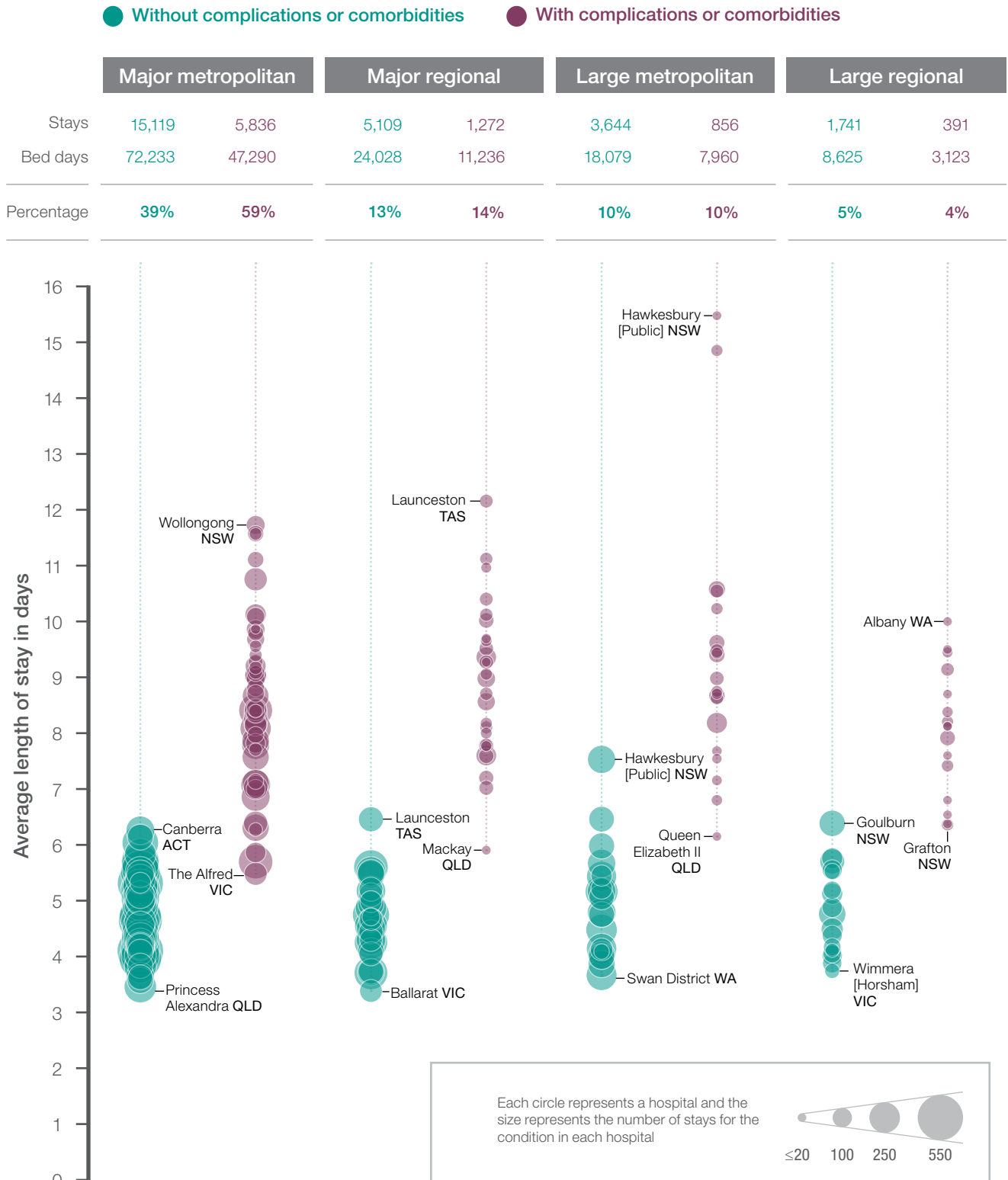
At **major metropolitan hospitals**, the average length of stay for COPD without complications was 80% longer at some hospitals than others (ranging from 3.5 to 6.3 days). The average for COPD with complications was 2.1 times longer at some hospitals than others (ranging from 5.5 to 11.7 days).

At **major regional hospitals**, the average length of stay for COPD without complications was 90% longer at some hospitals than others (ranging from 3.4 to 6.5 days). The average for COPD with complications was 2.1 times longer at some hospitals than others (ranging from 5.9 to 12.2 days).

At **large metropolitan hospitals**, the average length of stay for COPD without complications was 2.1 times longer at some hospitals than others (ranging from 3.7 to 7.5 days). The average for COPD with complications was 2.5 times longer at some hospitals than others (ranging from 6.2 to 15.5 days).

At **large regional hospitals**, the average length of stay for COPD without complications was 70% longer at some hospitals than others (ranging from 3.7 to 6.4 days). The average for COPD with complications was 60% longer at some hospitals than others (ranging from 6.4 to 10.0 days).

Figure 9: Average length of stay for COPD in major and large public hospitals, 2011–12



**Note:**

- This report defines a “stay” as a period of care in a hospital for a single type of care, for example, acute care, rehabilitation or palliative care. If a patient changes from one type of care to another, or transfers hospital, this would be two episodes of care.
- Percentage refers to percentage of bed days in all public hospitals.
- For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.

# Heart failure

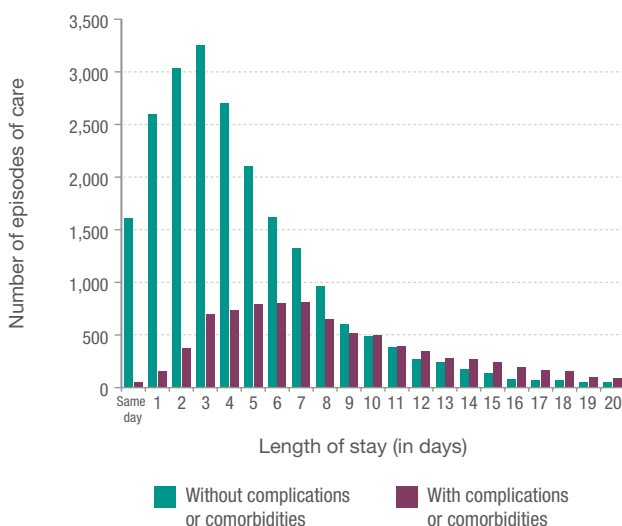
## Heart failure without and with complications or comorbidities

Heart failure is a chronic heart condition that occurs when the heart is unable to provide sufficient pressure to maintain blood flow around the body. It includes cardiac shock, which occurs when blood flow to vital organs is inadequate for normal function. The data presented here relate to people who stayed one or more nights for heart failure without and with complications or comorbidities.

In 2011–12, there were 20,518 stays for heart failure without complications and 9,052 stays for heart failure with complications, accounting for 105,526 and 89,377 bed days respectively.

**Figure 10** shows the distribution of bed days for heart failure.

**Figure 10: Length of stay for heart failure in public hospitals, 2011–12**



On average, people admitted for treatment of heart failure without complications spent 5.1 days in hospital while people admitted for treatment of heart failure with complications spent 9.9 days or 92% longer in hospital. **Figure 11** shows the variation in the average length of stay for hospitals, presented by peer group.

At **major metropolitan hospitals**, the average length of stay for heart failure without complications was 2.1 times longer at some hospitals than others (ranging from 3.2 to 6.7 days). The average for heart failure with complications was 90% longer at some hospitals than others (ranging from 7.2 to 13.9 days).

At **major regional hospitals**, the average length of stay for heart failure without complications was 80% longer at some hospitals than others (ranging from 3.4 to 6.0 days). The average for heart failure with complications was 2.1 times longer at some hospitals than others (ranging from 7.2 to 15.0 days).

At **large metropolitan hospitals**, the average length of stay for heart failure without complications was 2.3 times longer at some hospitals than others (ranging from 3.8 to 8.7 days). The average for heart failure with complications was 2.7 times longer at some hospitals than others (ranging from 7.1 to 19.5 days).

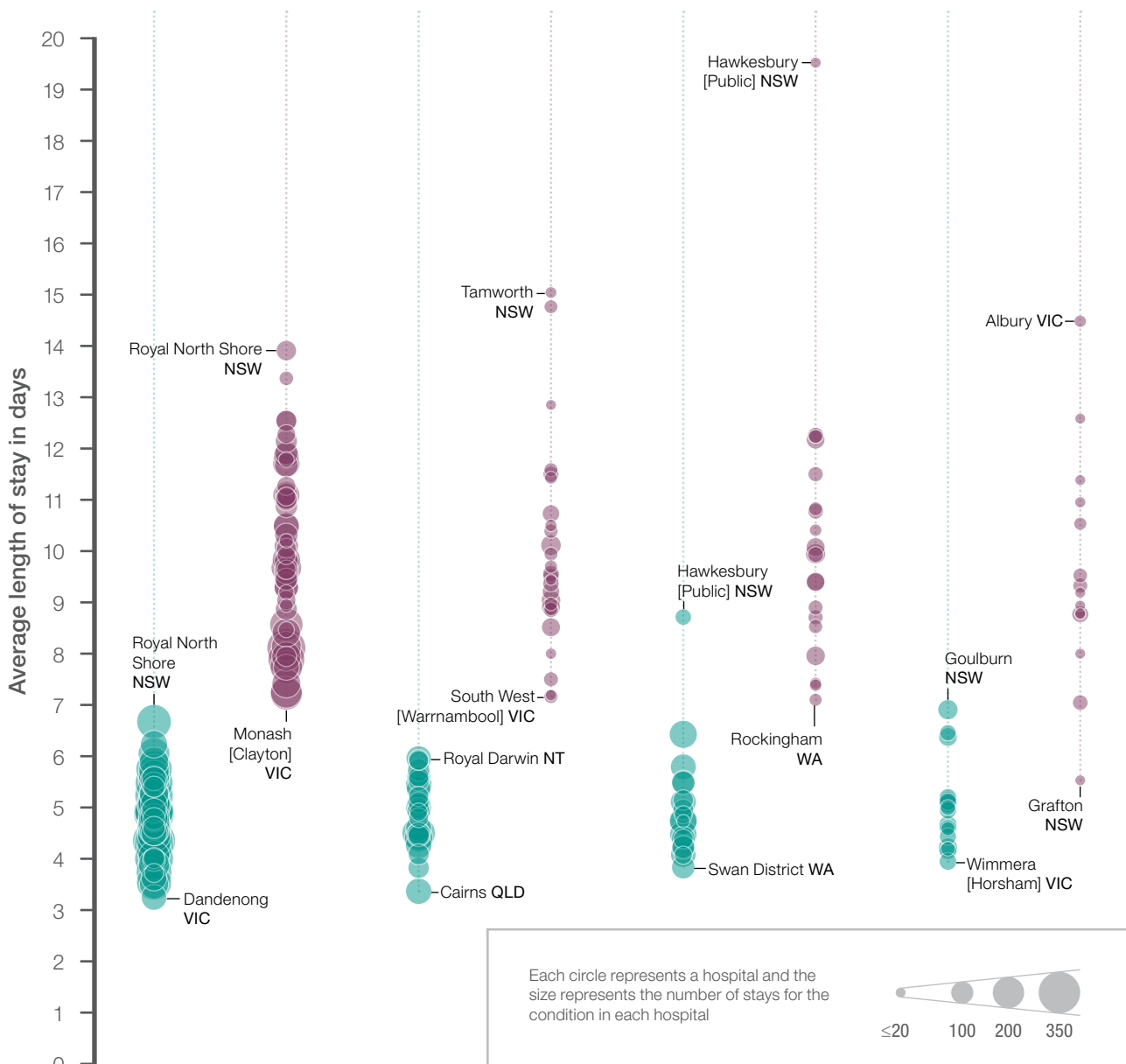
At **large regional hospitals**, the average length of stay for heart failure without complications was 80% longer at some hospitals than others (ranging from 3.9 to 6.9 days). The average for heart failure with complications was 2.6 times longer at some hospitals than others (ranging from 5.5 to 14.5 days).



**Figure 11: Average length of stay for heart failure in major and large public hospitals, 2011–12**

● Without complications or comorbidities    ● With complications or comorbidities

|            | Major metropolitan |        | Major regional |        | Large metropolitan |       | Large regional |       |
|------------|--------------------|--------|----------------|--------|--------------------|-------|----------------|-------|
| Stays      | 9,804              | 5,817  | 2,746          | 1,093  | 1,988              | 898   | 930            | 382   |
| Bed days   | 47,078             | 55,655 | 13,424         | 10,711 | 9,847              | 9,076 | 4,703          | 3,560 |
| Percentage | 45%                | 62%    | 13%            | 12%    | 9%                 | 10%   | 4%             | 4%    |



**Note:**

- This report defines a “stay” as a period of care in a hospital for a single type of care, for example, acute care, rehabilitation or palliative care. If a patient changes from one type of care to another, or transfers hospital, this would be two episodes of care.
- Percentage refers to percentage of bed days in all public hospitals.
- For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.

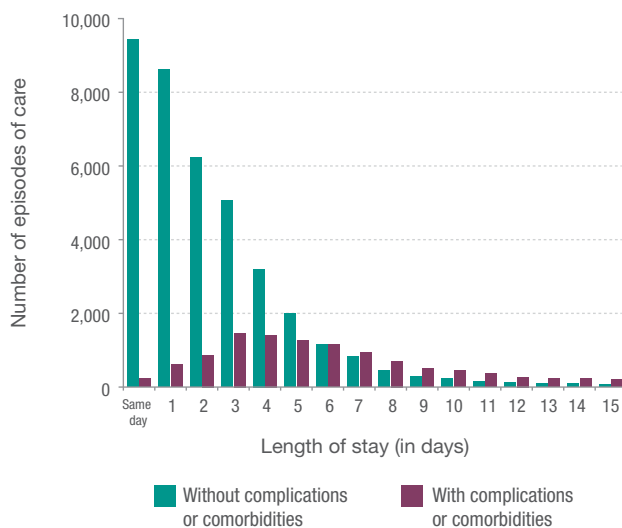
# Kidney and urinary tract infections

## Kidney and urinary tract infections without and with complications or comorbidities

Kidney and urinary tract infections occur frequently but can occasionally be severe enough to require treatment in hospital. The data presented here relate to those people who stayed one or more nights for kidney and urinary tract infections without and with complications or comorbidities.

In 2011–12, there were 28,844 stays in hospital for kidney and urinary tract infections without complications and 11,717 stays for kidney and urinary tract infections with complications, accounting for 92,108 and 88,436 bed days respectively. **Figure 12** shows the distribution of bed days for kidney and urinary tract infections.

**Figure 12: Length of stay for kidney and urinary tract infections in public hospitals, 2011–12**



On average, people admitted for treatment of kidney and urinary tract infections without complications spent 3.2 days in hospital while people admitted for treatment of kidney and urinary tract infections with complications spent 7.5 days or 136% longer in hospital. **Figure 13** shows the variation in the average length of stay for hospitals, presented by peer group.

At **major metropolitan hospitals**, the average length of stay for kidney and urinary tract infections without complications was 2.2 times longer at some hospitals than others (ranging from 2.0 to 4.4 days). The average stay with complications was 80% longer at some hospitals than others (ranging from 5.2 to 9.5 days).

At **major regional hospitals**, the average length of stay for kidney and urinary tract infections without complications was twice as long at some hospitals than others (ranging from 2.2 to 4.5 days). The average stay with complications was 80% longer at some hospitals than others (ranging from 5.5 to 10.1 days).

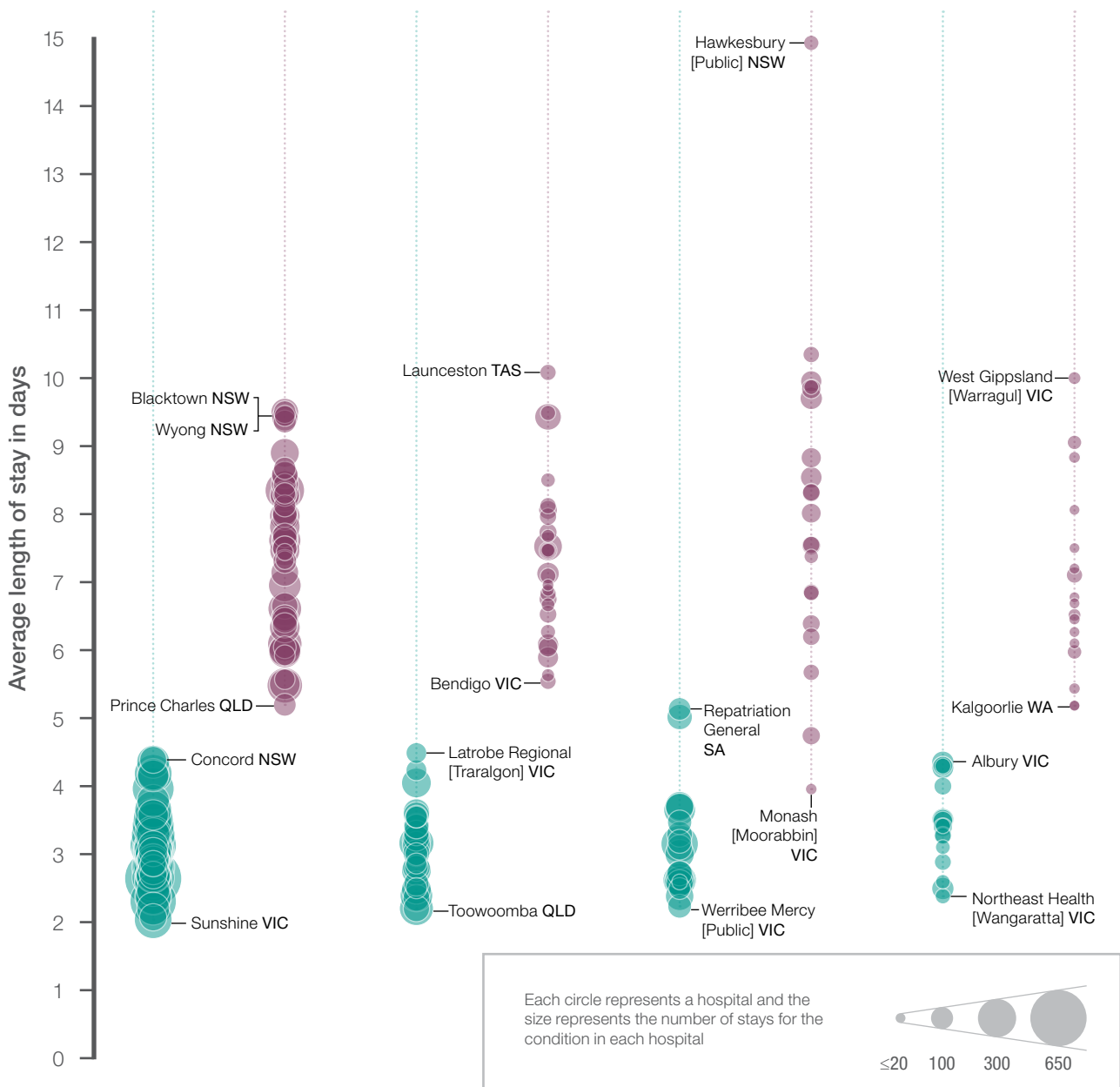
At **large metropolitan hospitals**, the average length of stay for kidney and urinary tract infections without complications was 2.3 times longer at some hospitals than others (ranging from 2.2 to 5.1 days). The average stay with complications was 3.7 times longer at some hospitals than others (ranging from 4.0 to 14.9 days).

At **large regional hospitals**, the average length of stay for kidney and urinary tract infections without complications was 80% longer at some hospitals than others (ranging from 2.4 to 4.4 days). The average stay with complications was 90% longer at some hospitals than others (ranging from 5.2 to 10.0 days).

**Figure 13: Average length of stay for kidney and urinary tract infections in major and large public hospitals, 2011–12**

● Without complications or comorbidities    ● With complications or comorbidities

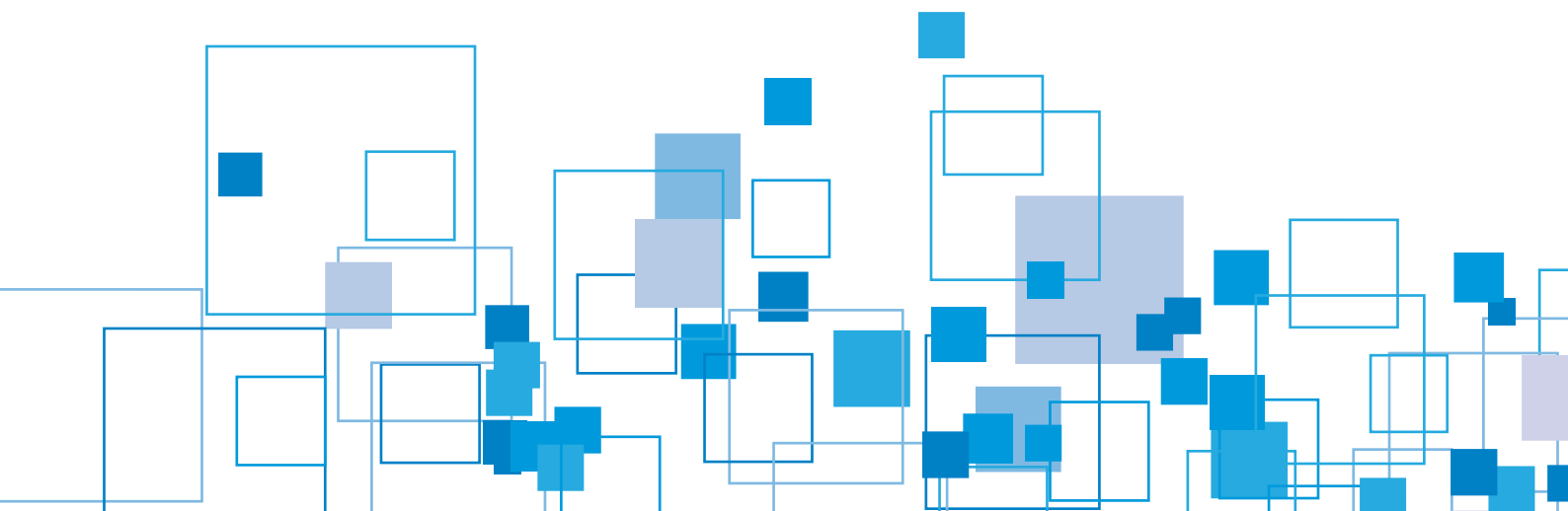
|            | Major metropolitan |        | Major regional |        | Large metropolitan |        | Large regional |       |
|------------|--------------------|--------|----------------|--------|--------------------|--------|----------------|-------|
| Stays      | 13,490             | 7,138  | 3,589          | 1,554  | 2,982              | 1,225  | 1,067          | 393   |
| Bed days   | 40,888             | 52,967 | 10,908         | 11,472 | 9,314              | 10,089 | 3,745          | 2,803 |
| Percentage | 44%                | 60%    | 12%            | 13%    | 10%                | 11%    | 4%             | 3%    |



**Note:**

- This report defines a “stay” as a period of care in a hospital for a single type of care, for example, acute care, rehabilitation or palliative care. If a patient changes from one type of care to another, or transfers hospital, this would be two episodes of care.
- Percentage refers to percentage of bed days in all public hospitals.
- For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.



# Length of stay for selected surgical procedures

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Length of stay in public hospitals in 2011–12

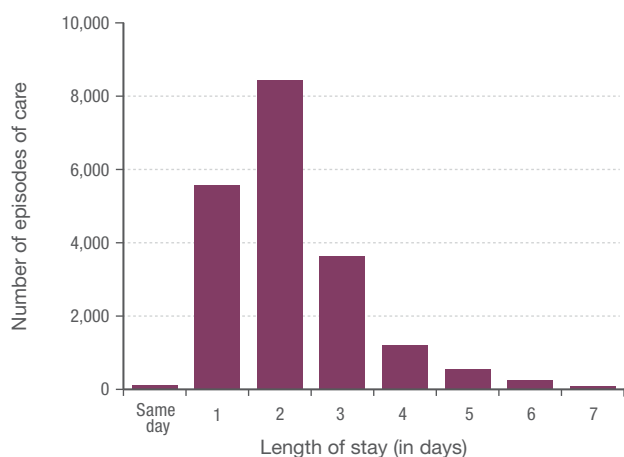
# Appendix removal

Appendix removal is a surgical procedure, either through keyhole surgery or open surgery. The data presented here relate to people who stayed one or more nights for the removal of the appendix without complications or comorbidities, malignant cancer or peritonitis.

In 2011–12, there were 19,817 stays for appendix removal, accounting for 43,802 bed days.

**Figure 14** shows the distribution of bed days for appendix removal without complications.

**Figure 14: Length of stay for appendix removal in public hospitals, 2011–12**



On average, people who had their appendix removed spent 2.2 days in hospital. **Figure 15** shows the variation in the average length of stay for hospitals, presented by peer group.

At **major metropolitan hospitals**, the average length of stay for appendix removal was 80% longer at some hospitals than others (ranging from 1.6 to 3.0 days).

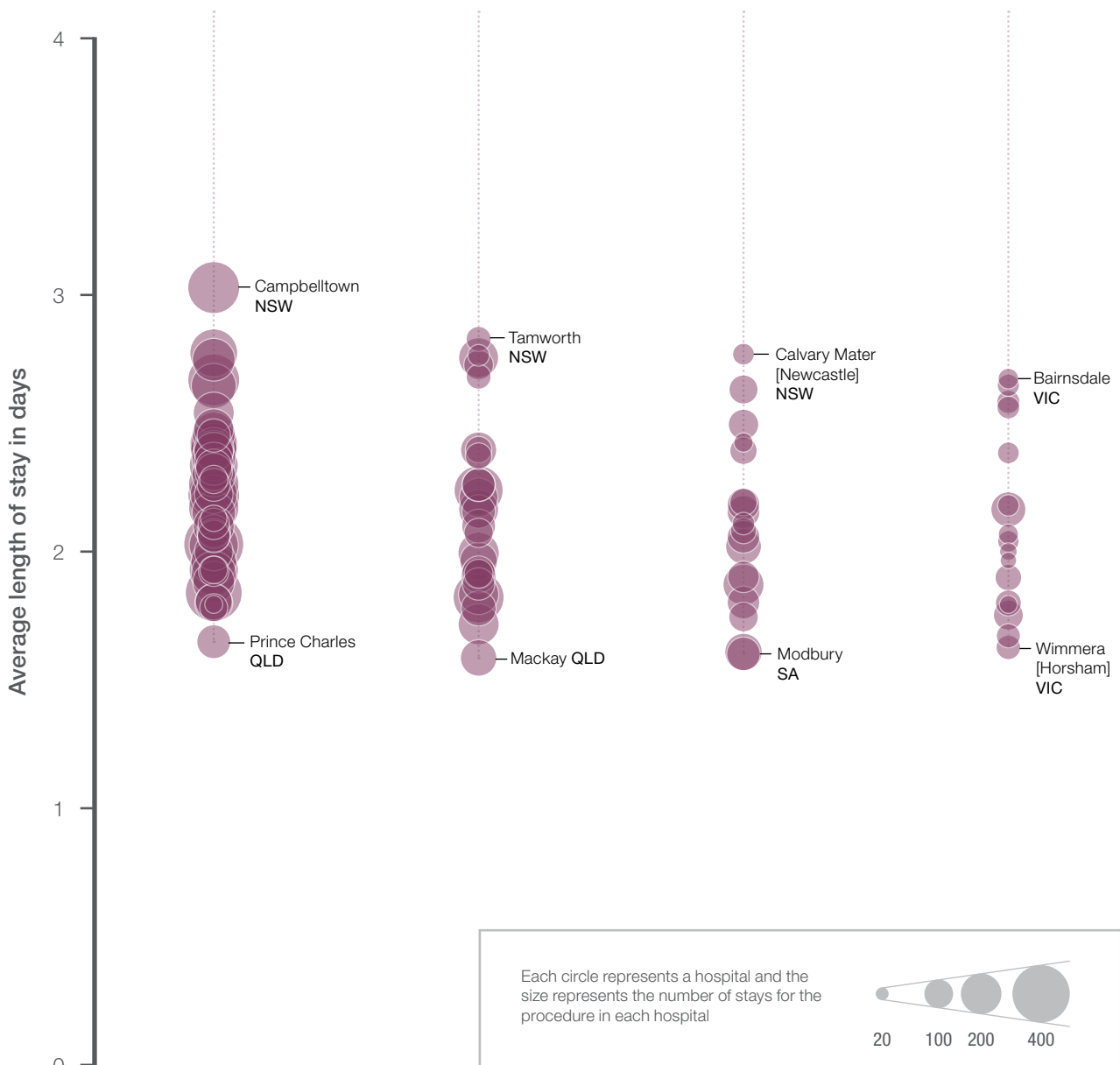
At **major regional hospitals**, the average length of stay for appendix removal was 80% longer at some hospitals than others (ranging from 1.6 to 2.8 days).

At **large metropolitan hospitals**, the average length of stay for appendix removal was 70% longer at some hospitals than others (ranging from 1.6 to 2.8 days).

At **large regional hospitals**, the average length of stay for appendix removal was 60% longer at some hospitals than others (ranging from 1.6 to 2.7 days).

Figure 15: Average length of stay for appendix removal in major and large public hospitals, 2011–12

|            | Major metropolitan | Major regional | Large metropolitan | Large regional |
|------------|--------------------|----------------|--------------------|----------------|
| Stays      | 10,570             | 3,827          | 1,916              | 1,035          |
| Bed days   | 23,864             | 8,079          | 3,912              | 2,158          |
| Percentage | 54%                | 18%            | 9%                 | 5%             |



**Note:**

- This report defines a "stay" as a period of care in a hospital for a single type of care, for example, acute care, rehabilitation or palliative care. If a patient changes from one type of care to another, or transfers hospital, this would be two episodes of care.
- Percentage refers to percentage of bed days in all public hospitals.
- For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

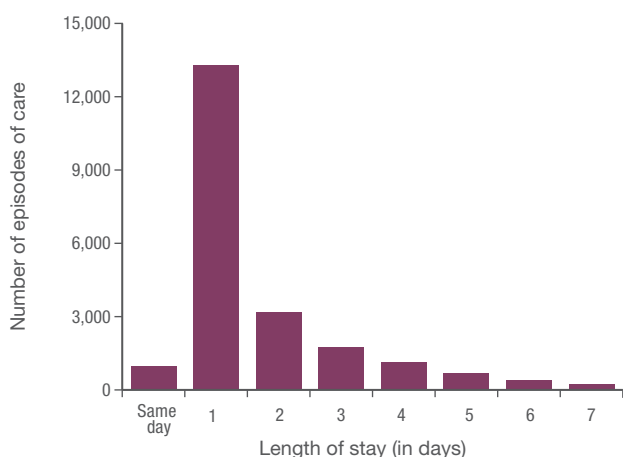
**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.

# Gallbladder removal

Gallbladder removal, or cholecystectomy, is a surgical procedure generally performed to treat a patient for gallstones. This report presents information about gallbladder removal performed using keyhole surgery. The data presented here relate to people who stayed one or more nights without complications or comorbidities.

In 2011–12, there were 20,959 stays for gallbladder removal, accounting for 40,171 bed days. **Figure 16** shows the distribution of bed days for gallbladder removal through keyhole surgery.

**Figure 16: Length of stay for gallbladder removal in public hospitals, 2011–12**



On average, people who had their gallbladder removed spent 1.9 days in hospital. **Figure 17** shows the variation in the average length of stay for hospitals, presented by peer group.

At **major metropolitan hospitals**, the average length of stay for gallbladder removal was 2.8 times longer at some hospitals than others (ranging from 1.1 to 3.2 days).

At **major regional hospitals**, the average length of stay for gallbladder removal was 90% longer at some hospitals than others (ranging from 1.4 to 2.6 days).

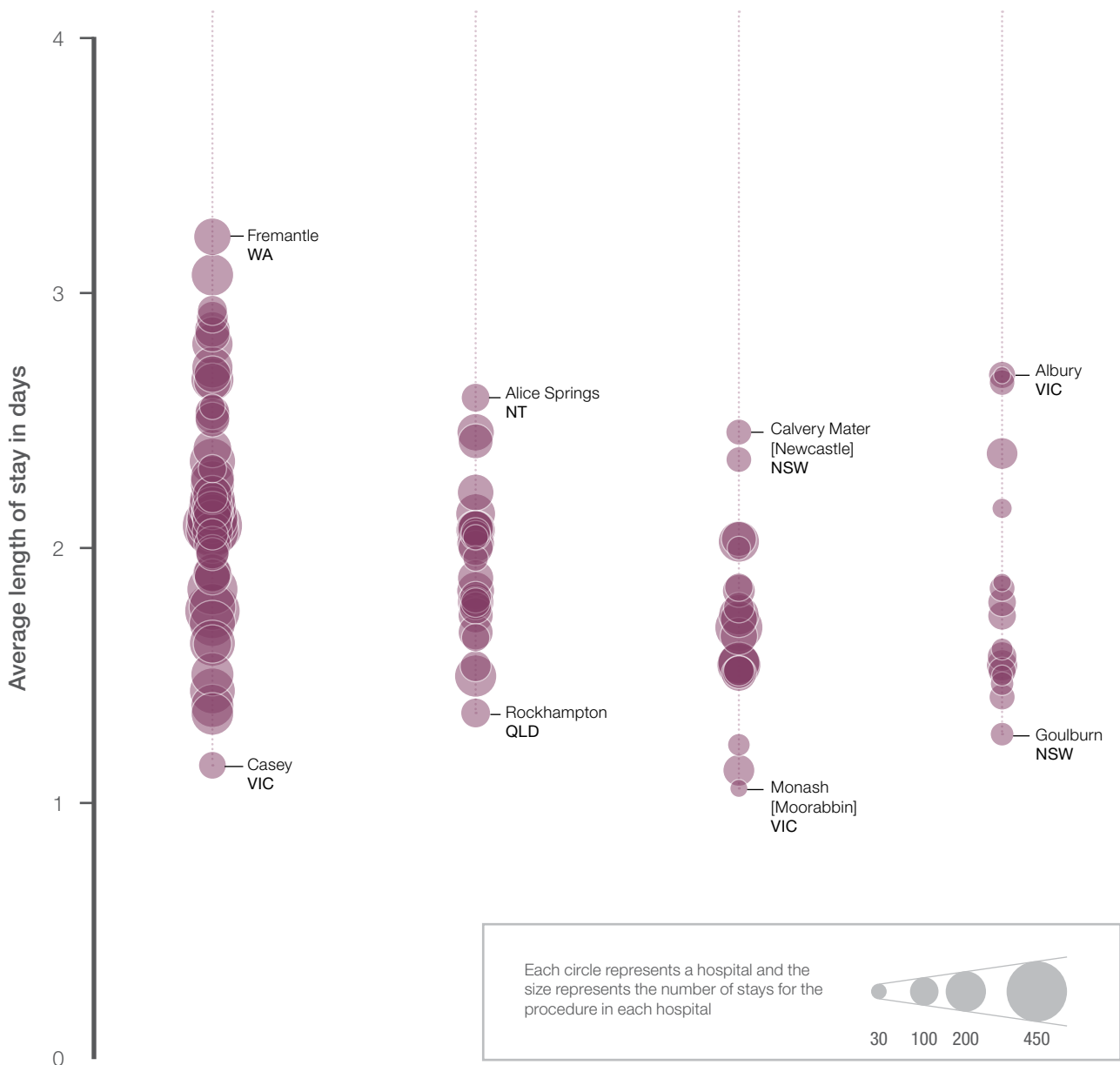
At **large metropolitan hospitals**, the average length of stay for gallbladder removal was 2.3 times longer at some hospitals than others (ranging from 1.1 to 2.5 days).

At **large regional hospitals**, the average length of stay for gallbladder removal was 2.1 times longer at some hospitals than others (ranging from 1.3 to 2.7 days).



Figure 17: Average length of stay for gallbladder removal in *major and large public hospitals, 2011–12*

|            | Major metropolitan | Major regional | Large metropolitan | Large regional |
|------------|--------------------|----------------|--------------------|----------------|
| Stays      | 10,208             | 3,609          | 2,899              | 1,257          |
| Bed days   | 21,849             | 7,000          | 4,915              | 2,321          |
| Percentage | 54%                | 17%            | 12%                | 6%             |



**Note:**

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- Percentage refers to percentage of bed days in all public hospitals.
- For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

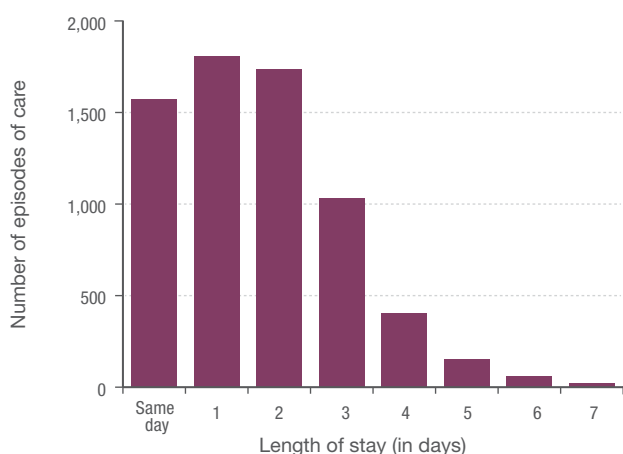
**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.

# Gynaecological reconstructive procedures

Gynaecological reconstructive procedures are repairs to the female reproductive system for conditions such as prolapse. The data presented here relate to women who stayed one or more nights for gynaecological reconstructive procedures without complications or comorbidities.

In 2011–12, there were 5,238 stays for gynaecological reconstructive procedures, accounting for 11,535 bed days. **Figure 18** shows the distribution of bed days for gynaecological reconstructive procedures.

**Figure 18: Length of stay for gynaecological reconstructive procedures in public hospitals, 2011–12**



On average, women who underwent gynaecological reconstructive procedures spent 2.2 days in hospital. **Figure 19** shows the variation in the average length of stay for hospitals, presented by peer group.

At **major metropolitan hospitals**, the average length of stay for gynaecological reconstructive procedures was 3.0 times longer at some hospitals than others (ranging from 1.3 to 3.8 days).

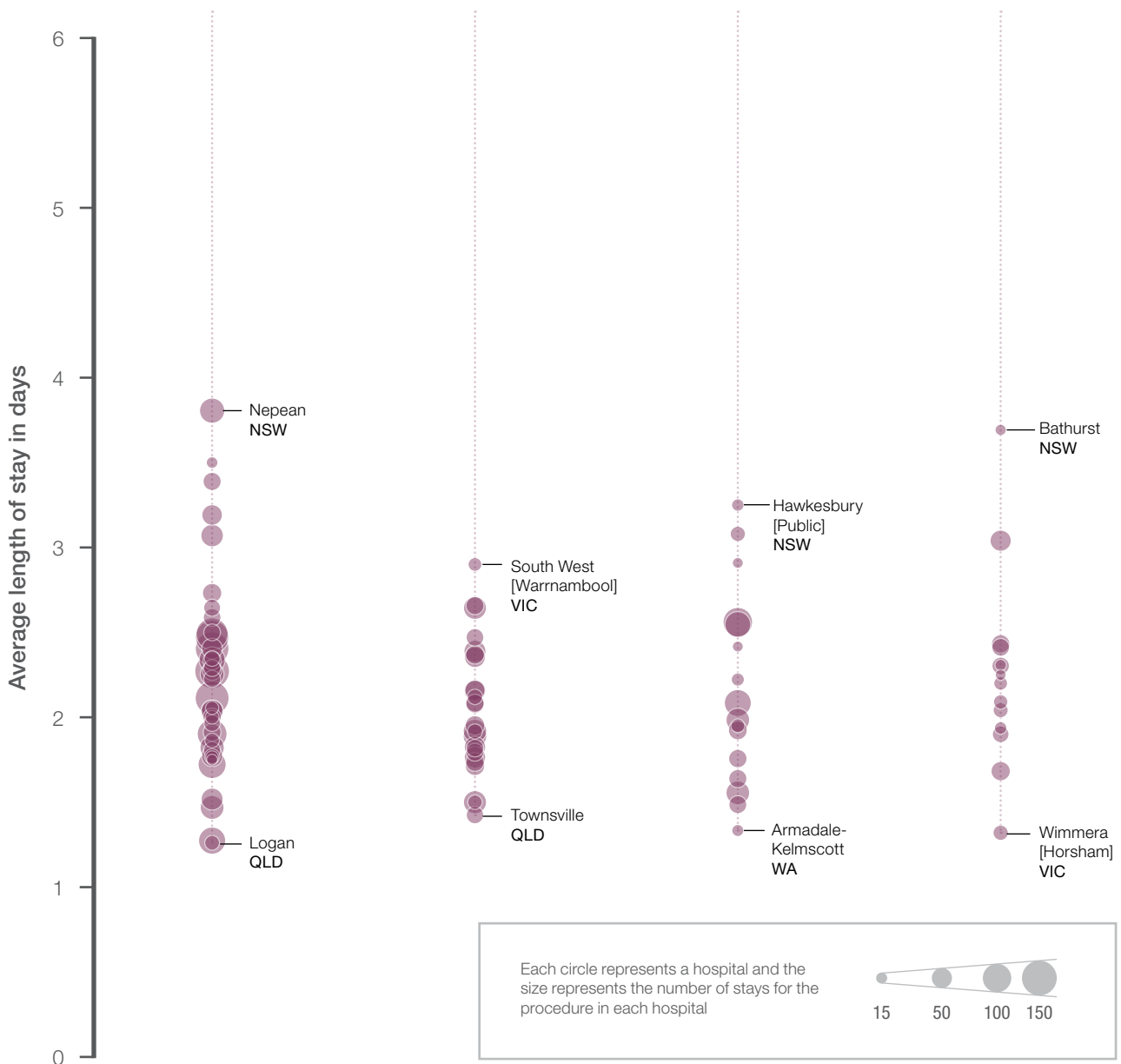
At **major regional hospitals**, the average length of stay for gynaecological reconstructive procedures was twice as long at some hospitals than others (ranging from 1.4 to 2.9 days).

At **large metropolitan hospitals**, the average length of stay for gynaecological reconstructive procedures was 2.4 times longer at some hospitals than others (ranging from 1.3 to 3.3 days).

At **large regional hospitals**, the average length of stay for gynaecological reconstructive procedures was 2.8 times longer at some hospitals than others (ranging from 1.3 to 3.7 days).

**Figure 19: Average length of stay for gynaecological reconstructive procedures in major and large public hospitals, 2011–12**

|            | Major metropolitan | Major regional | Large metropolitan | Large regional |
|------------|--------------------|----------------|--------------------|----------------|
| Stays      | 2,273              | 1,049          | 686                | 381            |
| Bed days   | 5,065              | 2,145          | 1,547              | 864            |
| Percentage | 44%                | 19%            | 13%                | 7%             |



**Note:**

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- Percentage refers to percentage of bed days in all public hospitals.
- For these conditions, specialist women’s hospitals are reported in the major metropolitan peer group and in the peer group’s stays and bed day counts.
- For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.

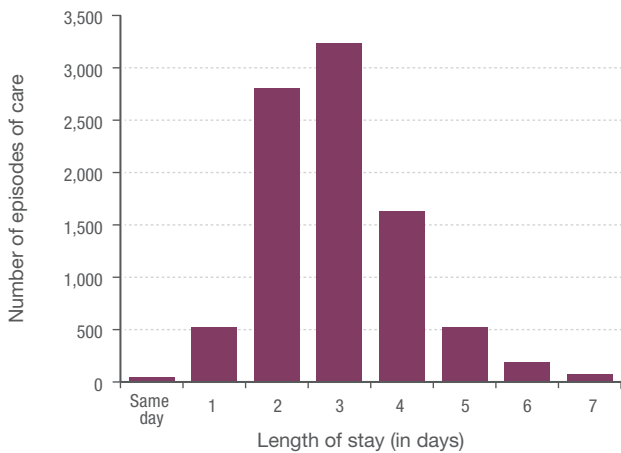
# Hysterectomy

Hysterectomy is the surgical removal of a woman's uterus or womb. The data presented here relate to women who stayed one or more nights for a hysterectomy without complications or comorbidities and where there was no malignant cancer.

In 2011–12, there were 9,010 stays for hysterectomies, accounting for 27,045 bed days.

**Figure 20** shows the distribution of bed days for hysterectomy.

**Figure 20: Length of stay for hysterectomy in public hospitals, 2011–12**



On average, women who had hysterectomies spent 3.0 days in hospital. **Figure 21** shows the variation in the average length of stay for hospitals, presented by peer group.

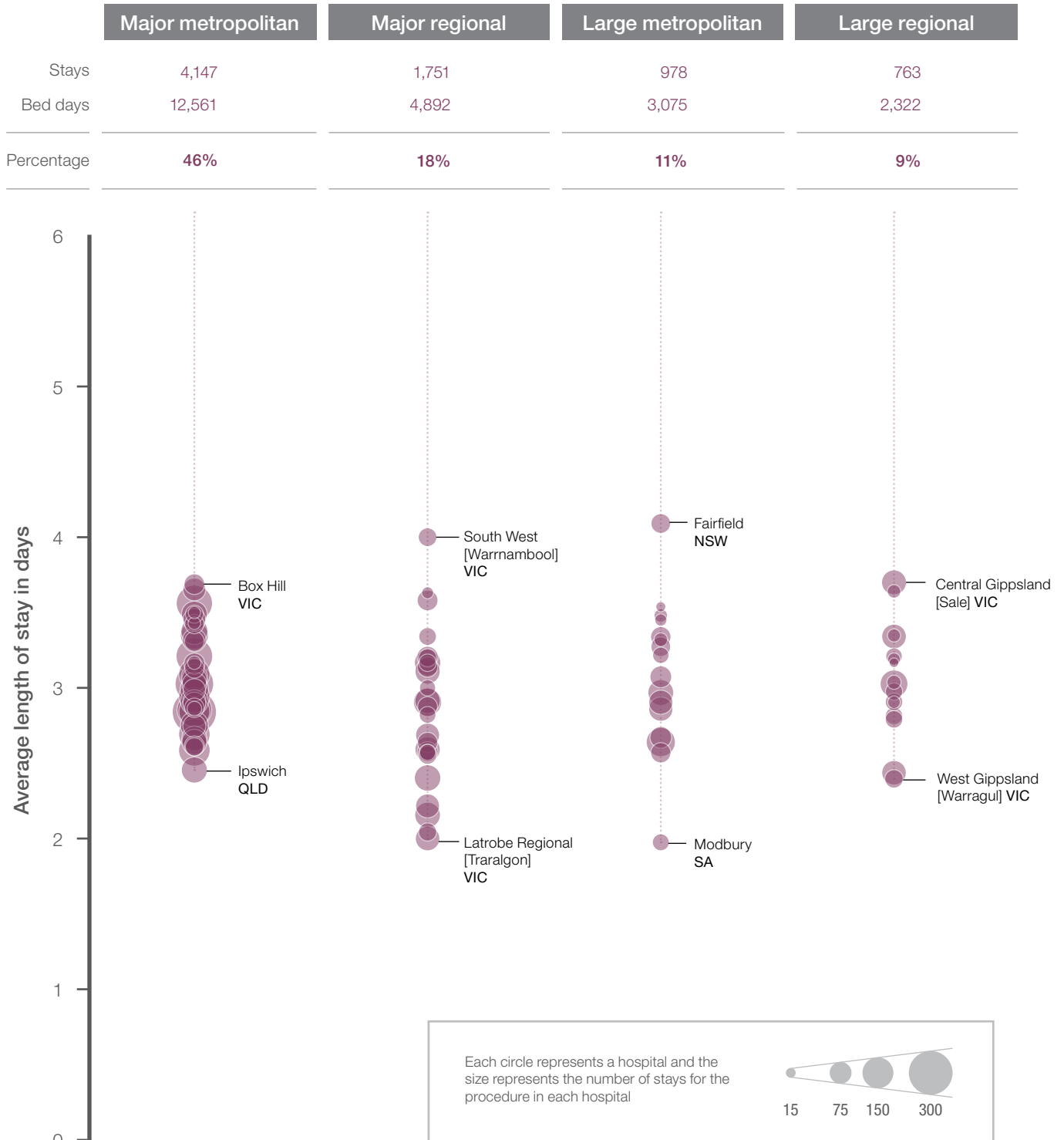
At **major metropolitan hospitals**, the average length of stay for hysterectomy was 50% longer at some hospitals than others (ranging from 2.5 to 3.7 days).

At **major regional hospitals**, the average length of stay for hysterectomy was twice as long at some hospitals than others (ranging from 2.0 to 4.0 days).

At **large metropolitan hospitals**, the average length of stay for hysterectomy was 2.1 times longer at some hospitals than others (ranging from 2.0 to 4.1 days).

At **large regional hospitals**, the average length of stay for hysterectomy was 50% longer at some hospitals than others (ranging from 2.4 to 3.7 days).

**Figure 21: Average length of stay for hysterectomy in major and large public hospitals, 2011–12**



**Note:**

- This report defines a “stay” as a period of care in a hospital for a single type of care, for example, acute care, rehabilitation or palliative care. If a patient changes from one type of care to another, or transfers hospital, this would be two episodes of care.
- Percentage refers to percentage of bed days in all public hospitals.
- For these conditions, specialist women’s hospitals are reported in the major metropolitan peer group and in the peer group’s stays and bed day counts.
- For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.

# Knee replacement and hip replacement

Knee replacements and hip replacements are surgical procedures to replace damaged knee or hip joints, most commonly for arthritis. The data presented here relate to people who stayed one or more nights for knee replacements without complications and for hip replacements without complications or comorbidities.

In 2011–12, there were 10,199 knee replacements and 10,549 hip replacements, accounting for 55,858 and 67,163 bed days respectively.

**Figure 24** shows the distribution of bed days for each type of procedure.

**Figure 24: Length of stay for knee replacement and hip replacement in public hospitals, 2011–12**



On average, people who had a knee replacement spent 5.5 days in hospital while people who had a hip replacement spent 6.4 days in hospital.

**Figure 25** shows the variation in the average length of stay for hospitals, presented by peer group.

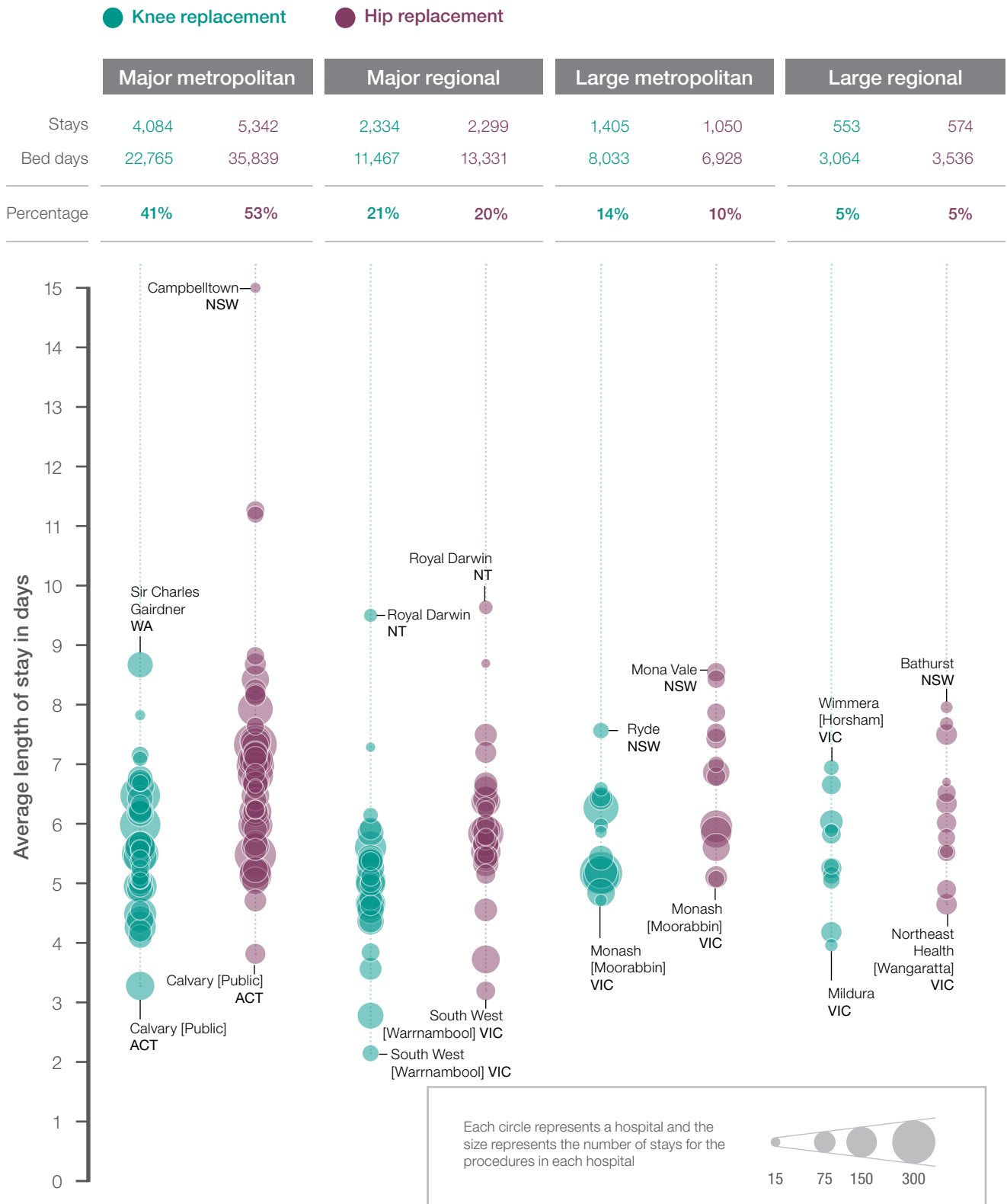
At **major metropolitan hospitals**, the average length of stay for knee replacement was 2.6 times longer at some hospitals than others (ranging from 3.3 to 8.7 days). The average for hip replacement was 3.9 times longer at some hospitals than others (ranging from 3.8 to 15.0 days).

At **major regional hospitals**, the average length of stay for knee replacement was 4.4 times longer at some hospitals than others (ranging from 2.1 to 9.5 days). The average for hip replacement was 3.0 times longer at some hospitals than others (ranging from 3.2 to 9.6 days).

At **large metropolitan hospitals**, the average length of stay for knee replacement was 60% longer at some hospitals than others (ranging from 4.7 to 7.6 days). The average for hip replacement was 70% longer at some hospitals than others (ranging from 5.1 to 8.5 days).

At **large regional hospitals**, the average length of stay for knee replacement was 80% longer at some hospitals than others (ranging from 4.0 to 6.9 days). The average for hip replacement was 70% longer at some hospitals than others (ranging from 4.6 to 8.0 days).

**Figure 25: Average length of stay for knee replacement and hip replacement in major and large public hospitals, 2011-12**



**Note:**

- This report defines a “stay” as a period of care in a hospital for a single type of care, for example, acute care, rehabilitation or palliative care. If a patient changes from one type of care to another, or transfers hospital, this would be two episodes of care.
- Percentage refers to percentage of bed days in all public hospitals.
- For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.

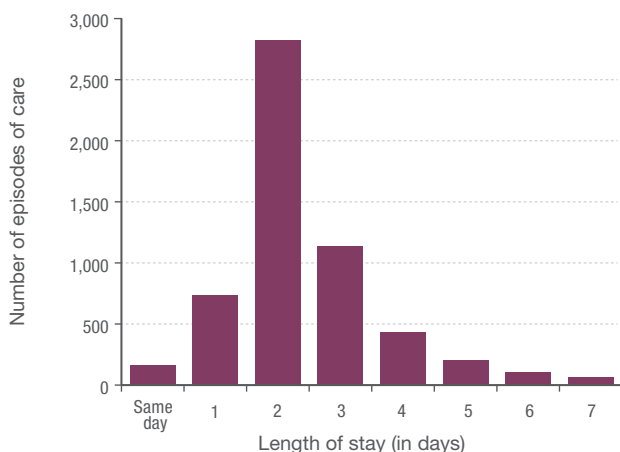
# Prostate removal

Prostate removal is the surgical removal of all or part of the prostate gland, most commonly performed through the urethra. The data presented here relate to men who stayed one or more nights for transurethral prostate removal without complications or comorbidities.

In 2011–12, there were 5,613 stays for prostate removal, accounting for 14,899 bed days.

**Figure 26** shows the distribution of bed days for prostate removal.

**Figure 26: Length of stay for prostate removal in public hospitals, 2011–12**



On average, men who had their prostate removed spent 2.7 days in hospital. **Figure 27** shows the variation in the average length of stay for hospitals, presented by peer group.

At **major metropolitan hospitals**, the average length of stay for prostate removal was 2.1 times longer at some hospitals than others (ranging from 1.9 to 3.9 days).

At **major regional hospitals**, the average length of stay for prostate removal was 2.9 times longer at some hospitals than others (ranging from 1.9 to 5.3 days).

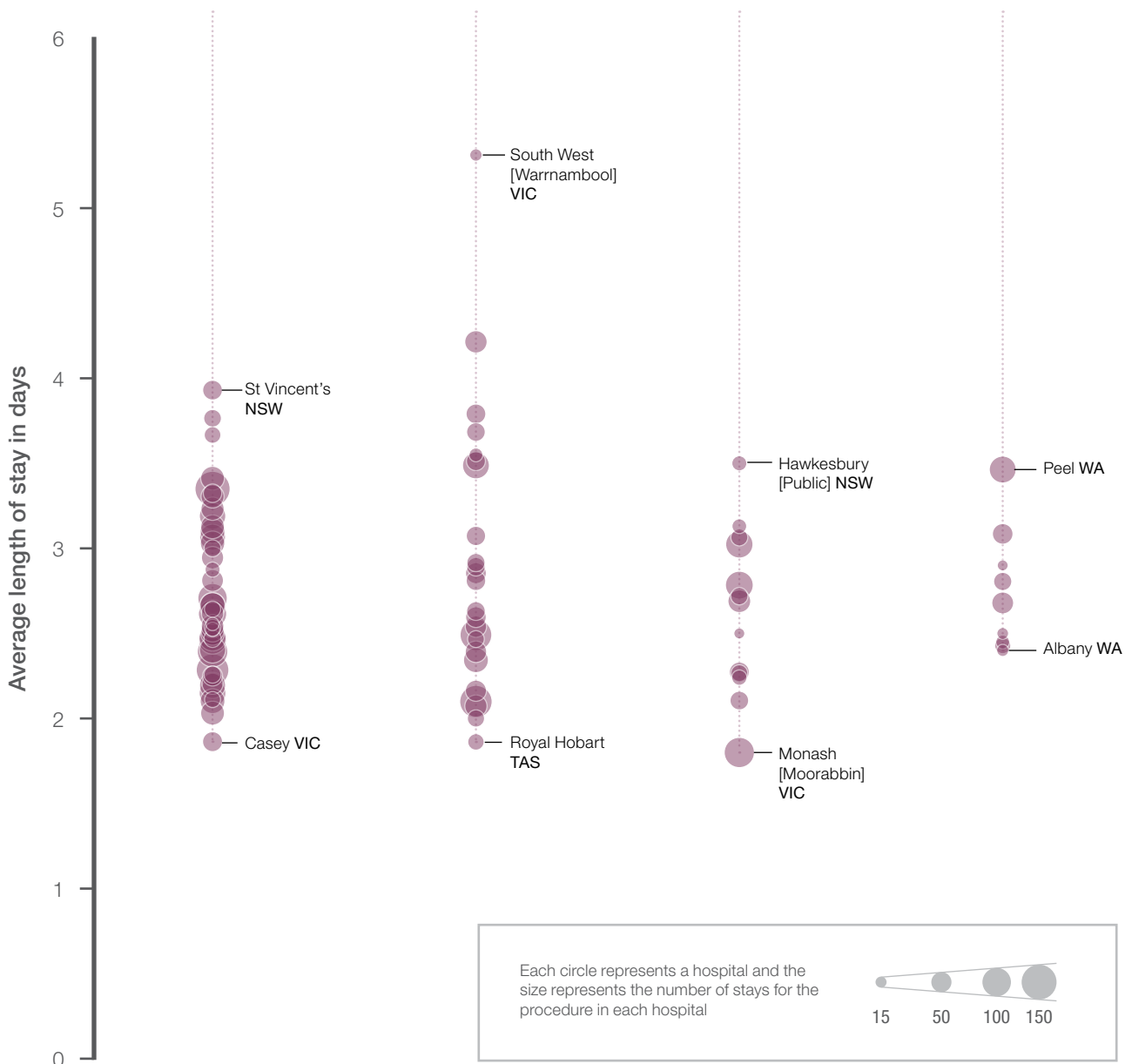
At **large metropolitan hospitals**, the average length of stay for prostate removal was 90% longer at some hospitals than others (ranging from 1.8 to 3.5 days).

At **large regional hospitals**, the average length of stay for prostate removal was 40% longer at some hospitals than others (ranging from 2.4 to 3.5 days).



**Figure 27: Average length of stay for prostate removal in major and large public hospitals, 2011–12**

|            | Major metropolitan | Major regional | Large metropolitan | Large regional |
|------------|--------------------|----------------|--------------------|----------------|
| Stays      | 2,654              | 1,190          | 593                | 324            |
| Bed days   | 7,194              | 3,307          | 1,514              | 942            |
| Percentage | <b>48%</b>         | <b>22%</b>     | <b>10%</b>         | <b>6%</b>      |



**Note:**

- This report defines a "stay" as a period of care in a hospital for a single type of care, for example, acute care, rehabilitation or palliative care. If a patient changes from one type of care to another, or transfers hospital, this would be two episodes of care.
- Percentage refers to percentage of bed days in all public hospitals.
- For more information on measures and peer groups, see [www.myhospitals.gov.au](http://www.myhospitals.gov.au)

**Source:** Admitted Patient Care National Minimum Dataset 2011–12, data extracted 26 March 2013.

# Appendix: Hospitals by peer groups

## Major metropolitan hospitals

Bankstown Lidcombe Hospital, **NSW**

Blacktown Hospital, **NSW**

Campbelltown Hospital, **NSW**

Concord Repatriation Hospital, **NSW**

Gosford Hospital, **NSW**

Hornsby Ku-ring-gai Hospital, **NSW**

John Hunter Hospital, **NSW**

Liverpool Hospital, **NSW**

Nepean Hospital, **NSW**

Prince of Wales Hospital, **NSW**

Royal Hospital for Women, **NSW\***

Royal North Shore Hospital, **NSW**

Royal Prince Alfred Hospital, **NSW**

St George Hospital, **NSW**

St Vincent's Hospital, **NSW**

Sutherland Hospital, **NSW**

The Tweed Hospital, **NSW**

Westmead Hospital, **NSW**

Wollongong Hospital, **NSW**

Wyong Hospital, **NSW**

Austin Hospital [Heidelberg], **VIC**

Box Hill Hospital, **VIC**

Casey Hospital, **VIC**

Dandenong Campus, **VIC**

Frankston Hospital, **VIC**

Geelong Hospital, **VIC**

Maroondah Hospital [East Ringwood], **VIC**

Mercy Hospital for Women, **VIC\***

Monash Medical Centre [Clayton], **VIC**

Royal Melbourne Hospital [Parkville], **VIC**

Royal Women's Hospital [Parkville], **VIC\***

St Vincent's Hospital [Fitzroy], **VIC**

Sunshine Hospital, **VIC**

The Alfred, **VIC**

The Northern Hospital [Epping], **VIC**

Western Hospital [Footscray], **VIC**

Caboolture Hospital, **QLD**

Gold Coast Hospital, **QLD**

Ipswich Hospital, **QLD**

Logan Hospital, **QLD**

Mater Adult Hospital, **QLD**

Mater Mothers' Hospital, **QLD\***

Princess Alexandra Hospital, **QLD**

Redcliffe Hospital, **QLD**

Royal Brisbane & Women's Hospital, **QLD**

The Prince Charles Hospital, **QLD**

Fremantle Hospital, **WA**

Joondalup Health Campus [Public], **WA**

King Edward Memorial Hospital for Women, **WA\***

Royal Perth Hospital [Wellington Street Campus], **WA**

Sir Charles Gairdner Hospital, **WA**

Flinders Medical Centre, **SA**

Lyell McEwin Hospital, **SA**

Royal Adelaide Hospital, **SA**

The Queen Elizabeth Hospital, **SA**

Women's and Children's Hospital, **SA\***

Calvary Public Hospital, **ACT**

The Canberra Hospital, **ACT**

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## Major regional hospitals

Coffs Harbour Hospital, **NSW**

Dubbo Hospital, **NSW**

Lismore Hospital, **NSW**

Manning Hospital, **NSW**

Orange Health Service, **NSW**

Port Macquarie Hospital, **NSW**

Shoalhaven Hospital, **NSW**

Tamworth Hospital, **NSW**

Wagga Wagga Hospital, **NSW**

Ballarat Health Services [Base Campus], **VIC**  
Goulburn Valley Health [Shepparton], **VIC**  
Latrobe Regional Hospital [Traralgon], **VIC**  
South West Healthcare [Warrnambool], **VIC**  
The Bendigo Hospital, **VIC**

Bundaberg Hospital, **QLD**  
Cairns Base Hospital, **QLD**  
Hervey Bay Hospital, **QLD**  
Mackay Base Hospital, **QLD**  
Nambour Hospital, **QLD**  
Rockhampton Base Hospital, **QLD**  
The Townsville Hospital, **QLD**  
Toowoomba Hospital, **QLD**

South West Health Campus, **WA**

Launceston General Hospital, **TAS**  
Royal Hobart Hospital, **TAS**

Alice Springs Hospital, **NT**  
Royal Darwin Hospital, **NT**

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## Large metropolitan hospitals

Auburn Hospital, **NSW**  
Calvary Mater Newcastle Hospital, **NSW**  
Canterbury Hospital, **NSW**  
Fairfield Hospital, **NSW**  
Hawkesbury Hospital, **NSW**  
Maitland Hospital, **NSW**  
Manly Hospital, **NSW**  
Mona Vale Hospital, **NSW**  
Ryde Hospital, **NSW**  
Shellharbour Hospital, **NSW**

Angliss Hospital, **VIC**  
Mercy Public Hospital [Werribee], **VIC**  
Monash Medical Centre [Moorabin], **VIC**  
Peter MacCallum Cancer Institute, **VIC**

Sandringham Hospital, **VIC**  
The Royal Victorian Eye & Ear Hospital, **VIC**

Queen Elizabeth II Jubilee Hospital, **QLD**  
Redland Hospital, **QLD**

Armadale-Kelmscott Memorial Hospital, **WA**  
Rockingham General Hospital, **WA**  
Swan District Hospital, **WA**

Modbury Hospital, **SA**  
Repatriation General Hospital, **SA**

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## Large regional hospitals

Bathurst Hospital, **NSW**  
Goulburn Hospital, **NSW**  
Grafton Base Hospital, **NSW**

Albury Wodonga Health [Albury Campus], **VIC**  
Albury Wodonga Health [Wodonga Campus], **VIC**  
Bairnsdale Regional Health Service, **VIC**  
Central Gippsland Health Service [Sale], **VIC**  
Mildura Base Hospital, **VIC**  
Northeast Health Wangaratta, **VIC**  
West Gippsland Healthcare Group [Warragul], **VIC**  
Wimmera Base Hospital, **VIC**

Mount Isa Hospital, **QLD**

Albany Hospital, **WA**  
Geraldton Hospital, **WA**  
Kalgoorlie Hospital, **WA**  
Peel Health Campus, **WA**

North West Regional Hospital, **TAS**

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\* These hospitals have been included in the major metropolitan peer group for childbirth, gynaecological reconstructive procedures and hysterectomy only.

# References

1. Ou L, Young L, Chen J et al. Discharge delay in acute care: reasons and determinants of delay in general ward patients. *Aust Health Rev.* 2009;33(3):513–521.
2. Bureau of Health Information. *Healthcare in Focus 2011: How well does NSW perform? An international comparison* November 2011. Sydney; BHI; 2011, p21.
3. Organisation for Economic Cooperation and Development. Average length of stay in hospitals. In *Health at a glance 2011: OECD indicators* [Internet]. OECD Publishing; 2011 Nov 23 [cited 2013 Oct 2]. Available from: [http://dx.doi.org/10.1787/health\\_glance-2011-33-en](http://dx.doi.org/10.1787/health_glance-2011-33-en)
4. Kossovsky MP, Sarasin FP, Chopard P et al. Relationship between hospital length of stay and quality of care in patients with congestive heart failure. *Qual Saf Health Care.* 2002;11:219–23.
5. Kociol RD, Lopes RD et al. International variation in and factors associated with hospital readmission after myocardial infarction. *JAMA.* 2012;307(1):66–74.
6. Hauck K, Zhao X. How dangerous is a day in hospital?: A model of adverse events and length of stay for medical inpatients. *Medical Care.* 2011;49(12):1068–75.
7. Australian Bureau of Statistics. *Births, Australia, 2011* [Internet]. 2012 Oct 25 [cited 2013 Oct 2]; ABS cat. no. 3301.0. Available from: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3301.0>

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- Professor Brian McCaughan (Chairman), Cardiothoracic Surgeon
- Professor Geoff Dobb, Intensive Care Physician
- Professor Gillian Duchesne, Radiation Oncologist, Dean, Faculty of Radiation Oncology
- Ms Christine Gunson, Consumer Representative
- Dr Martin Lum, Medical Director, Department of Health, Victoria
- Mr Neville Onley, NSW Ministry of Health
- Dr Tony Sherbon, Independent Hospital Pricing Authority
- Professor Diane Twigg, Professor of Nursing
- Professor David McKenzie, Respiratory and Sleep Physician
- Associate Professor Craig Whitehead, Consultant Geriatrician
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- Dr Brian Hanning, Australian Health Service Alliance
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Committee members did not have any role in the writing of this report.

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This report relies on data provided by state and territory governments. These data were used to calculate the performance measures in this report. The Authority conducts checks to ensure data quality and also relies on the data quality work of AIHW. The Authority provides jurisdictions with the opportunity to verify their data.

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