The Insights Series

Healthcare in rural, regional and remote NSW
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Foreword

People in rural, regional and remote areas of NSW are familiar with the challenges posed by geography and isolation. Healthcare systems are similarly challenged. Low population density, long travelling times, limited opportunities to harness economies of scale, difficulties recruiting a skilled workforce and an ageing population all place significant pressure upon healthcare services.

Capturing, in a meaningful way, how the healthcare system and the organisations within that system, respond to these challenges is the main aim of this report. It describes the diversity and responsiveness that are hallmarks of healthcare in NSW and compares performance across the rural–urban continuum, identifying areas of achievement and highlighting areas for potential improvement. The report focuses on issues that are known to affect rural areas but in doing so, creates a mirroring effect, also providing insights into urban challenges.

Assessing healthcare in rural, regional and remote NSW presents some 100 indicators, organised in line with our performance measurement framework. It reflects the extent to which the healthcare sector in rural and remote areas provides services when and where needed, whether patients receive the right care in the right way, and how healthcare makes a difference for people.

For many of the measures included, performance is strong in rural, regional and remote areas of NSW. Rural healthcare organisations often provide accessible, coordinated and integrated care. Linkages between providers and with community organisations are strong. Founded upon interpersonal relationships that define rural communities, much of the coordination is informal yet effective.

However, rural healthcare organisations can be vulnerable to unforeseen changes in staffing and local availability of resources. Overall, the report suggests that rural NSW does well but for some measures, the disparities between rural and urban areas are significant.

The report also presents comparisons with Canada and Sweden, drawing on international survey results. These two countries share key characteristics with NSW with regards to rurality – both have highly urbanised areas with densely populated cities, a range of smaller regional centres, and vast areas that are sparsely populated.

Assessment of healthcare is always a challenge. Performance is often nuanced, and almost always multifaceted, dynamic and strongly influenced by local and regional contexts. Assessment therefore has to include various dimensions and perspectives in order to be fair and balanced.

We hope that this report will provide a foundation to understand current issues in healthcare in rural, regional and remote areas and to monitor its evolution in the future.

Dr Jean-Frédéric Lévesque
Chief Executive, Bureau of Health Information
Key findings
10 key findings

1. Overall, healthcare in rural, regional and remote NSW is good.

2. In international terms, healthcare in rural areas is rated comparatively well in NSW – particularly in terms of access to primary care, confidence in managing health problems and patient engagement.

3. In emergency departments (EDs), care is more timely in rural hospitals – ED treatment started within recommended timeframes for a higher proportion of patients in regional and remote EDs than in major city EDs. Patients who visited smaller hospitals spent less time overall in the ED.

4. Over 97% of elective surgery was performed within clinically recommended timeframes, regardless of remoteness – although patients in inner regional hospitals generally had longer waiting times than those in major city and outer regional and remote hospitals.

5. Among hospitalised patients, those in rural NSW were more likely to say they were involved, as much as they wanted to be, in decisions about their care and treatment, about their discharge and about medications. In general, patients in rural hospitals reported better experiences of care.

6. In terms of safety, patients in rural hospitals reported fewer complications – patients living in outer regional and remote areas were most likely to say potential side effects of medication were explained to them, and that they recently had a medication review. There was however consistency in identification checks – nine in 10 patients hospitalised in major city, regional and remote areas said their identification band was always checked before they were given medication or treatment.

7. There were bigger gaps in experiences of hospital care between Aboriginal and non-Aboriginal patients in rural areas compared with urban areas – most notably for questions on communication, respect, patient engagement and patient reported outcomes.

8. Travel times of over 30 minutes for antenatal care occurred in rural and urban areas and most women accessed postnatal care in the two weeks following the birth of their baby – in both rural and urban areas.

9. In 2014–15, in most rural local health districts (LHDs), there were fewer residents who had to travel outside the district for cancer hospitalisations, compared to 2004–05. A survey of cancer outpatients highlighted rural clinics as among the best performers in the state.

10. Hospitals with higher than expected 30-day mortality and readmission rates were located in both rural and urban areas.
Summary

Overall, the report shows that the healthcare provided to people in rural, regional and remote NSW is good.

Healthcare in rural, regional and remote NSW uses a range of information sources to assess healthcare services provided to patients in urban and rural areas of NSW. It is based on information from hospital records, ED datasets, patient surveys and a qualitative data gathering exercise. Altogether, the report features some 100 measures that assess accessibility, appropriateness and effectiveness of healthcare.

Throughout the report, comparisons are made on the basis of ‘remoteness’, a term used to classify geographical areas in terms of distance from large population centres and associated amenities. Variation is assessed across three remoteness categories: major cities, inner regional areas, and outer regional, remote and very remote areas. The more generic term ‘rural’ is used to refer to areas outside major cities.

Accessibility: Healthcare, when and where needed

Across NSW, in both rural and urban areas, more than nine in 10 adults aged 55+ years said they have a regular doctor or GP clinic. However, healthcare is not always accessible – 33% of people in outer regional and remote areas and 19% in inner regional areas said they have difficulties accessing healthcare. In particular, there were unmet needs for primary care:

- 14% of adults in outer regional and remote areas, 15% in inner regional areas, and 12% in major cities said there was a time in the previous year when they needed primary care but did not receive it
- About four in 10 people said they were able to get a same day primary care appointment when they needed medical attention – regardless of whether they lived in rural or urban areas. However, 39% of people in outer regional and remote NSW said it is very difficult to get out-of-hours medical care, compared with 33% of people in inner regional areas and 17% in major cities.

Within NSW public hospital EDs, the time patients had to wait to start treatment was shortest in outer regional and remote hospitals. Compared with major city EDs, a smaller proportion of patients in rural EDs did not wait for care or left at their own risk.

Over 97% of all elective surgical procedures were performed within clinically recommended timeframes – regardless of the remoteness of the hospital. However, patients treated in hospitals in inner regional areas generally had longer waiting times than those treated in hospitals in major city and in outer regional and remote areas.

Across rural and urban areas:

- A higher percentage of women had travel times of over 30 minutes for antenatal care in rural areas
- However there were few differences in the percentage of women who received postnatal care in the two weeks following birth.

Among patients admitted to a public hospital in 2014–15, the percentage who were admitted in their LHD of residence ranged across rural LHDs from 65.8% in Far West to 91.6% in Hunter New England. More specifically for cancer care, in 2014–15, in most rural LHDs, there were fewer patients who had to travel outside the district to be hospitalised, compared with 2004–05.

Appropriateness: The right healthcare, the right way

While the ‘right’ healthcare is provided to most patients, there is room to improve:

- Despite higher patient-reported prevalence of hypertension (high blood pressure) and diabetes in rural areas, there were no significant differences in patient-reported rates of blood pressure and cholesterol checks, or influenza vaccinations
- For hospital care, the proportion of patients in rural hospitals who underwent hip fracture surgery within the recommended two days of admission was higher than in major city hospitals
• While 93% of pregnant women in outer regional and remote areas had five or more antenatal visits, this was a lower percentage than in major city or inner regional areas (both 96%). However, there were no meaningful differences in the proportion of births that were elective caesarean sections by hospital remoteness.

• For many measures, there was variation within hospital remoteness categories. For example, across rural hospitals, between 84% and 95% of patients said their identification band or name was ‘always’ checked before they were given medication or treatment.

Information from patient surveys shows that most patients in NSW are treated in the ‘right way’:

• In both rural and urban areas, seven in 10 patients said their GP ‘always’ explained things in an understandable way and spent enough time with them.

• Among admitted patients, those in rural NSW were more likely to say they were involved – as much as they wanted to be – in decisions about their care and treatment; about discharge; and about medications.

• However, differences in experiences of hospital care between Aboriginal and non-Aboriginal patients were more pronounced in hospitals in rural areas than those in urban areas.

**Effectiveness: Making a difference for patients**

Healthcare makes a difference in NSW. Survey results show that a higher proportion of people living in outer regional and remote areas were ‘very confident’ or ‘confident’ in managing their health problems; and patients treated in inner regional hospitals were most likely to say they had confidence and trust in healthcare professionals. Other outcome measures showed:

• ED re-presentations within 48 hours were more common in rural hospitals.

• Hospitals with higher than expected mortality and readmission rates were located in both rural and urban areas.

• Patients hospitalised in rural hospitals were less likely to say they experienced a complication or adverse event.

• A survey of cancer outpatients highlighted rural clinics as among the best performers in the state.

• Across NSW, Aboriginal patients were less positive than non-Aboriginal patients regarding self-reported outcomes of hospital care. However, the disparity was similar in scale for hospitals in rural and urban areas.

**About information sources**

*Healthcare in rural, regional and remote NSW* draws on a range of data sources, each one making a contribution to assessment.

Administrative datasets generally capture information on all patients. Measures based on administrative data usually have sufficient power to detect small levels of variation and provide confidence that the variation is not artefactual. They are however limited by the number of variables captured in the datasets, and are dependent upon the accuracy of note-taking, recording and coding.

Survey data are based on a subset of all patients – and in some cases, small sample size limits the ability to draw broad conclusions. Differences that do not reach statistical significance should be interpreted with care. Survey data do however provide direct evidence of patient experiences and reflect on elements of care not captured in administrative datasets.

Qualitative data are often based on small samples with limited generalisability but they provide insights into context and experiences.
Setting the scene
What is rurality?

Rurality is often used as a generic term to describe a way of life characterised by close links with the land and agriculture. Rurality is not synonymous with remoteness – which is a more precisely defined concept used to measure isolation and distance from large population centres. The Australian Bureau of Statistics (ABS) classification of remoteness differentiates between major cities, inner regional, outer regional, remote and very remote areas.

In this report, variation is assessed across three remoteness categories: major cities, inner regional areas, and outer regional, remote and very remote areas. The more generic term ‘rural’ is used to refer to geographic areas outside major cities.

Two types of measures featured in the report use remoteness categories: the first type differentiates on the basis of where patients live (NSW by remoteness of residence); and the second type differentiates on hospital locations (NSW public hospitals by remoteness). Other measures compare LHDs, using the NSW Ministry of Health designation of rural and metropolitan LHDs. The classification of LHDs is not clear-cut however with considerable variation in LHD remoteness profiles (Figure 1.1).

Rural NSW

Rural NSW covers around 99% of the state’s land mass. One in four people in NSW live in rural, regional or remote parts of the state. Generally speaking, people in rural areas have poorer health. On average, they have shorter lives and more illness than people living in major cities. Employment opportunities are often limited within remote and rural communities, and household incomes are generally lower than in urban areas (Figure 1.2).

At the same time, there are important social benefits associated with rural life. There are higher levels of cohesiveness, higher rates of community engagement and participation in volunteer work and a stronger sense of security across rural NSW.

This report focuses mainly on care provided by the public healthcare system in NSW. To properly capture patients’ healthcare experiences however, it also includes some information about other types of services such as primary care.
### Figure 1.2  
**Socioeconomic characteristics by LHD and remoteness category, NSW**

<table>
<thead>
<tr>
<th></th>
<th>Life expectancy (years) MALE</th>
<th>FEMALE</th>
<th>Persons aged 65+ years Number</th>
<th>% of population</th>
<th>% aged 15–64 years with weekly income &lt;$600</th>
<th>% of population who are Aboriginal people</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Remoteness</strong></td>
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<td></td>
<td></td>
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<td>Major cities</td>
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<td>14.0</td>
<td>41.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Inner regional</td>
<td></td>
<td></td>
<td>79.5</td>
<td>19.5</td>
<td>47.2</td>
<td>4.7</td>
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<td>Outer regional</td>
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<td>51.5</td>
<td>8.3</td>
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<td>–</td>
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<td>49.1</td>
<td>39.3</td>
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<td>50.1</td>
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</tr>
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<td>46.1</td>
<td>4.8</td>
</tr>
<tr>
<td>Northern NSW</td>
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<td></td>
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<td>20.9</td>
<td>52.8</td>
<td>4.8</td>
</tr>
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<td>Southern NSW</td>
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<tr>
<td>Western NSW</td>
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<td></td>
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<td>17.3</td>
<td>45.9</td>
<td>11.1</td>
</tr>
<tr>
<td><strong>Central Coast</strong></td>
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<td></td>
<td>79.9</td>
<td>19.9</td>
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<tr>
<td>Illawarra Shoalhaven</td>
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<td></td>
<td>80.5</td>
<td>18.8</td>
<td>48.1</td>
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</tr>
<tr>
<td>Nepean Blue Mountains</td>
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<td>14.3</td>
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<td>0.9</td>
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<td>South Western Sydney</td>
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<td>12.5</td>
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<td>12.1</td>
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<td>1.1</td>
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<tr>
<td>Western Sydney</td>
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<td></td>
<td>81.0</td>
<td>11.2</td>
<td>43.6</td>
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</tr>
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</table>


### A note about Aboriginality

Aboriginal health is an important issue to be considered in assessing healthcare in rural, regional and remote NSW. A large proportion of Aboriginal people live in metropolitan LHDs, and over 90% live in major cities or inner regional areas. In outer regional and remote areas however, Aboriginal people represent a higher proportion of the population. For example, 11.7% of the population is Aboriginal in Far West, and 11.1% in Western NSW.
Geographical areas vary in their resident populations’ health and healthcare needs, the range of services available, and the resources used to deliver care. The extent of variation is important context for any assessment of healthcare performance.

**Health and healthcare needs**

Life expectancy in NSW is among the longest in the world. Within NSW however, increasing rurality is associated with decreasing life expectancy. For example, a baby girl born in a remote or very remote area in 2012 can expect to live for 72 years while a baby girl born in a major city can expect to live for 86 years (Figure 1.2).

Similarly, while there was an overall decline in mortality rates in NSW between 2001 and 2013, improvements did not occur uniformly across the state – with steeper falls among populations living in major cities (-21%), compared with those living in inner regional areas (-17%), and outer regional areas (-17%).

In terms of healthcare needs, most people in NSW require healthcare in the course of a year. In 2014–15, more than eight in 10 NSW adults (84%) needed to see a GP, and this did not differ substantially by remoteness. Almost six in 10 adults said they needed to see a dentist; and four in 10 needed to see a medical specialist – although perceived need for these healthcare professionals was lower in outer regional and remote areas (Figure 1.3).

Healthcare needs tend to increase with age. Older people often have multiple health conditions and are more more likely to be frequent users of healthcare services.

In 2014, the concentration of people aged 65+ years was greater in outer regional and remote areas (20% of residents) and inner regional areas (19%) than in major cities (14%) (Figure 1.2). Across the state’s LHDs, there was a twofold difference in the percentage of the resident population aged 65+ years, and rural LHDs generally had a higher proportion of older residents (Figure 1.4).

Aboriginal people also have greater health needs. They are known to have lower life expectancy, higher rates of cardiovascular disease and chronic disease. About 60% of the NSW Aboriginal population lives in a rural LHD.

There are a number of important health issues known to affect rural populations including:

- Higher mortality rates and lower life expectancy
- Higher road injury and fatality rates
- Higher reported rates of high blood pressure, diabetes, and obesity
- Higher death rates from chronic disease
- Higher prevalence of mental health problems
- Higher rates of alcohol abuse and smoking
- Poorer dental health.
There are also important differences in health behaviours. For example, tobacco smoking is a major risk factor for heart disease, stroke, cancer and chronic obstructive pulmonary disease (COPD) and high smoking rates are associated with increased healthcare needs. In 2015, people living in outer regional and remote areas were more likely to be current smokers (20% of adults) than those living in major cities (13%) (Figure 1.5).

It is not currently possible to ascertain, with any certainty, the extent to which poorer health seen among residents in more rural areas of NSW is caused by remoteness, socioeconomic status or Aboriginality. Most likely all three factors intersect and play a role. Difficulties in establishing causality however, do not preclude meaningful measurement of healthcare accessibility, appropriateness and effectiveness provided to people living in rural areas.

Figure 1.4  Percentage of the population aged 65+ years, by LHD of residence, NSW, 2014

Source: Centre for Epidemiology and Evidence, Health Statistics New South Wales, Sydney: NSW Ministry of Health. Available at: healthstats.nsw.gov.au

Figure 1.5  Current smoking rates among persons aged 16+ years, by remoteness of residence, NSW, 2015

Source: Centre for Epidemiology and Evidence, Health Statistics New South Wales, Sydney: NSW Ministry of Health. Available at: healthstats.nsw.gov.au

Views from the qualitative consultation

Rural areas tend to have lower levels of education and higher levels of socioeconomic disadvantage than urban areas. Inequities in service delivery and health outcomes for rural people extend across mental health, aged populations, disability and culturally and linguistically diverse (CALD) groups.

The shift from traditional self-contained hospitals to hub and spoke models of networked providers and other alternative service models allows rural healthcare to respond effectively to changing demographics.
Healthcare services in NSW

NSW has a pluralist healthcare system with a mix of Commonwealth and state government responsibilities and funding streams; public, private and not-for-profit providers; and intersectoral networks of community, primary, secondary, tertiary and quaternary care. Patient pathways cross boundaries, both geographical and organisational.

Responsibilities

The Commonwealth government funds 44% of total health expenditure in NSW. Responsibilities include most primary care services, Medicare and subsidies for most prescription drugs through the Pharmaceutical Benefits Scheme (PBS).

The NSW government funds 24% of total health expenditure. Responsibilities include management and administration of public hospitals, community health services, mental health services, public dental clinics, public health, ambulance and emergency services and patient transport.

Individuals fund 17% of total health expenditure. Out-of-pocket spending includes direct payment for services not covered by insurance, as well as insurance excess payments, gap payments and co-payments. Other private sources (e.g. health insurers) fund 15% of total health expenditure.

Types of services

Three main types of healthcare services are used by NSW residents: primary care, emergency department care and hospital-based services.

Primary care offers front-line services for a wide range of acute and chronic health problems, helping prevent illness and acting as an entry point to the wider healthcare system. In 2014–15, in major cities, there were 36 million GP services provided; compared to eight million in inner regional areas and two million in outer regional and remote areas. Per capita, there were far more GP services provided in major cities compared with rural NSW (Figure 1.6).

Emergency departments (EDs) range from Level 1 (able to provide first aid) to Level 6 (major trauma centres). They provide specialised assessment and life-saving care and are often the gateway to inpatient services for acutely unwell patients. In 2015, there were 2.6 million ED visits across the state.

![Figure 1.6](image_url) GP services provided per capita, by remoteness of residence, NSW, 2014–15

![Figure 1.7](image_url) Percentage of persons aged 16+ years reporting ED use in the previous year by LHD of residence, NSW, 2014
In 2014, almost two in 10 NSW adults (17%) said they visited an ED in the preceding 12 months. The proportion of residents who visited an ED varied by remoteness and across LHDs. People living in Northern NSW were almost twice as likely to visit an ED as those living in Northern Sydney (Figure 1.7).

By remoteness, residents in outer regional and remote areas of NSW were most likely to visit an ED and 27% visited an ED at least once during the year 2014–15. A subset of that group, 5% of outer regional and remote residents, visited an ED three or more times during the year. In comparison, 25% of residents in inner regional areas and 17% of residents in major cities visited an ED at least once (Figure 1.8).

There are more than 220 public hospitals in NSW and they range in size and the complexity of services offered. While the largest – principal referral hospitals – are only found in major cities, other types are distributed across areas of remoteness (Appendix 1).

Smaller facilities that focus on providing flexible and integrated care are prevalent in regional and remote areas (See Appendix 1). Multipurpose services (MPS), in particular, integrate a range of health services, including acute care, subacute care (such as palliative care), emergency, allied health, oral health, primary health and community services.

Across the state, only 6% of hospital admissions occur in small hospitals (that is, other than principal referral, major, or district hospitals) and this proportion is similar in all urban LHDs. However in rural LHDs, a varying proportion of admissions occur in smaller hospitals – ranging from 4% in Northern NSW to 22% in Western NSW and 32% in Murrumbidgee (Appendix 1).

![Percentage of the population who frequently visited an emergency department, by remoteness of residence, NSW, 2014–15](source: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence (BHI analysis).)
In terms of utilisation, in 2014 across NSW there were 793,619 people who were hospitalised at least once, and there was a total of 1,245,324 overnight hospitalisations. Among outer regional and remote residents, 12% were hospitalised at least once during the year. A subset of that group, 2% of residents, were hospitalised three or more times. In comparison 11% of residents in inner regional areas and 10% of residents in major cities were hospitalised at least once [data not shown].

**Structure and resources**

Within NSW, healthcare delivery is administered through geographically-based LHDs. The main way that funds are distributed to LHDs is through a fee-for-service mechanism known as activity-based funding (ABF). Altogether about 90% of LHD budgets are allocated via ABF. However, because of their remoteness and low population density, small and rural hospitals cannot operate at the same levels of activity as larger urban hospitals. While in absolute terms they have lower levels of productivity, they provide access to appropriate and effective healthcare services.

This means that while most of the urban hospitals’ funding is allocated on a fee-for-service basis or ABF using the National Efficient Price, small and rural hospitals have a greater proportion of their budgets allocated via block funding. Across LHDs the use of block funding varies considerably. In 2015–16, block funding comprised 1% of the budget in Western Sydney and 41% in Murrumbidgee.

Access to rural health services can be compromised by workforce shortages related to problems recruiting and retaining healthcare professionals. While this has been a challenge historically, the medical workforce in rural NSW has increased significantly in recent years (Figure 1.9).

**Figure 1.9** Full time equivalent registered medical practitioners by remoteness, NSW, 2011–14

<table>
<thead>
<tr>
<th>Remoteness</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>% change (2011–14)</th>
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<td>Major cities</td>
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<td>398.2</td>
<td>413.1</td>
<td>419.8</td>
<td>3.4</td>
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<tr>
<td>Inner regional</td>
<td>273.0</td>
<td>270.3</td>
<td>283.7</td>
<td>290.9</td>
<td>6.6</td>
</tr>
<tr>
<td>Outer regional</td>
<td>172.8</td>
<td>177.6</td>
<td>171.7</td>
<td>186.2</td>
<td>7.8</td>
</tr>
<tr>
<td>Remote/very remote</td>
<td>147.9</td>
<td>105.2</td>
<td>167.9</td>
<td>182.2</td>
<td>23.9</td>
</tr>
</tbody>
</table>

Source: AIHW, Medical Practitioner Workforce, 2014.
Views from the qualitative consultation

The commissioned research identified workforce issues as the biggest challenge for rural healthcare. Service adaptation and transformation are seen as essential if rural health services are to meet contemporary challenges of sustainability, and safety and quality in rural healthcare.

Rural areas use a range of innovative and responsive strategies to enhance recruitment and retention of health professionals and develop a skilled and stable workforce. These include working with universities to support rural placements through undergraduate medical programs, targeted scholarship programs and support for international medical graduates.

Rural and remote healthcare is characterised by a lack of economies of scale and staffing issues. However, efficiencies are created by using flexible and adaptive models of service delivery such as the use of networking and hub and spoke models.

All of the small hospitals visited had undergone significant transformation and adaptations to service models. Rural hospitals had transformed into MPS, Urgent Care Centres with palliative or rehabilitation beds, Health Ones* or primary health services (without beds). Many rural services have used MPS as a transformative device to provide aged care beds; in one rural LHD, the number of MPS had grown from zero to 14 in a period of 15 years. In another LHD, a large number of faith-based and private organisations provide aged care accommodation.

“Workforce issues are the biggest challenge for rural healthcare performance... The biggest challenge many face is a lack of a specialist medical workforce resulting in a heavy reliance on visiting locums... [which can be] extremely costly and in some cases contribute to inconsistencies in care.” (Qualitative consultation respondent)

“The biggest challenges faced by rural areas in terms of workforce include an ageing workforce, attracting new graduates, recruitment and retention of mid-career professionals, training and ensuring an appropriate skill mix.” (Qualitative consultation respondent)

* Health One NSW services provide integrated care across general practice and community health services, see page 33 for details.
Utilisation of resources

Achieving good value for money in healthcare depends on using finite resources in ways that are sufficient to meet patients’ needs and expectations but do not significantly exceed them. For example, acute hospital beds that are used for ‘maintenance care’ – used for patients who are medically well enough to be discharged to a nursing home setting but for whom a suitable placement is not available – represents an inefficient use of acute care resources.

Between 2008–09 and 2014–15, the percentage of total bed days that were used for maintenance care in NSW overall was stable (3.2% to 3.4%), however the use of acute beds for maintenance care in rural areas decreased and was steepest in outer regional and remote hospitals (from 24% to 15%) (Figure 1.10).

Figure 1.10  Percentage of total bed days that were maintenance bed days, by remoteness of hospital, NSW, 2008–09 to 2014–15

Source: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence (BHI analysis).
Note: Multi-purpose services moved to Residential Aged care during this period.

Hospital bed occupancy rates provide an indication of the extent to which use of hospital bed resources are maximised, while ensuring there are available beds for admitting new patients in a timely manner and preventing bed shortages. Optimum bed occupancy is context specific. High bed occupancy has been associated with increased rates of adverse events or longer waiting times in the ED. Low occupancy can indicate idle capacity. 

Figure 1.11  Bed occupancy rate, public hospitals, by LHD, NSW, June 2016

Source: NSW Ministry of Health, provided by Health System Information and Performance Reporting Branch.
Note: Bed occupancy rate is based on June data only. The following bed types are excluded from all occupancy rate calculations: emergency departments, delivery suites, operating theatres, hospital in the home, recovery wards, residential aged care, community residential and respite activity.

Figure 1.10  Percentage of total bed days that were maintenance bed days, by remoteness of hospital, NSW, 2008–09 to 2014–15

Source: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence (BHI analysis).
Note: Multi-purpose services moved to Residential Aged care during this period.
The adaptation of rural healthcare services to meet the changing demographics of rural populations was one of the key features of our research. The shift from traditional self-contained hospitals to hub and spokes models of networked services and other alternative service models is allowing rural communities to respond effectively to changing demographics. Many small rural hospitals have converted to alternative service models including multipurpose services which often combine aged or palliative care facilities with emergency services or inpatient beds.

Significant reforms to rural health service organisation have occurred over the past two decades to meet the unique challenges of rural and remote healthcare including ageing and shrinking populations, rising levels of chronic disease, high costs of service delivery, recruitment and retention challenges and technology developments. The National Strategic Framework for Rural and Remote Health identifies the need to continue to develop flexible, responsive, integrated and innovative service models and models of care to meet rural healthcare needs into the future.

“People always feel that not having the beds full is a threat. They fear that if the beds are seen to be empty, the service will be closed. I explain to my staff that it’s not about how many people are in the beds; it’s about providing an effective and streamlined service.”

(Qualitative consultation respondent)

“There is a networking and infrastructure issue to consider when managing rural networks: how do you coordinate efficient services when rural communities are incredibly passionate and protective of their own communities and hospitals. You are fighting the problem of inefficiencies but at the same time you can’t underestimate the importance of small hospitals to a small community in terms of its social role.”

(Qualitative consultation respondent)

“Our hospital has an occupancy rate of about 60% but is kept open for accessibility reasons... this ties into people’s expectations of reasonable healthcare and reasonable distance. We run as efficiently as we can given these constraints – if it means we run at 25%, we run at 25%.”

(Qualitative consultation respondent)
Selected policies relevant to rural healthcare in NSW

**NSW Health Rural Plan Towards 2012** – Enhancing the rural health workforce is a key strategy of the NSW Rural Health Plan.

- More clinical nurse/midwife specialists and educators, including community health and community mental health nurses, in rural LHDs
- Continued investment in the Aboriginal health workforce through scholarships and cadetships, including Aboriginal cadetships for nursing, midwifery and allied health
- Training opportunities and attracting trainees to rural areas, including through the Rural Preferential Recruitment Program.

Relating to the rural workforce (Progress Report, December 2015):

- The NSW Health rural health workforce increased significantly between 2012 and 2015 with an additional: 18.6% medical professionals, 4.5% nursing professionals and 10.5% allied health professionals
- New training opportunities in 2015 for medical practitioners in rural areas
- Nurse Delegated Emergency Care more than doubled to 14 in the seven rural LHDs.

**NSW Health Professionals Workforce Plan 2012–2022** – Strategies to ensure NSW trains, recruits and retains doctors, nurses and midwives, oral health practitioners, paramedics and allied health professionals to meet the future needs of the community.

**Outreach Services** – The Rural Doctors Network Outreach Program works in partnership with health organisations to implement services locally. These include Aboriginal Community Controlled Health Services, LHDs, Primary Health Networks and hospitals. Programs include the:

- Rural Health Outreach Fund
- Medical Outreach Indigenous Chronic Disease Program
- Healthy Ears, Better Hearing, Better Listening
- Visiting Optometrist Scheme.

In April 2016, there were 1,267 active outreach services provided across NSW regional, rural and remote locations through the program.

**Incentives** – There are several grants available to GPs to encourage them to take up practice in rural areas. These include transition grants for relocation, continuing professional development vouchers and clinical orientation (training) grants. Other grants include:

- Rural Procedural Grants Program for continuing professional development for doctors working in surgery, anaesthetics, obstetrics and/or emergency medicine
- General Practice Rural Incentives Program – promotes careers in rural medicine as well as increases, recognises and retains medical practitioners in rural and remote Australia.
Selected improvement initiatives implemented in NSW

Isolated Patients Travel and Accommodation Assistance Scheme provides transport and travel assistance to people who cannot use or have difficulty using public and/or private transport or who are disadvantaged by distance.

The NSW Rural Doctors Network (RDN) has worked closely with Hunter New England LHD, Western NSW LHD, Pius X Aboriginal Health Service, and South West Hospital & Health Service to establish a GP-obstetrician and midwife service for Aboriginal women and babies in Collarenebri and Mungindi. The service is funded through the Medical Outreach Indigenous Chronic Disease Program, which is an Australian Government initiative administered in NSW by RDN. The service allows Aboriginal women to access comprehensive antenatal care on country and closer to home, and to receive timely referrals to specialised perinatal services.

Western NSW Patient Flow Unit – Western NSW is the second most sparsely populated LHD in NSW, with just over one person per sq km (271,000 people; 250,000 sq km). Patients frequently require supported transport to maximise the utilisation of available beds and to access an appropriate level of service. The LHD spends in excess of $26 million in transporting patients and specialists throughout the district. In response, the LHD’s Patient Flow Unit supports the delivery of care at the right place and right time.

Aboriginal Maternal and Infant Health Service (AMIHS) and Building Strong Foundations (BSF) for Aboriginal Children Families and Communities programs provide support to the workforce in the provision of culturally appropriate maternity and child and family healthcare in rural and regional NSW.
About this report

Data and methods

Determining remoteness

This report uses the Australian Bureau of Statistics (ABS) classification of remoteness area (RA). Patients admitted to hospital have been assigned to a ‘mesh block’ of residence in the data made available to BHI by the NSW Ministry of Health. An RA category has been assigned to each mesh block in NSW, so summary statistics by three-categories (major cities; inner regional; and outer regional, remote and very remote) can be computed simply. Indicators that report hospital level measures use the facility’s geographical location to define remoteness. They are assigned to an RA on the basis of Statistical area, level 1, which is part of the Australian Statistical Geography Standard (ASGS).

Administrative data sources

Admitted Patient Data Collection (APDC) – All NSW public hospitals, public psychiatric hospitals, public multipurpose services, private hospitals and private day procedure centres in NSW provide data to the NSW Ministry of Health on patients admitted for care. The collection also includes data relating to NSW residents hospitalised interstate in public hospitals.

Emergency Department Data Collection (EDDC) – The EDDC is derived from computer databases used for managing patients in EDs in public hospitals in NSW. Statewide, approximately 95% of all ED attendances (around 2 million visits per year) are included in the EDDC.

Secure Analytics for Population Health Research and Intelligence (SAPHiRI) is a data warehouse administered by the Centre for Epidemiology and Evidence (CEE) at the NSW Ministry of Health. It provides administrative data linked by the Centre of Health Record Linkage (CHeReL) using probabilistic record linkage methods.

Clinical Services Planning Analytics (CaSPA) tools were used to examine patient flows.

Patient surveys

International, national and state surveys were used.

The 2014 Commonwealth Fund International Health Policy Survey – Reflected the experiences of 25,530 adults aged 55+ years in 11 countries: Australia, Canada, Germany, France, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States. In NSW, 2,800 adults were surveyed between March and May 2014. Where questions of interest were not available in 2014, information was sourced from the 2013 Commonwealth Fund International Health Policy Survey. It reflected the experiences of 20,045 adults aged 18+ years in the same 11 countries. In NSW, 1,524 adults were surveyed between March and June 2013.

Respondents were grouped as either living in or very close to an urban centre, or living in small town/inner regional areas or a non-urban area. Definitions differed by jurisdiction (Figure 1.12).

Results were weighted to represent the age, sex, education and regional distribution of each country’s population in the survey year, with targets based on country census data. Results for comparisons based on fewer than 30 responses have been suppressed. Differences between the remote or inner regional values with major cities were tested at a 5% significance level and marked (*) when differences were significant (p<0.05). For details see Technical Supplement of Healthcare in Focus at bhi.nsw.gov.au

The Australian Bureau of Statistics (ABS) Patient Experience Survey – Conducted annually, the ABS Patient Experience Survey collects data on accessibility of a range of healthcare services. Nationally, information was collected from 30,749 fully responding households in 2012–13. A customised report with NSW data was provided by the ABS.

NSW Adult Population Health Survey – This is a telephone survey of NSW people who live in private households, focused on their health status and
health behaviours. From 2012 onwards mobile-only phone users were included. The target sample is approximately 1,000 persons in each health administrative area. Total sample size (completed interviews) was 15,442 in 2002 and 15,149 in 2012.

**NSW Patient Survey Program**

**Adult Admitted Patient Survey** – An ongoing postal survey, sent out monthly, focused on patients’ experiences of care in public hospitals. Survey responses were collected from 28,391 patients admitted to a public hospital in NSW in 2015.

**Targeted oversampling of adult admitted patients sought to boost the number of completed surveys received from two patient groups:** for cancer patients admitted to hospital in 2013 and 2014, this resulted in 6,457 completed questionnaires; and for Aboriginal patients admitted to hospital in 2014 it resulted in 2,714 completed questionnaires.

**Maternity Care Survey** – An ongoing postal survey, sent out monthly, every second year. Survey responses were collected from 4,739 new mothers who gave birth in NSW public hospitals in 2015.

**Small and Rural Hospital Survey** – An ongoing postal survey, sent out monthly, focused on patients’ experiences of care in small public hospitals across NSW. Survey responses were collected from 6,808 patients admitted to these small public hospitals in 2015.

**International comparators**

International context is provided by data from Sweden and Canada. These countries were selected as comparators because of their similarities in terms of a modest total population, large land masses (>400,000 km²), and extensive areas that are sparsely populated. Spending per capita on healthcare overall in 2013 was $5,755 in NSW; $6,614 in Canada and $7,454 in Sweden (AUS$, purchase price parity). Comparative data from these countries help interpret the impact that rurality has on healthcare performance across different healthcare systems and jurisdictions.

**Outpatient Cancer Clinics Survey** – A postal survey collecting the responses of people attending an outpatient cancer clinic during February or March 2015. Survey responses were collected from 3,706 outpatients.
Assessing healthcare

BHI reports are based on a framework that identifies key dimensions of healthcare performance. Healthcare in rural, regional and remote NSW explores:

**Accessibility**: Healthcare, when and where needed – Are patients’ and populations’ health needs met? How easy is it for them to obtain healthcare?

**Appropriateness**: The right healthcare, the right way – Are evidence-based services provided in a technically proficient way? Are services delivered in ways that are responsive to patients’ expectations?

**Effectiveness**: Making a difference for patients – Do healthcare services address patients’ problems and improve their health?

Appendix 2 provides a summary of patient survey results by LHD.

**Qualitative data**

BHI commissioned the University Centre for Rural Health (UCRH) to gather qualitative data that would complement available quantitative data and enhance interpretation of any comparative results. The UCRH project gathered reflections from key informants in regional and remote health districts, collected contextual information on a series of site visits to rural areas and convened a deliberative forum with key stakeholders.

Quotes and reflections collected by the UCRH team are used throughout the report in ‘Views from the qualitative consultation’ boxes. These provide context and insights from providers of healthcare in rural, regional and remote areas of NSW.

**Patient flows**

The report examines changes over time in the number and proportion of patients who were hospitalised in a public hospital in their LHD of residence; in a public hospital in another LHD or state (outflows); or in a private hospital. These data should be interpreted with care. Certain types of care can only be provided in a small number of specialist settings and providing the most appropriate and safe care can mean patients have to travel outside of their LHD of residence. Additional complexity comes with trying to track changes over time where there have been significant shifts in patient need and demand for services; in models of care; as well as in local capacity and resources.

**Report structure**

This introductory section outlined the report’s purpose, providing background information about rural health; and summarising data sources and methods used. The main body of the report comprises four chapters, which explore differences in healthcare in NSW by remoteness.

**Chapter 1** describes patients’ overall views about, and experiences of, healthcare

**Chapter 2** focuses on accessibility measures

**Chapter 3** focuses on appropriateness measures

**Chapter 4** focuses on effectiveness measures.

While a variety of measures are included, particular attention is given to thematic areas of importance in rural areas: antenatal and maternity care; cancer care; experiences of Aboriginal patients, and patients’ experiences in smaller rural hospitals.
How to interpret

Example 1: A ‘string of pearls’ graph is used to show a distribution of results (in this case hospitals) and highlight differences across the three remoteness categories. This example shows the percentage of re-presentations to ED in outer regional and remote, inner regional and major city areas.

**Emergency department re-presentations, percentage of ED visits for which patients had been to an ED within the preceding 48 hours, NSW public hospitals by remoteness, 2015–16**

<table>
<thead>
<tr>
<th>Remoteness Category</th>
<th>% of ED Visits that were Re-presentations within 48 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td>40%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>35%</td>
</tr>
<tr>
<td>Major cities</td>
<td>30%</td>
</tr>
</tbody>
</table>

Source: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence (BHI analysis).

Example 2: ‘Dot plots’ show the distribution of results for hospitals and highlight differences from the result for the remoteness category as a whole.

This example shows dot plots for a survey question, by remoteness of hospital. Each plot shows the number of hospitals, by the percentage of their patients who gave the response (usually this is the most positive response category).

Rural hospitals are shown above the central horizontal line and urban hospitals, below. Hospitals are coloured coded to indicate remoteness. All hospital results are available at bhi.nsw.gov

**Overall experience, percentage of patients who selected the most positive response category, maternity patients, NSW public hospitals by remoteness, 2015**

Overall, how would you rate the care you received in the hospital during your labour and birth? (% answering ‘very good’)  

<table>
<thead>
<tr>
<th>Remoteness Category</th>
<th>% of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td>76%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>82%</td>
</tr>
<tr>
<td>Major cities</td>
<td>73%</td>
</tr>
</tbody>
</table>

Source: BHI, Maternity Care Survey, 2015.
Overall views of healthcare
Overall views of healthcare

Rural hospitals were rated highly by patients

One important way to assess healthcare is to ask patients about their overall views of the healthcare system and their experiences of care.

Asked to reflect on the effectiveness of the healthcare system, 58% of adults aged 55+ years in outer regional and remote NSW said the system works ‘pretty well’, compared with 51% in inner regional areas and 54% in major cities (Figure 1.13).

Across NSW, Canada and Sweden, there were no significant differences by remoteness in the proportion of people who said that their healthcare system works ‘pretty well’ (Figure 1.15).

Within NSW, the Patient Survey Program each year distributes more than 200,000 questionnaires. Questionnaires are tailored to different groups but each one asks patients for an assessment of their overall experience of care – whether they would rate it to be ‘very good’, ‘good’, ‘adequate’, ‘poor’ or ‘very poor’.

The survey of adult patients who in 2015 were admitted to a public hospital showed that 71% of patients in outer regional and remote hospitals rated their care to be ‘very good’, compared with 72% in inner regional hospitals and 63% in major city hospitals. At a hospital level, greatest variation was seen in the major city category – with results ranging from 52% to 83% (Figure 1.14).

Results from NSW surveys of maternity patients and cancer outpatients also found patients in rural hospitals rated their experiences positively. For example, among women who gave birth in public hospitals, 82% of those in outer regional and remote hospitals said their care was ‘very good’ compared with 73% of those in major city hospitals (Figure 1.14).

For cancer outpatients, 90% of patients who visited a clinic in an inner regional hospital said their care was ‘very good’ while 82% of patients who visited a clinic in a major city hospital did so (Figure 1.14).

Figure 1.13 Overall view of healthcare system, all response categories, adults aged 55+ years, NSW by remoteness of residence, 2014

Which of the following statements comes closest to expressing your overall view of the healthcare system in this country?

- On the whole, the system works pretty well and only minor changes are necessary to make it work better
- There are some good things in our health care system, but fundamental changes are needed to make it work better
- Our health care system has so much wrong with it that we need to completely rebuild it

<table>
<thead>
<tr>
<th></th>
<th>Outer regional and remote</th>
<th>Inner regional</th>
<th>Major cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>On the whole, the system works pretty well and only minor changes are necessary to make it work better</td>
<td>58%</td>
<td>51%</td>
<td>54%</td>
</tr>
<tr>
<td>There are some good things in our health care system, but fundamental changes are needed to make it work better</td>
<td>35%</td>
<td>41%</td>
<td>41%</td>
</tr>
<tr>
<td>Our health care system has so much wrong with it that we need to completely rebuild it</td>
<td>6%</td>
<td>9%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
Figure 1.14  Overall experience, percentage of patients who selected the most positive response category, adult admitted patients, rural hospital patients, maternity patients and cancer outpatients, NSW public hospitals by remoteness, 2015

- Outer regional and remote hospital
- Inner regional hospital
- Major city hospital
- Outer regional and remote
- Inner regional
- Major city

Overall, how would you rate the care you received while in hospital? (% answering 'very good')

Overall, how would you rate the care you received while in [the small] hospital? (% answering 'very good')

Overall, how would you rate the care you received during your labour and birth? (% answering 'very good')

Overall, how would you rate the care you received in the cancer outpatient clinic? (% answering 'very good')


Figure 1.15  Overall view of healthcare system, percentage of adults aged 55+ years who selected the most positive response category, NSW, Canada and Sweden by remoteness of residence, 2014

Which of the following statements comes closest to expressing your overall view of the healthcare system in this country? (% answering that the system works pretty well)

NSW
Canada
Sweden

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
Accessibility

Healthcare, when and where needed
Accessibility

Healthcare, when and where needed

Accessibility depends upon healthcare services being provided to patients when and where they need them. Patients vary in the extent to which they are able: to recognise and identify their healthcare needs; to seek care; to reach providers; to pay for care and; to receive care that is proportionate and matched to their needs. High performing healthcare organisations and systems adapt their offer of services to respond to these relative abilities to access them.\(^1\)

This means that the measurement of accessibility focuses on utilisation of services or unmet needs, timeliness and punctuality, and on perceived barriers that disrupt or prevent receipt of healthcare. Measures reflect the availability and approachability of healthcare services, and assess whether costs to patients in terms of time, effort or money are onerous or unreasonable.

Summary of findings

- More than nine in 10 adults aged 55+ years in NSW have a regular doctor or GP clinic and this did not differ by remoteness
- 33% of patients in outer regional and remote areas and 19% of those in inner regional areas said they had difficulties accessing healthcare
- In particular, there were unmet needs for primary care – 14% of adults in outer regional and remote areas and 15% in inner regional areas said there was an occasion in the preceding year when they needed primary care but did not receive it
- About four in 10 people said they were able to get a same day primary care appointment when needed and this proportion was similar across remoteness categories. However, 39% of people who live in outer regional and remote areas said it was very difficult to get out-of-hours medical care, compared with 33% of people in inner regional areas and 17% in major cities
- Within NSW public hospital emergency departments (EDs), median waiting times to start treatment were shortest in outer regional and remote hospitals
- Waiting times to see a specialist or for non-urgent elective surgery were longer in rural areas. While over 97% of all elective surgery was completed within clinically recommended timeframes – regardless of the remoteness of the hospital – patients treated in inner regional hospitals generally had longer waiting times than those treated in major city or in outer regional and remote hospitals
- Travel times of over 30 minutes for antenatal care occurred in both rural and urban areas. Most women accessed postnatal care in the two weeks following the birth of their baby, and this did not differ by remoteness
- In 2014–15 in most rural local health districts (LHDs), there were fewer patients who had to travel outside the district for cancer care, compared to 2004–05
- Among patients admitted to a public hospital in 2014–15, the percentage who were admitted in their LHD of residence ranged across rural LHDs from 65.8% in Far West to 91.6% in Hunter New England.
Insights from the peer reviewed literature

- Adults and children living outside major cities have poorer oral health and are less likely to have visited a dentist in the preceding 12 months.²,³
- People in outer regional and remote areas use EDs for primary care more than urban populations, and are more likely to be hospitalised for conditions considered to be potentially preventable.⁴
- Rural populations have inequitable access to mental health services and are more likely to consult a GP for a mental health problem rather than a mental health professional.⁵
- Evaluation of the Mental Health Emergency Care–Rural Access Program (telehealth) found that providing reliable remote access to specialist mental health assessment and advice while supporting providers in rural communities resulted in better outcomes for patients and services.⁶
- Aboriginal people presenting to rural hospitals with acute ischaemic heart disease were less likely than non-Aboriginal people to be transferred to metropolitan hospitals and if transferred were also less likely to receive coronary angiography.⁷
- Across Australia, the highest rates of patients waiting for residential aged care were reported for those living in remote areas and for those living in areas classified to the two most disadvantaged socioeconomic status groups.⁸

Accessibility in a pluralist system

For most people in NSW, primary care acts as the first — and the main — source of healthcare. It is pivotal in the provision of integrated and coordinated services and plays an essential role in healthcare systems. Being able to access primary care when and where needed is an important issue for people in rural areas. NSW has a pluralist healthcare system — with responsibility for primary care services largely borne by the Commonwealth government; while the state government takes responsibility for most public hospital, mental health, community health and ambulance services. The measures in this chapter reflect on the different types of services — considering access from a patient perspective rather than from an administrative or organisational perspective focused only on state-funded care.
Healthcare when needed: Difficulties accessing care

Adults in rural LHDs were more likely to report difficulties with access

Accessibility depends upon services being provided when and where patients need them. When asked about their ability to access healthcare, 33% of adults in outer regional and remote areas said they had difficulties getting care when needed, compared with 19% in inner regional areas and 12% in major cities (Figure 2.2).

At a health district level, adults living in rural LHDs were more likely to say they had difficulties getting care when needed – with a threelfold difference in results between Western Sydney (9%) and Far West (29%) (Figure 2.2).

One important reason for unmet healthcare needs is lack of affordability. While financial coverage for most healthcare in Australia is delivered through publicly-funded Medicare and private health insurance, there are gaps or charges that are bridged by individuals. These out-of-pocket costs – both for care and for associated outlays such as parking or travel – can be a financial burden and result in patients delaying or skipping needed healthcare.

Across NSW, about one in 10 people aged 55+ years (12%), said they have skipped care due to cost – a relatively high proportion in international comparisons. While this proportion differed by remoteness – ranging from 9% among outer regional and remote residents to 14% among inner regional residents – differences did not reach statistical significance (Figure 2.1).

Similarly, in Sweden and Canada the proportion of people reporting cost barriers did not differ by remoteness (Figure 2.3).

Views from the qualitative consultation

“Cost is a barrier to some people all the time, and this is exacerbated in rural areas.”
(Qualitative consultation respondent)

“In some areas there are cost barriers because people can’t pay the ‘gap’ – in others, it is related to indirect costs. Costs of travel and accommodation for remote people may be prohibitive.”
(Qualitative consultation respondent)

Figure 2.1 Foregone care due to cost, all response categories, adults aged 55+ years, NSW by remoteness of residence, 2014

<table>
<thead>
<tr>
<th>Skipped treatment, consultation or prescription due to cost in the past year</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td>9%</td>
<td>91%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>14%</td>
<td>86%</td>
</tr>
<tr>
<td>Major cities</td>
<td>12%</td>
<td>88%</td>
</tr>
</tbody>
</table>

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
Figure 2.2  Healthcare when needed, percentage of people aged 16+ years who said they had difficulty getting care, NSW by remoteness of residence and LHD, 2012

Source: NSW Population Health Survey (SAPHeRI), Centre for Epidemiology and Evidence, NSW Ministry of Health.
Note: Data exclude people who said they did not need healthcare.

Figure 2.3  Foregone care due to cost, percentage of adults aged 55+ years who skipped care, NSW, Canada and Sweden by remoteness of residence, 2014

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
Coverage for primary care

‘No difference’ by remoteness in unmet needs for primary care

Coverage – the potential to access services should they be needed, is key to accessibility. Unmet healthcare needs often reflect a lack of coverage, such as shortfalls in insurance entitlements or a lack of affiliation with a primary care provider.

Primary care coverage is important because of the essential role played by GP practices and clinics – delivering preventive care, providing front line services for acute and chronic health problems, and acting as a gateway to the wider healthcare system. In 2014 across NSW, most adults aged 55+ years (95%) had a regular GP or clinic and patients in outer regional and remote areas were most likely to do so (98%) (Figure 2.4).

While coverage is key, it is also important to consider other characteristics of the care provided. Research has shown that primary care practices that act as a ‘medical home’ – that is, those that consistently provide continuity of care, coordinate wider healthcare services for their patients, and make care available at the time patients need it – achieve higher ratings of care, better patient engagement and improved outcomes.¹⁰

Affiliation with a medical home is measured by a score that combines patient responses to questions about the availability, continuity and coordination of care. Patients who answer positively to all of these questions are considered to have a medical home. Around six in 10 NSW patients are affiliated with a GP practice that has the hallmarks of a medical home, and this proportion did not differ with remoteness (Figure 2.4).

There is unmet need for GP services however. For example, 15% of people in inner regional areas said that on at least one occasion in the preceding year they needed to see a GP but did not do so (Figure 2.5).

Views from the qualitative consultation

“We are better off here [for primary care] than in the city – we are working toward continuity of care all the time. We don’t really have wait times. We just have a list and people are reminded to come in.” (Qualitative consultation respondent)

Improvement initiatives in NSW

HealthOne NSW Service Models provide integrated care across general practice and community health services – particularly in rural areas. The models have three key principles: multidisciplinary team care; provision of care spanning prevention to continuing care and; client and community involvement.

There are three main types of models in use across the state:

- Co-location – services located in close physical proximity
- Hub and spoke models – a core central base providing support for satellite services
- Virtual integration – providers linked by communication technologies.

Primary healthcare researchers have found that multidisciplinary integrated primary healthcare centres can improve access and integration.¹¹ Co-location, in particular, was found to make informal communication and information sharing easier for professionals of different disciplines.
Figure 2.4  Percentage of adults aged 55+ years who have a regular GP or place of care, or ‘medical home’, NSW, Canada and Sweden by remoteness of residence, 2014

<table>
<thead>
<tr>
<th></th>
<th>NSW</th>
<th>Canada</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has a regular doctor or GP</td>
<td>Outer regional and remote</td>
<td>Inner regional</td>
<td>Major cities</td>
</tr>
<tr>
<td>Has a medical home</td>
<td>Outer regional and remote</td>
<td>Inner regional</td>
<td>Major cities</td>
</tr>
</tbody>
</table>

% of adults

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.

Note: Adults have a ‘medical home’ if: they have a regular doctor or GP practice; and their regular doctor always/often knows about their medical history; and they are able to get a same-day/next-day appointment or the GP practice always/often gives a same-day response to telephoned medical questions; and one person is responsible for all care they receive from other doctors for a chronic condition or the GP practice always/often helps coordinate care received from other doctors or places.

* Estimate is significantly different to major cities.

Figure 2.5  Use of GP services, percentage of people aged 15+ years who said they had unmet need, NSW by remoteness of residence, 2014–15

Main reasons

- Waiting time too long or not available at time required
- Dislike or fear of service

Other categories

<table>
<thead>
<tr>
<th></th>
<th>Outer regional and remote</th>
<th>Inner regional</th>
<th>Major cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>14% reported unmet needs</td>
<td>30%</td>
<td>21%</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>39%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15% reported unmet needs</td>
<td>29%</td>
<td>28%</td>
<td>28%</td>
</tr>
<tr>
<td></td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12% reported unmet needs</td>
<td>38%</td>
<td>28%</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


# Estimate has a relative standard error between 25% and 50% and should be used with caution.

## Other categories for Outer regional and remote include ‘Too busy’ and ‘Cost’; for Inner regional include ‘Dislike or fear of service’ and ‘Cost’; for Major cities include ‘Dislike or fear of service’, ‘Cost’ and ‘Had an upcoming appointment’.
Healthcare when needed: Primary care accessibility

Same-day access to primary care did not differ according to remoteness

Availability refers to the extent to which patients can reach healthcare services in a timeframe that meets their needs.

In 2014, four in 10 adults aged 55+ years in NSW were able to access same-day care when needed and this proportion did not differ significantly by remoteness (Figure 2.6).

The proportion of adults aged 55+ years who said it was ‘very difficult’ to access out-of-hours primary care increased in conjunction with remoteness (17% in major cities, 33% in inner regional, 39% in outer regional and remote). There was a significant difference in the proportion of adults who said that they had used the ED for primary care, with people in inner regional areas most likely to do so (25%) (Figure 2.6).

In comparison with the NSW results, those from Canada show significant differences in primary care accessibility in terms of timeliness and after hours access to care. Use of ED for primary care did show a remoteness-associated gap in all jurisdictions and this was more pronounced in Canada (Figure 2.7).

Figure 2.6  Access to primary care, all response categories, adults aged 55+ years, NSW by remoteness, 2014

<table>
<thead>
<tr>
<th>Last time you were sick or needed medical attention, how quickly could you get an appointment to see a doctor or nurse?</th>
<th>On the same day</th>
<th>The next day</th>
<th>In 2 to 7 days</th>
<th>After more than 1 week</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td>40%</td>
<td>25%</td>
<td>30%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Inner regional</td>
<td>40%</td>
<td>21%</td>
<td>30%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Major cities</td>
<td>43%</td>
<td>25%</td>
<td>29%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How easy or difficult is it to get medical care in the evenings, on weekends, or holidays without going to the hospital emergency department?</th>
<th>Very easy</th>
<th>Somewhat easy</th>
<th>Somewhat difficult</th>
<th>Very difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td>16%</td>
<td>22%</td>
<td>23%</td>
<td>39%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>19%</td>
<td>23%</td>
<td>25%</td>
<td>33%</td>
</tr>
<tr>
<td>Major cities</td>
<td>22%</td>
<td>31%</td>
<td>30%</td>
<td>17%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The last time you went to the hospital emergency department was it for a condition that you thought could have been treated by the doctors or staff at the place where you usually get medical care?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td>19%</td>
<td>81%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>25%*</td>
<td>75%</td>
</tr>
<tr>
<td>Major cities</td>
<td>15%</td>
<td>85%</td>
</tr>
</tbody>
</table>

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.

* Estimate is significantly different to major cities.
Views from the qualitative consultation

Rural EDs are more frequently used for primary care purposes than urban EDs.

In remote areas, a health service rather than a GP may be the ‘medical home’. Health services include outreach services offered by LHDs supplemented by royal flying doctors services and Aboriginal Community Controlled Health Services.

“Rural EDs are completely different – we need to tell the story behind the numbers... in rural towns, GPs are also the ED doctor and there are a range of financial incentives that exist around this.”
(Qualitative consultation respondent)

Figure 2.7  Access to primary care, percentage of adults aged 55+ years who selected the most positive response category, NSW, Canada and Sweden by remoteness, 2014

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.

* Estimate is significantly different to major cities.
Managing access to hospital care

Most patients are treated in their LHD of residence for public hospital care

Healthcare systems consist of interconnected organisations – each with a different set of services. Patients prefer it when care is provided close to home and in recent years a number of initiatives have sought to bring specialist care to patients, through telehealth, mobile clinics, fly-in–fly-out consultant visits and additional investment in local capacity for some services.

Areas cannot and in many cases, should not, strive to provide the full range of care for residents. Certain types of care can only be provided in a limited number of locations. In order to provide a full complement of services to a population, the system works together in a coordinated way, sometimes sending patients outside their LHD of residence (both in rural and urban locations) to receive the services they need.

Across LHDs in the year 2014–15, the number of public hospitalisations for which patients travelled outside their LHD of residence ranged from 3,115 in Far West to 42,393 in Western Sydney. The proportion of public hospitalisations that were performed locally – that is within the patients’ LHD of residence – ranged from 65.8% in Far West to 91.6% in Hunter New England (Figure 2.8).

Between 2004 and 2014, the number of patients who had to travel outside their LHD of residence for public hospital care increased in all LHDs, except in Far West where there was a small decrease (Figure 2.9).

Figure 2.8 LHD resident hospitalisations and where they occurred, public and private hospitals, 2014–15

Source: NSW Ministry of Health, extracted from Clinical Services Planning Analytics (CaSPA) FlowInfo v15.0, Health System Planning and Investment Branch (BHI Analysis).
Notes: St Vincent’s Hospital is located within South Eastern Sydney LHD; The Children’s Hospital at Westmead is located in Western Sydney LHD; Sydney Children’s Hospital, Randwick is located in South Eastern Sydney LHD. For the purposes of flow analyses, these hospitals are considered as separate destinations, outside the LHD within which they are geographically located. While Albury Hospital falls under the governance of the Victorian Albury-Wodonga Health service, residents of Murrumbidgee LHD hospitalised at Albury Hospital have been considered as ‘Local residents hospitalised in their LHD of residence’.
Includes acute hospitalisations only. Patients admitted to private facilities as public patients under a contractual arrangement have been included in ‘Local residents hospitalised in their LHD of residence’.
Excludes hospital in the home, unqualified neonates, chemotherapy and renal dialysis hospitalisations.
Views from the qualitative consultation

Rural health services network between LHDs, across state borders, and with regional or metropolitan referral hospitals as appropriate to provide patient care. This is especially characteristic of remote services or LHDs that traverse both rural and remote areas.

The process of networking was described as being based on relationships and systems. In some cases, relationships are formalised through agreements and pathways, in other cases they happen in a more organic manner. When networks function effectively, then healthcare performance is optimised, but when they operate poorly, this impacts on service performance.

“There is a networking and infrastructure issue to consider when managing rural networks: how do you coordinate efficient services when rural communities are incredibly passionate and protective of their own communities and hospitals? You are fighting the problem of inefficiencies but at the same time you can’t underestimate the importance of a small hospital to a small community in terms of its social role. So one way to manage this is to make small hospitals part of a network.”

(Qualitative consultation respondent)

Figure 2.9 Hospitalisations, number that occurred outside the patients’ LHD of residence, NSW public hospitals, 2004–05 and 2014–15

<table>
<thead>
<tr>
<th>LHD</th>
<th>2004–2005 (LHD residents)</th>
<th>Hospitalisations</th>
<th>2014–2015 (LHD residents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Murrumbidgee</td>
<td>15,324</td>
<td></td>
<td>17,781</td>
</tr>
<tr>
<td>Southern NSW</td>
<td>11,126</td>
<td></td>
<td>15,853</td>
</tr>
<tr>
<td>Hunter New England</td>
<td>13,960</td>
<td></td>
<td>14,001</td>
</tr>
<tr>
<td>Western NSW</td>
<td>8,015</td>
<td></td>
<td>8,302</td>
</tr>
<tr>
<td>Northern NSW</td>
<td>6,323</td>
<td></td>
<td>8,226</td>
</tr>
<tr>
<td>Mid North Coast</td>
<td>5,038</td>
<td></td>
<td>5,463</td>
</tr>
<tr>
<td>Far West</td>
<td>3,123</td>
<td></td>
<td>3,115</td>
</tr>
</tbody>
</table>

Note: The NSW Health system includes non-geographical specialty networks (e.g. St Vincent’s, Children’s Hospital Westmead). Patients admitted to a hospital in these networks are shown as outflows from their LHD of residence, despite the fact that for some patients, the network hospital is situated in their local area.
Timeliness in the emergency department

Emergency departments (EDs) provide specialised assessment and life-saving care and are an entry point to inpatient services for acutely unwell patients. They are open to all with no coverage restrictions.

In 2013, of the NSW adults who said they visited an ED in the preceding two years, 46% waited less than 30 minutes to be treated – and this did not differ by remoteness. Results in Canada were much lower overall and Canadian patients in most rural areas were significantly more likely to report short waits than those in major cities (Figure 2.10).

While patient survey results provide information on experiences of care, they are based on a subset of all patients. Administrative data also measure timeliness, and are based on information about all ED visits. In administrative datasets, ED patients are allocated to one of five urgency (triage) categories. Each category has a defined maximum recommended time within which patients should start to receive treatment: resuscitation (within seconds); emergency (within 10 minutes); urgent (within 30 minutes); semi-urgent (within 60 minutes); and non-urgent (within 120 minutes). Hospitals with the shortest waiting times are seen in rural areas (Figures 2.11 and 2.12).

Views from the qualitative consultation

Timeliness of service provision in rural EDs reflects their successful adaptation of existing service models to community needs.

The need to operate efficiently while still providing the best possible level of service to patients emerged as a central tension in rural health practice. Rural and remote healthcare providers are characterised by a lack of economies of scale and an absence of systems such as a ‘pool’ of emergency staff to call on if necessary. A certain number of resources are required to provide a minimum level of service, even when this appears to be inefficient. Rural health services demonstrate incredible flexibility and adaptation in models of service to meet the needs of rural communities such as the use of networking, hub and spokes models, service adaptations and compensatory mechanisms. This means at times refashioning the services they provide to create efficiency that is broader than the small population they might service geographically.

Figure 2.10

Waiting in the emergency department, percentage of adults who said they waited less than 30 minutes before being treated, NSW, Canada and Sweden by remoteness of residence, 2013

The last time you went to the hospital ED, how long did you wait before being treated? (% answering ‘Less than 30 minutes’)

<table>
<thead>
<tr>
<th></th>
<th>NSW</th>
<th>Canada</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional</td>
<td>46%</td>
<td>30%</td>
<td>25%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>40%</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Major cities</td>
<td>40%</td>
<td>10%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: 2013 Commonwealth Fund International Health Policy Survey.

Note: Acuity patterns of ED visits vary by rurality. In 2015, 23% of visits to outer regional and remote EDs were triage 5, compared with 15% in inner regional and 10% in major city EDs.

* Estimate is significantly different to major cities.
Figure 2.11  Emergency department treatment, median waiting time for treatment to start by urgency, NSW public hospitals by remoteness, 2015

Source: NSW Ministry of Health, Emergency Department Data Collection.
Note: Time to start treatment is calculated as the difference between the visit time (the time of first recorded contact with an ED staff member, this may be at the commencement of clerical registration or of the triage process) and the commencement of clinical care (the time at which care commenced by a doctor, nurse, mental health practitioner or other health professional). Triage 1 patients are the most urgent and are almost all treated within two minutes. Clinicians treating them are focused on providing immediate and essential care, rather than recording times, therefore times to start treatment are generally not reported.

Figure 2.12  Waiting in the emergency department, percentage of patients whose treatment started on time, by triage category, NSW public hospitals by remoteness, 2015

Source: NSW Ministry of Health, Emergency Department Data Collection.
Note: Time to start treatment is calculated as the difference between the visit time (the time of first recorded contact with an ED staff member, this may be at the commencement of clerical registration or of the triage process) and the commencement of clinical care (the time at which care commenced by a doctor, nurse, mental health practitioner or other health professional). Triage 1 patients are the most urgent and are almost all treated within two minutes. Clinicians treating them are focused on providing immediate and essential care, rather than recording times, therefore times to start treatment are generally not reported.
Following assessment, stabilisation and treatment in the ED, patients are either discharged home, admitted to a short term Medical Assessment Unit or Emergency Medical Unit, admitted to a hospital ward, or transferred to another facility. A small percentage of patients choose not to wait for treatment.

In recent years, there has been a concerted effort to ensure that the time patients have to spend in the ED is less than four hours.

Patients who require admission to hospital from the ED generally have more complex health needs than those who are treated in the ED and leave. Time spent in the ED for these patients is affected not only by the efficiency of the ED but also by this complexity and by bed availability in the wider hospital. In general, patients who are admitted from the ED are less likely to leave within four hours of presentation.

Performance comparisons are therefore fairer when separated into two groups: treated and discharged; treated and admitted or transferred. EDs in outer regional and remote locations have a lower proportion of urgent cases and fewer patients requiring admission (Figure 2.13).

Over the past five years the proportion of NSW patients who left the ED within four hours has gradually increased, reaching 73.9% in April–June 2016. Across public hospitals in 2015, the proportion of patients who were treated and discharged within four hours ranged from 64.8% to 99.8%; while for patients who were treated and admitted the range was from 15.4% to 100%. Rural hospitals generally outperformed urban hospitals (Figure 2.14).

However, performance appears to be more closely related to the size of the ED than remoteness. Patients who visited smaller hospitals, regardless of their setting were more likely to spend less than four hours in the ED.

<table>
<thead>
<tr>
<th>Percentage of ED visits for which patients spent less than four hours in the ED, NSW public hospitals by remoteness, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
</tr>
<tr>
<td>Treated and discharged</td>
</tr>
<tr>
<td>Treated and admitted</td>
</tr>
<tr>
<td>All visits</td>
</tr>
</tbody>
</table>

Source: NSW Ministry of Health, Emergency Department Data Collection.
Figure 2.14  Percentage of ED visits for which patients spent less than four hours in the ED, patients who were treated and discharged and patients who were treated and admitted, NSW public hospitals by remoteness, 2015

A. ED visits for which patients were treated and discharged

B. ED visits for which patients were treated and admitted to hospital

Source: NSW Ministry of Health, Emergency Department Data Collection.
Patients who left the ED before treatment

Patients in rural EDs had shorter waits; fewer leave before receiving treatment

Leaving the ED without treatment may be a reflection of individual factors (resolution of the presenting problem, personal circumstances) or hospital factors (wait was too long, lack of cultural sensitivity). Leaving the ED without treatment could also be an accessibility issue.

Of the last 2.5 million ED visits in NSW in 2015, about 139,000 patients left before they received treatment (5% of visits).12

ED visits in metropolitan hospitals were more likely to result in patients leaving before treatment than those in inner regional and in outer regional and remote hospitals. Across metropolitan hospitals, the percentage of ED visits for which patients left at their own risk or did not wait ranged from 1.4% to 12.2%. The range was much tighter in outer regional and remote hospitals – from 0.4% to 5.0% (Figure 2.15).

There is a general association between increasing ED waiting times and the percentage of patients who left without treatment (Figure 2.16).

Figure 2.15 Percentage of ED visits for which the patient did not wait for care or left at their own risk, NSW public hospitals by remoteness, 2015

Source: NSW Ministry of Health; Emergency Department Data Collection.
Figure 2.16  Percentage of ED visits for which the patient did not wait for care or left at their own risk by median time to start treatment, triage 3 to 5, NSW public hospitals by remoteness, 2015

Source: NSW Ministry of Health, Emergency Department Data Collection.
Timeliness of specialist appointments and surgery

Wait times for rural patients were longer to see a specialist and for surgery in public hospitals

Patients visit specialists for a range of reasons including diagnosis, treatment and monitoring of significant illnesses. Patient pathways to access specialist care vary and can span public and private healthcare sectors.

International survey results show that patients living in rural areas of NSW tend to have longer waits for specialist services. Among surveyed patients in outer regional and remote areas, 42% said they waited less than four weeks for an appointment (Figure 2.17).

The tendency for patients who live in outer regional and remote areas to have longer waits for a specialist appointment was also seen in Canada, although the effect associated with remoteness was smaller than that seen in NSW (Figure 2.19).

NSW also had the most marked difference by remoteness in the proportion of patients who said they waited less than one month for elective surgery. These survey results include public and private hospital patients and do not take account of differences in case mix or urgency. In the NSW public hospital system, almost all elective surgery occurs within clinically recommended times (see page 47).

Results from the NSW Patient Survey Program show that the percentage of patients who said they waited four weeks or less for a specialist appointment for surgery ranged across hospitals from 39% to 87%; and the percentage who waited less than one month for surgery ranged from 9% to 51%. Waiting times for specialist appointments and surgery tend to be longer in rural hospitals than in urban hospitals (Figure 2.18).

Figure 2.17 Waiting for specialist appointments and for surgery, all response categories, NSW adults by remoteness of residence, 2013

<table>
<thead>
<tr>
<th></th>
<th>Less than 4 weeks</th>
<th>1 month to 2 months</th>
<th>2 months or longer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td>42%</td>
<td>30%</td>
<td>28%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>47%</td>
<td>35%</td>
<td>18%</td>
</tr>
<tr>
<td>Major cities</td>
<td>52%</td>
<td>37%</td>
<td>10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Less than 1 month</th>
<th>1 to 4 months</th>
<th>4 months or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td>Results suppressed due to small sample size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inner regional</td>
<td>35%</td>
<td>52%</td>
<td>12%</td>
</tr>
<tr>
<td>Major cities</td>
<td>69%</td>
<td>19%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: 2013 Commonwealth Fund International Health Policy Survey.
After you were advised to see or decided to see a specialist doctor or consultant (public or private), how long did you have to wait for an appointment? (% answering ‘Four weeks or less’)


Note: These questions were only completed by patients who had a planned operation or surgical procedure.

After you were advised you needed surgery, how long did you have to wait for non-emergency or elective surgery (public or private)? (% answering ‘Less than 1 month’)

Source: 2013 Commonwealth Fund International Health Policy Survey.

Note: Results for NSW outer regional and remote are suppressed due to small sample size.

* Estimate is significantly different to major cities.
Timeliness in elective surgery

Elective surgery is performed within recommended times in NSW rural hospitals

Elective surgical procedures performed in NSW public hospitals are assigned an urgency category, with different recommended maximum waiting times:

- Category 1 (urgent): within 30 days
- Category 2 (semi-urgent): within 90 days
- Category 3 (non-urgent): within 365 days.

Almost all (97.2%) elective surgical procedures were performed within the recommended times, regardless of the remoteness of the hospital (Figure 2.20).

Within NSW in 2015, median waiting times did not differ with remoteness for urgent and semi-urgent surgery. There was however, a sizeable difference in median waiting times for non-urgent surgery – ranging from 194 days in major city hospitals to 287 days in inner regional hospitals (Figure 2.21).

The waiting time profiles for non-urgent surgery differs by remoteness. The pattern seen in outer regional and remote hospitals is one of a fairly steady rate. In inner regional and major city hospitals, there is a clear concentration of patients who waited around 15 weeks and 52 weeks (Figure 2.22).

![Figure 2.20](source.png)

**Elective surgery, percentage performed within recommended times by urgency, NSW public hospitals by remoteness, 2015**

![Figure 2.21](source.png)

**Elective surgery, median waiting times by urgency, NSW public hospitals by remoteness, 2015**
Figure 2.22  Non-urgent surgery, number of patients who underwent surgery by number or weeks waited, NSW public hospitals by remoteness, 2015

Source: NSW Ministry of Health, Waiting List Collection On-line System.

Figure 2.23  Elective surgery, distribution of urgency categories, NSW public hospitals by remoteness, 2015

Source: NSW Ministry of Health, Waiting List Collection On-line System.
Accessibility of maternity services

Most mothers access postnatal care, regardless of remoteness

Maternity services vary by remoteness. Many rural centres use models of care that rely on a mix of obstetrician and GP/obstetrician-led services, midwifery group practices, and planned caesarean section services.

Towards Normal Birth \(^{73}\) states that all women in NSW should be able to access comprehensive public antenatal care close to their home; and to receive midwifery support for at least two weeks after their baby is born (target 100% for urban and 80% for rural services by 2015).

Patient survey data show that in terms of accessibility of antenatal services, just over 70% of women in rural areas had travel times of less than 30 minutes for antenatal care. Across rural hospitals, this proportion ranged from 55% to 85% (Figure 2.24).

On questions regarding access to postnatal care, most mothers had a follow-up appointment with a midwife or nurse, regardless of the remoteness of the hospital in which they gave birth.

Providing safe care, close to home is an important objective for maternity services. In the 10-year period between 2004–05 and 2014–15, the number of patients who had to travel outside their LHD of residence to receive maternity services in a public hospital decreased in Hunter New England, Mid North Coast, Murrumbidgee and Far West LHDs (Figure 2.25).

Figure 2.24  Access to maternity services, percentage of women who selected the most positive response category, NSW public hospitals by remoteness, 2015

<table>
<thead>
<tr>
<th></th>
<th>Outer regional and remote hospital</th>
<th>Inner regional hospital</th>
<th>Major city hospital</th>
<th>Outer regional and remote</th>
<th>Inner regional</th>
<th>Major city</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had to usually travel under 30 minutes (one way) for antenatal care check-ups during pregnancy</td>
<td>72%</td>
<td>73%</td>
<td></td>
<td>83%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the first two weeks after arriving home, had a follow-up appointment with a midwife or nurse</td>
<td>95%</td>
<td>96%</td>
<td></td>
<td>95%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: BHI, Maternity Care Survey, 2015.
Figure 2.25  Maternity hospitalisations, number that occurred outside the patients’ LHD of residence, NSW public hospitals, 2004–05 and 2014–15

<table>
<thead>
<tr>
<th></th>
<th>2004–2005 (LHD residents)</th>
<th>2014–2015 (LHD residents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Murrumbidgee</td>
<td>1,862</td>
<td>1,779</td>
</tr>
<tr>
<td>Hunter New England</td>
<td>757</td>
<td>407</td>
</tr>
<tr>
<td>Southern NSW</td>
<td>727</td>
<td>972</td>
</tr>
<tr>
<td>Western NSW</td>
<td>490</td>
<td>523</td>
</tr>
<tr>
<td>Far West</td>
<td>270</td>
<td>229</td>
</tr>
<tr>
<td>Mid North Coast</td>
<td>219</td>
<td>199</td>
</tr>
<tr>
<td>Northern NSW</td>
<td>214</td>
<td>275</td>
</tr>
</tbody>
</table>

Source: NSW Ministry of Health, extracted from Clinical Services Planning Analytics (CalSPA) FlowInfo v15.0, Health System Planning and Investment Branch (BHI Analysis).

Notes: St Vincent’s Hospital is located within South Eastern Sydney LHD; The Children’s Hospital at Westmead is located in Western Sydney LHD; Sydney Children’s Hospital, Randwick is located in South Eastern Sydney LHD. For the purposes of flow analyses, these hospitals are considered as separate destinations, outside the LHD within which they are geographically located. While Albury Hospital falls under the governance of the Victorian Albury-Wodonga Health service, residents of Murrumbidgee LHD hospitalised at Albury Hospital have been considered as ‘Local residents hospitalised in their LHD of residence’. Includes public acute hospitalisations with ARDRG code 7.0: Pregnancy, Childbirth and Puerperium. Excludes hospital in the home, unqualified neonates, chemotherapy and renal dialysis hospitalisations.

**Policies implemented in NSW**

**Mullumbimby Community Birthing Service** in Northern NSW is a publicly-funded homebirth model of care that offers women a safe option to birth at home supported by skilled midwives. It also supports their right to choose where they will give birth.

**High Risk Maternal Fetal Outreach Clinic** in Moree delivers care to a high risk obstetric population. A visiting team from Newcastle (John Hunter Hospital) comprises:

- Maternal Fetal Medicine Specialist
- Obstetrics and Gynaecology (O&G) Senior Registrar
- Clinical Midwifery Consultant – High Risk
- Neonatal ICU Nurse Specialist
- Aboriginal Maternal and Infant Health Service (AMIHS) Manager
- Supported by the local team members including midwife, Aboriginal Health Worker, ultrasound sonographer (private), social worker.

Travel savings for the women and their families were estimated to be 90,100 km (1,000 km round trip to and from Newcastle from Moree; and 550 km round trip to and from Tamworth from Moree).
Accessibility of cancer services

Fewer patients have to travel outside their LHD of residence to receive cancer care

For almost 20 years, poorer cancer survival in rural areas has been well documented. There are disparities between rural and urban patients in cancer outcomes, in particular in oesophageal cancer and melanoma mortality rates – although no differences in breast cancer mortality rates.\textsuperscript{14}

Historically, rural and remote cancer patients have been more likely to experience diagnostic delays and lower rates of early detection. This has been attributed to a lack of diagnostic facilities such as computed tomography scanning and tissue biopsy services. As a result, there has been a concerted effort to improve cancer services for people living in rural and remote areas of NSW.

Compared with 2004–05, the number of patients who in 2014–15 had to travel outside their LHD of residence to receive cancer services in a public hospital decreased in Northern NSW, Southern NSW, Hunter New England, Mid North Coast and Western LHDs. In contrast, this number increased in Murrumbidgee and Far West LHDs (Figure 2.26).

A significant proportion of cancer care is provided in outpatient clinics. Patient survey data show that accessibility and timeliness of care varies across NSW (Figure 2.27).

Views from the qualitative consultation

“This has been a ‘golden period’ for replacing numerous outdated hospital buildings and the introduction of new services such as medical oncology, haematology, radiation oncology, ...and some types of diagnostic imaging services. This investment [can be measured] by the changes in patient flows in a 10-15 year period.”

(Qualitative consultation respondent)
Policies implemented in NSW

The NSW Cancer Plan (2016)\textsuperscript{15} seeks to improve cancer outcomes across the community, but focuses particularly on communities at higher risk of cancers and those who experience poorer outcomes. It reiterates initiatives developed under the NSW Rural Health Plan: Towards 2021\textsuperscript{16}, including:

- Cancer prevention and health promotion initiatives in rural communities such as the Get Healthy Information and Coaching Service, NSW Quitline and iCanQuit
- Get Healthy at Work in rural settings, with a focus on physical inactivity, poor nutrition, obesity, tobacco use, harmful consumption of alcohol and ultraviolet radiation exposure
- Ensure at-risk populations in rural communities have access to prevention programs such as the Needle and Syringe Program, vaccination for Hepatitis B and community education campaigns
- Support for those in rural communities facing critical end-of-life decisions
- Ensure statewide research initiatives consider the research needs of rural areas, including those focused on growing research assets, infrastructure and investment.

Since 2010, there have been significant investments in radiotherapy services in Orange, Port Macquarie and Lismore. New regional cancer centres have been established at Tamworth, Nowra and Gosford.\textsuperscript{17}

Figure 2.27  Accessibility of cancer services, percentage of patients who selected the most positive response category, NSW public hospitals by remoteness, 2015

Listening to patients hospitalised in small facilities

Small hospitals provide timely care and fewer patients incur out-of-pocket costs

Small hospitals play a vital role in providing healthcare to people in rural and regional NSW. Across the state about 6% of hospitalisations occur in facilities that have fewer than 2,000 acute hospitalisations per year. In some rural LHDs, small hospitals deliver a much bigger proportion of hospitalisations – for example 32% in Murrumbidgee and 22% in Western NSW (Appendix 1).

In 2015, BHI conducted a survey of patients who were hospitalised in small hospitals (defined as hospitals not in peer groups A, B or C*). As a result, for the first time, it is possible to compare patient experiences in small and large hospitals by remoteness.

In terms of accessibility measures, in rural LHDs there was only a slight difference between small and large hospitals in the proportion of patients who said the time they waited to be taken to their room or ward was ‘about right’. Differences were more marked in patient responses about delays in discharge, with patients in small rural facilities more likely to report no delay (Figure 2.28).

Within the small hospital survey, results varied – with the proportion of patients who reported no delays in discharge ranging between 88% and 100% of patients in small outer regional and remote hospitals (Figure 2.30).

A question about out-of-pocket costs incurred by patients as a result of their hospital stay was included only in the small hospital survey. Results show that the majority of patients said they had no out-of-pocket costs – ranging from 81% in small hospitals in major cities to 90% in small hospitals in outer regional and remote areas (Figure 2.29).

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Figure 2.28  Timeliness of care, percentage of patients who selected the most positive response category, adult admitted and small and rural hospital surveys, LHDs, NSW, 2015

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* Peer group A includes principal referral and specialist hospitals; peer group B includes major hospitals and peer group C includes district hospitals.
Surveys of hospitalised patients

Altogether there are more than 220 public hospitals in NSW – ranging in size and in the breadth and complexity of services they offer. One important way to assess hospital performance is through patient surveys.

BHI manages the NSW Patient Survey Program and every year sends out around 200,000 questionnaires to different patient groups. Until now, surveys of adult admitted patients have been limited to principal referral, major and district hospitals (referred to as peer groups A, B and C). In 2015, patients in smaller hospitals and MPS were surveyed and so it is possible to assess patients’ experiences of care in many more rural hospitals.

For more information and results from the Small and Rural Facilities Survey, go to BHI’s interactive data portal, Healthcare Observer: bhi.nsw.gov.au/healthcare_observer

Figure 2.29  Out-of-pocket costs, all response categories, NSW small public hospitals by remoteness, 2015

<table>
<thead>
<tr>
<th></th>
<th>Outer regional and remote</th>
<th>Inner regional</th>
<th>Major cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nothing</td>
<td>90%</td>
<td>88%</td>
<td>81%</td>
</tr>
<tr>
<td>Less than $100</td>
<td>5%</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>$100 to less than $1000</td>
<td>5%</td>
<td>5%</td>
<td>8%</td>
</tr>
<tr>
<td>$1000 or more</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Figure 2.30  Timeliness of care, percentage of patients who selected the most positive response category, NSW small rural public hospitals by remoteness, 2015

Do you think the time you had to wait from arrival at hospital until you were taken to your room or ward was...? (% answering ‘About right’)

On the day you left this hospital, was your discharge delayed? (% answering ‘No’)

Accessibility and Aboriginality

Seven in 10 Aboriginal patients said the time they waited before being admitted was about right

Health disparities between Aboriginal and non-Aboriginal patients in Australia are often linked to issues of accessibility. While surveys can provide important information about accessibility, timeliness and punctuality of care, a survey of admitted patients cannot completely capture healthcare access issues, for example where there is unmet need or an inability to access care at all.

In terms of timeliness of care, Aboriginal and non-Aboriginal patients reported similar waiting times for various stages of care, however 60% of Aboriginal patients said they were able to get an appointment with a specialist within four weeks, compared with 68% of non-Aboriginal patients (Figure 2.31).

In general, responses from Aboriginal and non-Aboriginal patients were similar in urban and rural hospitals. Responses did, however, differ for the question regarding time spent in the ED. In rural hospitals, 63% of Aboriginal patients said the amount of time they spent in the ED was ‘about right’, compared with 74% of non-Aboriginal patients (Figure 2.32).

Comparing Aboriginal patients’ responses across LHDs, the widest variation was found in the proportion who said the time they spent in the ED was ‘about right’ (38% to 76%) (Figure 2.33).

Figure 2.31 Patient-reported waiting times, all response categories, Aboriginal and non-Aboriginal patients, NSW public hospitals, 2014

<table>
<thead>
<tr>
<th>Hospital stay was planned in advance</th>
<th>Aboriginal (1,211 patients)</th>
<th>Non-Aboriginal (1,124 patients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>From the time a doctor said you would need to go to hospital, how long did you have to wait to be admitted?</td>
<td>63% 13% 15% 9%</td>
<td>66% 12% 15% 7%</td>
</tr>
<tr>
<td>0–3 months</td>
<td>4–6 months</td>
<td>7–12 months</td>
</tr>
<tr>
<td>69% Aboriginal patients said this wait was ‘about right’</td>
<td>70% Non-Aboriginal patients said this wait was ‘about right’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operation or surgical procedure was planned in advance</th>
<th>Aboriginal (1,035 patients)</th>
<th>Non-Aboriginal (9,864 patients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking back to when you first tried to book an appointment with a specialist, how long did you have to wait to see that specialist?</td>
<td>60% 22% 18%</td>
<td>68% 19% 13%</td>
</tr>
<tr>
<td>0–4 weeks</td>
<td>5–8 weeks</td>
<td>More than 8 weeks</td>
</tr>
<tr>
<td>61% Aboriginal patients said that altogether, this was ‘about right’</td>
<td>62% Non-Aboriginal patients said that altogether, this was ‘about right’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>From the time a specialist said you needed an operation or surgical procedure, how long did you have to wait to be admitted to hospital?</th>
<th>Aboriginal (1,133 patients)</th>
<th>Non-Aboriginal (10,590 patients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–3 months</td>
<td>4–6 months</td>
<td>7–12 months</td>
</tr>
<tr>
<td>60% 15% 17% 8%</td>
<td>65% 13% 16% 7%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Bureau of Health Information. Patient Perspectives. Hospital Care for Aboriginal People. Sydney (NSW); BHI; 2016.
Views from the qualitative consultation

Strong leadership in Aboriginal Community Controlled Health Services and public health are essential to the provision of effective healthcare services to Aboriginal people.

“Our ‘did not waits’ are quite large – for Indigenous patients they are among the highest in the state. We have done a clinical redesign project to look into this. There is a theory that local Indigenous people just don’t pay attention to staff but I don’t think that’s true. I think we just don’t have a lot of Indigenous-friendly features – signage, simple language, etc. and we are working on this. Personally, I think people have often been to the Aboriginal Medical Service and then been referred – so we think they haven’t bothered to wait but actually they have probably been waiting all day.”

(Qualitative consultation respondent)
Resource use and context: Telehealth

Telehealth use is increasing across NSW

Telehealth – the delivery of healthcare at a distance, through the use of information and communications technology19 – provides a range of benefits for patients, their families and carers, healthcare workers and the broader health system.

Telehealth services can:

- Deliver health services into remote communities, reducing the need for travel
- Provide timely access to services and specialists, providing the ability to diagnose and monitor health remotely
- Help educate, train and support isolated healthcare workers on location
- Support people with chronic conditions to manage their health.

Nationally, Medicare Benefits Schedule (MBS) items have been introduced to provide rebates for telehealth consultations with medical specialists in other locations. MBS items have also been introduced for GPs, other medical practitioners, nurse practitioners, midwives, Aboriginal health workers and practice nurses to provide face-to-face clinical services to a patient during a consultation with a specialist.

The number of MBS claims for telehealth consultations has been increasing across the state fairly steadily since July 2011. Between July 2011 and May 2016, there was a 27-fold increase in claims (Figure 2.34).

Geographic distribution of claims is concentrated in rural areas. Across Australia, the number of claims per 1,000 population is significantly higher in regional and remote areas than in major cities (Figure 2.35).

**Figure 2.34  MBS claims for telehealth consultations, NSW, July 2011–May 2016**

**Figure 2.35  Telehealth services, by remoteness of residence, Australia (claims processed as at 31 March 2014)**

<table>
<thead>
<tr>
<th>Services</th>
<th>Claims per 1,000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major cities</td>
<td>21,752</td>
</tr>
<tr>
<td>Inner regional</td>
<td>74,178</td>
</tr>
<tr>
<td>Outer regional</td>
<td>62,125</td>
</tr>
<tr>
<td>Remote</td>
<td>8,539</td>
</tr>
<tr>
<td>Very remote</td>
<td>2,950</td>
</tr>
<tr>
<td>Unallocated</td>
<td>57</td>
</tr>
<tr>
<td>Total</td>
<td>169,602</td>
</tr>
</tbody>
</table>

Source: Medicare Benefits Schedule database

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Note: There is a substantial number of telehealth consultations in NSW that are not claimed for under MBS however these data are not routinely collected or reported.
Selected policies in NSW

NSW Health’s Telehealth Framework and Implementation Strategy 2016–2021 outlines the role that telehealth can play in delivering patient-centred care and is aligned with other key NSW Health strategies such as the NSW State Health Plan – Towards 2021, the NSW Rural Health Plan – Towards 2021, eHealth’s A Blueprint for eHealth in NSW and the NSW Health Integrated Care Strategy 2014–2017.

Telehealth usage in NSW commenced in the mid-1990s and sought to improve access, appropriateness and effectiveness of health services, particularly for rural and remote communities.

NSW Health has made considerable investments in telehealth initiatives, particularly in infrastructure and tools needed to support integrated care, the establishment of a videoconferencing system, an increase in available bandwidth, and the capacity to share medical information.

A recent review identified Hunter New England LHD (HNELHD) as a leader in the use of telehealth-enabled services. HNELHD uses telehealth for clinical education, training and workforce support and to deliver patient services across a range of clinical specialties. In orthopaedics, for example, the use of telehealth in HNE has been estimated to:

- Deliver 316 outpatient appointments
- Save 72,324 km of travel, and 38 nights away from home
- Represent an estimated $81,014 patient and carer costs saved and 20.4 tonnes of carbon dioxide.
Appropriateness
The right healthcare, the right way
Appropriateness

The right healthcare, the right way
Appropriateness

The right healthcare, the right way

Appropriateness refers to the extent to which patients receive services that respond to their health needs, social circumstances and their reasonable expectations regarding how they want to be treated and cared for.

There are two main types of appropriateness measures. The first type focuses on whether healthcare services provided to patients were in line with best-practice models of care – was ‘the right care’ delivered? The second type focuses on patient experiences – was healthcare provided in ‘the right way’?

Appropriateness measures include:

- Assessments of whether services provided to patients are evidence-based or in line with current best practice
- Assessments of whether services are responsive to how people want to be treated when seeking healthcare, the environment in which they are treated and the extent to which services are tailored to their circumstances, values and expectations
- Assessments of technical proficiency and competence focus on error rates.

Summary of findings

- Over three quarters of women, aged 50 to 69 years, in inner regional NSW said they have recently had a mammogram – a higher proportion than in major cities or outer regional remote areas
- No association was seen between remoteness and the receipt of blood pressure and cholesterol checks, or influenza vaccinations – despite higher patient-reported prevalence of hypertension (high blood pressure) and diabetes in outer regional and remote areas
- In recent years, an increasing proportion of patients in rural hospitals underwent hip fracture surgery within two days of admission
- Across rural hospitals, between 84% and 96% of patients said their identification band or name was always checked before they were given medications or treatments
- Around seven in 10 patients said their GP always explains things in an understandable way and spends enough time with them – and this did not differ by remoteness
- A survey of patients admitted to principal referral, major and district hospitals found that those in rural hospitals were more likely to say they were as involved as they wanted to be in decisions about their care and treatment; about discharge and about medications
- A different survey of patients admitted to smaller hospitals found that rural patients were even more positive about engagement in their care than those hospitalised in larger hospitals
- Across NSW public hospitals, the proportion of births that were elective caesarean sections did not differ by remoteness
- Differences in experiences of hospital care between Aboriginal and non-Aboriginal patients were generally greater in hospitals in rural areas than those in urban areas.
Insights from the peer reviewed literature

- A study of diabetes monitoring in regional and rural Australia found that regular and follow up testing of HbA1c and blood lipids did not meet clinically recommended guidelines.

- A population based study of NSW cancer registry records found that people with early stage small cell lung cancer who lived more than 100 km from the nearest hospital with a specialty thoracic surgery service were more likely to have no potentially curative surgery and were more likely to be admitted to general hospitals for their care than those living within 39 km of a specialist hospital.

- Nurse-led models of care can improve self-management and continuity of care for people living with chronic diseases in rural areas.

- Patients living with chronic disease in rural and remote areas need more support from clinicians and ancillary services for effective self-management tailored to local needs and community contexts.

- Empowering indigenous healthcare workers through education and resourcing, collaboration with a specialist medical service and culturally appropriate care are important elements of an effective childhood asthma management model for Indigenous populations.

- Time to hip fracture surgery was significantly longer for patients transferred to a rural orthopedic hospital compared with those who presented directly.

- People living in rural areas are less likely to receive brain imaging within 24 hours, stroke unit care, or stroke unit rehabilitation compared with people living in urban areas.

- Targeted education, quality improvement activities and an appropriately prepared and supported workforce can improve the quality of cardiovascular disease prevention in rural primary care in Australia, especially for high-risk patients.

- Embedding pharmacists within Aboriginal Health Services may enhance medication knowledge and adherence among Aboriginal patients.

- Prevalence of dementia in remote Aboriginal communities has been found to be far greater than for the wider community, however, there are limited specialist medical services available, poor coordination of existing services and a lack of education related to dementia for health and community workers.
Receiving preventive services

More people in rural NSW are overweight, but no more likely to discuss diet with GP

Rural and remote health services offer a number of preventive services but these may be limited by resources or have limited effectiveness given the complex health needs of rural populations.

Preventive care has two important types of benefits – for patients it helps avoid unnecessary pain and suffering; for healthcare systems it is cost effective, delivering better health for relatively low expense. Encouraging and supporting behaviour change is a key element of preventive care.

In 2015, around half of NSW people 16+ years were either overweight or obese; one in 10 were current smokers; nine in 10 did not achieve the recommended daily intake for vegetables; and three in 10 consumed alcohol at levels that pose a lifetime risk to health.\textsuperscript{12}

Adults living in outer regional and remote areas were most likely to smoke, to be overweight or obese and engage in risky drinking (Figure 3.1).

In 2014, more than half of NSW adults aged 55+ years said that in the preceding two years a healthcare professional discussed with them diet (52%) or exercise (54%), although a smaller proportion said they had a discussion about worries or stress (32%).\textsuperscript{13}

At a jurisdiction level, results about worry or stress counselling differed by remoteness only in NSW – with the lowest proportion in inner regional areas. In Canada and Sweden however, a lower proportion of adults in inner regional areas said a health professional had discussed exercise with them, and in Sweden, a higher proportion in outer regional and remote areas said they received dietary counselling (Figure 3.2).

Figure 3.1 Health behaviours, percentage of NSW persons aged 16+ years, by remoteness of residence, 2015 (or nearest year)

Source: NSW Population Health Survey (SAPHaRI), Centre for Epidemiology and Evidence, NSW Ministry of Health.

Note: Alcohol data are for 2014.
Figure 3.2  Healthy behaviours, percentage of adults aged 55+ years with a regular doctor or place who said they discussed healthy behaviours with a health professional in preceding two years, NSW, Canada and Sweden by remoteness of residence, 2014

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
Note: Smoking cessation results for NSW outer regional and remote are suppressed due to small sample size.
* Result is significantly different to major cities.
Cancer screening

There were few differences in patient-reported cancer screening rates by remoteness

For certain cancers, screening tests can detect disease in its early stages, increasing treatment options and improving outcomes. Current guidelines in NSW recommend that every two years:

- Males and females aged 50+ years should be screened for colorectal cancer by faecal occult blood test (FOBT)
- Females aged 50–74 years should be screened for breast cancer by mammogram
- Females aged 18–70 years should be screened for cervical cancer by pap test.

Patient-reported cancer screening uptake was lowest for colorectal cancer screening. About a third of all NSW adults aged 50–75 years who live in outer regional and remote areas (35%) said they had never undergone colorectal cancer screening – the same proportion as among major city residents (Figure 3.3).

Supplementary data [not shown] from the NSW cancer screening programs show that in 2013–14, 35% of people (aged 50–74 years) were screened for colorectal cancer in the preceding two years; while in 2014–15, 51% of women (aged 50–69 years)

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### Table: Patient-reported cancer screening, all response categories, NSW by remoteness of residence, 2013

<table>
<thead>
<tr>
<th></th>
<th>Less than 5 years ago</th>
<th>5 to 10 years ago</th>
<th>More than 10 years ago</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>About how long has it been</td>
<td>57%</td>
<td>7%</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>since you had a bowel or colon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cancer screening? (aged 50 to 75)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inner regional</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>About how long has it been</td>
<td>56%</td>
<td>13%</td>
<td>4%</td>
<td>27%</td>
</tr>
<tr>
<td>since you had a mammogram or</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>breast cancer screening? (females</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aged 50 to 69)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major cities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>About how long has it been</td>
<td>49%</td>
<td>13%</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>since you had a pap/cervical smear?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(females aged 20 to 69)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

* Estimate is significantly different to major cities.

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Source: 2013 Commonwealth Fund International Health Policy Survey.
underwent a mammogram in the preceding two years; and 56% of women (aged 20–69 years) had a pap test in the preceding two years.14,15,16

Internationally, recommendations for cancer screening differ in terms of target age groups and testing intervals and so comparisons should be made with care.

The NSW finding that women in inner regional areas were most likely to say they had a mammogram was not reflected in Canada and Sweden, where there were no significant differences by remoteness (Figure 3.4).

Note: In NSW, approximately 8.5% of mammograms are provided in settings outside the BreastScreen program and are not reflected in program coverage results.

Similarly, national guidelines state that people who have undergone a colonoscopy in the previous five years do not require additional FOBT screening. Colonoscopy patients are not captured in the program data and this may result in under-reporting of coverage in NSW.

Figure 3.4 Patient-reported cancer screening, percentage of adults who selected the most timely response category, NSW, Canada and Sweden by remoteness of residence, 2013

<table>
<thead>
<tr>
<th>Test Type</th>
<th>NSW</th>
<th>Canada</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowel or colon cancer screening in past five years (aged 50 to 75; % answering ‘Less than 5 years ago’)</td>
<td>Outer regional and remote</td>
<td>Inner regional</td>
<td>Major cities</td>
</tr>
<tr>
<td>Mammogram or breast cancer screening in past two years (females aged 50 to 69; % answering ‘Less than 2 years ago’)</td>
<td>Outer regional and remote</td>
<td>Inner regional</td>
<td>Major cities</td>
</tr>
<tr>
<td>Pap/cervical smear in past two years (females aged 20 to 69; % answering ‘In past 2 years’)</td>
<td>Outer regional and remote</td>
<td>Inner regional</td>
<td>Major cities</td>
</tr>
</tbody>
</table>

Source: 2013 Commonwealth Fund International Health Policy Survey.

* Estimate is significantly different to major cities.
Active management and monitoring of patients with chronic diseases – for example through the use of routine blood pressure and cholesterol checks – can identify patient risk factors and early signs of ill health and inform treatment options in order to slow or reverse disease progression.

Appropriate care matches patient needs with required services. For example, patients with high blood pressure or cholesterol require regular monitoring, and physically vulnerable patients need an annual influenza vaccination. In terms of needs, patient-reported prevalence of high blood pressure and diabetes, was more pronounced in outer regional and remote NSW than in inner regional areas or major cities (Figure 3.5).

In outer regional and remote NSW – despite the greater prevalence of high blood pressure – patients were no more likely to report receipt of blood pressure checks. Looking across jurisdictions, only the results for seasonal influenza vaccinations in Canada and Sweden showed any significant rurality-associated gap (Figure 3.6).
Figure 3.6  Managing chronic conditions, percentage of adults who said they received checks and vaccination, NSW, Canada and Sweden by remoteness of residence, 2013

<table>
<thead>
<tr>
<th></th>
<th>NSW</th>
<th>Canada</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood pressure checked by doctor or nurse in the past year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cholesterol checked in the past year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seasonal influenza vaccination in past year (aged 65+)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: 2013 Commonwealth Fund International Health Policy Survey.

* Estimate is significantly different to major cities.

**Selected improvement initiatives**

The Western NSW Integrated Care team in Molong has focused on local health providers joining forces to tackle chronic disease such as diabetes, COPD and cardiovascular disease in the community. The ultimate aim is to keep people well, at home and reduce preventable hospital admissions. The results of the assessments help the Integrated Care team formulate individual shared care plans that address all of the patient’s health requirements. To date, nearly 800 patients have consented to share their health records in the Molong district and the integrated team is currently developing shared care plans for high risk patients that are managed by the Care Navigators and regularly reviewed by the Integrated Care team.
Receiving surgical care: Hip fracture surgery

Patients admitted to rural hospitals were more likely to receive surgery for hip fracture within the recommended two days of admission

Evidence-based guidelines recommend that patients hospitalised with a hip fracture should undergo surgery within 48 hours of admission. Delays to surgery beyond this time can result in prolonged pain and discomfort for patients and have been shown to be associated with more than twice the number of major post-operative complications.17,18

In 2013, there were 5,350 patients aged 65+ years who received surgery for hip fracture in NSW. Of these, 70% underwent surgery within two days of admission to hospital. While this is lower than results achieved in many other jurisdictions, NSW results overall have been improving in recent years.13

In 2014, 73% of hip fracture surgical procedures were performed within two days of admission to hospital – a nine percentage point improvement over the 2004 result. Over the same period, the volume of hip fracture surgery performed in NSW public hospitals has increased by 9%.13

The most recent data, for 2014, show that the proportion of hip fracture surgery patients who underwent their operation within two days of admission was higher in rural hospitals (79% in inner regional hospitals and 80% in outer regional and remote hospitals) than in major city hospitals (68%) (Figure 3.7).

Across hospitals, results ranged from 37% to 100%, with the lowest percentage recorded in a major city hospital and the highest in a rural hospital (Figure 3.8).

Figure 3.7 Surgery performed within two days of hospital admission, percentage of all hip fracture surgery in public hospitals, patients aged 65+ years, NSW by remoteness, 2004–2014

Source: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence (BHI analysis).
Note: Includes episodes with a principal diagnosis ICD-10-AM code of S72.0, S72.1 or S72.2 with a procedure performed (denominator) and where the difference between admission date and procedure date is less than or equal to two days (numerator). Outer regional and remote had less than 50 admissions in 2004, 2006, 2007, 2008 and 2010.
Interpreting these results

The recommendation that patients hospitalised with a hip fracture should undergo surgery within 48 hours of admission is one of the minimum standards developed by the NSW Agency for Clinical Innovation. The Minimum Standards for the Management of Hip Fracture were released in 2014.13

NSW data do not capture precise timing of surgery and these indicators are therefore based on a time period of two days.
Keeping patients safe

No significant differences in medication safety processes by remoteness

Medication-related errors pose a risk to patients. Their incidence can be reduced through identification checks, provision of information to patients and regular medication reviews.

Patients who lived in outer regional and remote areas were most likely to say their doctor explained the potential side effects of medications and; their doctor reviewed their medications with them (Figure 3.9).

There were no significant differences by remoteness in NSW or Canada (Figure 3.11).

In the 2015 survey of NSW adult admitted patients (principal referral, major and district hospitals), 91% said their identification band or name was ‘always’ checked prior to being given medications, treatments or tests. There was some variation between hospitals however. For example, the proportion of patients in rural hospitals who said their identification was always checked ranged from 84% to 95% (Figure 3.10).

---

**Figure 3.9**  Patient-reported safety processes, all response categories, NSW adults aged 55+ years and on two or more medications, by remoteness of residence, 2014

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Given you a written list of all your prescribed medications?</td>
<td>Outer regional and remote</td>
<td>61%</td>
</tr>
<tr>
<td></td>
<td>Inner regional</td>
<td>71%</td>
</tr>
<tr>
<td></td>
<td>Major cities</td>
<td>65%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explained the potential side effects of any medication that was prescribed?</td>
<td>Outer regional and remote</td>
<td>74%</td>
</tr>
<tr>
<td></td>
<td>Inner regional</td>
<td>66%</td>
</tr>
<tr>
<td></td>
<td>Major cities</td>
<td>69%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reviewed with you all the medications you take?</td>
<td>Outer regional and remote</td>
<td>86%</td>
</tr>
<tr>
<td></td>
<td>Inner regional</td>
<td>78%</td>
</tr>
<tr>
<td></td>
<td>Major cities</td>
<td>79%</td>
</tr>
</tbody>
</table>

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
Figure 3.10  Patient-reported identification checks, percentage of patients who selected the most positive response category, NSW public hospitals by remoteness, 2015

Did nurses ask your name or check your identification band before giving you any medications, treatments or tests? (% answering "Yes, always")

Outer regional and remote hospital  Inner regional hospital  Major city hospital  Outer regional and remote  Inner regional  Major city


Figure 3.11  Patient-reported safety processes, percentage of adults aged 55+ years and on two or more medications who selected the most positive response category, NSW, Canada and Sweden by remoteness, 2014

Given you a written list of all your prescribed medications? (% answering "Yes")

NSW
Canada
Sweden

Explained the potential side effects of any medication that was prescribed? (% answering "Yes")

NSW
Canada
Sweden

Reviewed with you all the medications you take? (% answering "Yes")

NSW
Canada
Sweden

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.

* Estimate is significantly different to major cities.
Responsiveness and communication

A higher proportion of patients in rural hospitals had important questions answered in an understandable way

Measures of responsiveness gauge the degree to which patient expectations are met. They can cover different elements of care including being treated with respect and dignity, communication, privacy and family support.

Across NSW, approximately seven in 10 people said that their regular GP ‘always’ explains things in a way they can understand and that their GP ‘always’ spends enough time with them. This proportion did not differ by remoteness (Figure 3.12).

While overall results for these two questions varied between NSW, Canada and Sweden, results did not differ by remoteness in any of the three jurisdictions (Figure 3.14).

In the NSW adult admitted patients survey, responses to questions about communication varied by remoteness. For example, a higher proportion of patients in rural hospitals said that when they had important questions to ask a doctor or nurse, those questions were always answered in an understandable way (Figure 3.13).

---

**Figure 3.12** Communication in primary care, all response categories, NSW adults aged 55+ years with a regular GP or place of care by remoteness of residence, NSW, 2014

<table>
<thead>
<tr>
<th>Does your regular GP always explain things in a way that is easy to understand?</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely or never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td>69%</td>
<td>22%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Inner regional</td>
<td>70%</td>
<td>21%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Major cities</td>
<td>68%</td>
<td>22%</td>
<td>8%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Does your regular GP always spend enough time with you?</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely or never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td>72%</td>
<td>21%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Inner regional</td>
<td>68%</td>
<td>23%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Major cities</td>
<td>68%</td>
<td>23%</td>
<td>8%</td>
<td></td>
</tr>
</tbody>
</table>

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
Figure 3.13  Communication in hospital, percentage of patients who selected the most positive response category, NSW public hospitals by remoteness, 2015

When you had important questions to ask a doctor, did they answer in a way you could understand? (% answering ‘Yes, always’)

When you had important questions to ask a nurse, did they answer in a way you could understand? (% answering ‘Yes, always’)


Figure 3.14  Communication in primary care, percentage of adults aged 55+ years with a GP or place of care who selected the most positive response category, NSW, Canada and Sweden by remoteness of residence, 2014

Does your regular GP always explain things in a way that is easy to understand? (% answering ‘Always’)

Does your regular GP always spend enough time with you? (% answering ‘Always’)

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
Patient engagement and involvement

Patients in rural hospitals were more likely to be engaged in decisions about their care

Engaging patients in their healthcare helps to ensure better outcomes, fewer errors and more positive attitudes towards the healthcare system.16

Focusing on specialist care, international survey data show that among people living in inner regional areas, 62% said their doctor ‘always’ involved them, as much as they wanted to be, in decisions about their treatment compared with 68% of people living in outer regional and remote areas (Figure 3.15).

There were no significant differences associated with remoteness in NSW or Canada (Figure 3.17).

Among patients hospitalised in NSW public hospitals, there was variation in levels of patient involvement. Patients hospitalised in rural hospitals were more likely to say they were ‘definitely’ involved as much as they wanted to be, in decisions about their care and treatment; in decisions about discharge; and in decisions to use medications (Figure 3.16).

Views from the qualitative consultation

Staff interviewed said that patients in rural and remote communities tend to have closer relationships with healthcare providers than those in urban areas and that this is likely to contribute to a higher level of patient engagement in their care. Qualitative data yielded examples of close longitudinal relationships between patients and healthcare providers that supported patient engagement.

Figure 3.15 Patient involvement, all response categories, adults aged 55+ years, NSW by remoteness of residence, 2014

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely or never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td>68%</td>
<td>23%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Inner regional</td>
<td>62%</td>
<td>26%</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>Major cities</td>
<td>68%</td>
<td>23%</td>
<td>7%</td>
<td></td>
</tr>
</tbody>
</table>

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
Figure 3.16  Patient involvement, percentage of patients who selected the most positive response category, NSW public hospitals by remoteness, 2015

Were you involved, as much as you wanted to be, in decisions about your care and treatment? (% answering ‘Yes, definitely’)  

Did you feel involved in decisions about your discharge from hospital? (% answering ‘Yes, definitely’)  

Did you feel involved in the decision to use this medication in your treatment? (% answering ‘Yes, completely’)  


Figure 3.17  Patient involvement, percentage of adults aged 55+ years who selected the most positive response category, NSW, Canada and Sweden by remoteness of residence, 2014

When you have received care or treatment from specialists, how often did they involve you as much as you want to be in decisions about your treatment or care? (% answering ‘Always’)  

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.  
* Estimate is significantly different to major cities.
Patient-reported problems with care coordination

A higher proportion of patients in inner regional areas of NSW said they received conflicting information

Coordinating patient care is the deliberate organisation of two or more actors working together to provide seamless care for patients.20

In 2014, one in 10 NSW adults aged 55+ years (13%) said there was a time in the previous two years when they received conflicting information from different doctors or healthcare professionals (public and private healthcare).

Within NSW, patients in inner regional NSW were most likely to report that they received conflicting advice (19%) (Figure 3.18).

International results show that there were also differences by remoteness in Canada for two questions on coordination of care (Figure 3.19).

---

Figure 3.18 Coordination of care, all response categories, adults aged 55+ years, NSW by remoteness of residence, 2014

- **Test results or medical records were not available at the time of your scheduled medical care appointment**
  - Outer regional and remote: 8% Yes, 92% No
  - Inner regional: 7% Yes, 93% No
  - Major cities: 7% Yes, 93% No

- **There was a time when you received conflicting information from different doctors or healthcare professionals**
  - Outer regional and remote: 10% Yes, 90% No
  - Inner regional: 19% Yes, 81% No
  - Major cities: 12% Yes, 88% No

- **Doctors ordered a medical test that you felt was unnecessary because the test had already been done**
  - Outer regional and remote: 12% Yes, 88% No
  - Inner regional: 9% Yes, 91% No
  - Major cities: 9% Yes, 91% No

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.

* Estimate is significantly different to major cities.
Figure 3.19  Coordination of care, percentage of adults aged 55+ years who experienced problems with coordination, NSW, Canada and Sweden by remoteness of residence, 2014

<table>
<thead>
<tr>
<th>Problem</th>
<th>NSW</th>
<th>Canada</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test results or medical records were not available at the time of your scheduled medical care appointment (% answering “Yes, this happened”)</td>
<td><img src="chart1.png" alt="Diagram" /></td>
<td><img src="chart2.png" alt="Diagram" /></td>
<td><img src="chart3.png" alt="Diagram" /></td>
</tr>
<tr>
<td>There was a time when you received conflicting information from different doctors or health care professionals (% answering “Yes, this happened”)</td>
<td><img src="chart4.png" alt="Diagram" /></td>
<td><img src="chart5.png" alt="Diagram" /></td>
<td><img src="chart6.png" alt="Diagram" /></td>
</tr>
<tr>
<td>Doctors ordered a medical test that you felt was unnecessary because the test had already been done (% answering “Yes, this happened”)</td>
<td><img src="chart7.png" alt="Diagram" /></td>
<td><img src="chart8.png" alt="Diagram" /></td>
<td><img src="chart9.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

Source: 2014 Commonwealth Fund International Health Policy Survey of Older Adults.

* Estimate is significantly different to major cities.
Receiving maternity services: Antenatal care

No significant differences by remoteness in receipt of antenatal care

Starting antenatal care before the 14th week of pregnancy is associated with better maternal health, fewer interventions in late pregnancy and positive child health outcomes.21

In 2015, the proportion of women who had their first antenatal visit before the 14th week of pregnancy ranged from 63% among women who lived in outer regional and remote areas to 66% among women who lived in inner regional areas (Figure 3.20). These proportions have remained relatively stable since 2012 (Figure 3.21).

Regular monitoring of the progression of pregnancy is also important. The World Health Organization recommends that women receive antenatal care at least four times during pregnancy.22 NSW data records the proportion of women who access antenatal care five or more times.

In 2015, the proportion of women who had five or more antenatal visits ranged from 93% in outer regional and remote areas to 96% in major cities (Figure 3.20).

The 2015 NSW Maternity Care Patient Survey asked women who gave birth in a public hospital about their experiences of care. Women did not always receive appropriate advice about risks and behaviours. While around 90% of NSW women said they were asked how they were feeling emotionally during their pregnancy, only 60% of those with worries or fears said a health professional ‘completely’ discussed them. Among smokers, 49% said they were told about programs they could join to stop smoking. The extent to which they were given other types of advice and support for smoking cessation was not assessed (Figure 3.22).

Figure 3.20 Antenatal care provided, among women who gave birth, NSW by remoteness of residence, 2015

![Antenatal care provided, among women who gave birth, NSW by remoteness of residence, 2015](image)

Source: NSW Perinatal Data Collection (SAPHaRI), Centre for Epidemiology and Evidence, NSW Ministry of Health (BHI analysis).
Figure 3.21  First antenatal visit occurred before 14th week of pregnancy, NSW by remoteness of residence, NSW, 2011–15

Source: NSW Perinatal Data Collection (SAPHRi), Centre for Epidemiology and Evidence, NSW Ministry of Health (BHI analysis).

Figure 3.22  Key elements of antenatal care provided to women who gave birth in a public hospital, NSW by remoteness of hospital, 2015

Source: BHI, Maternity Care Survey, 2015.

* Outer regional and remote results suppressed due to small sample size.
Receiving maternity services: Births

While rates of caesarean section have increased across NSW, rates of elective caesarean sections in public hospitals do not appear to be related to remoteness

Caesarean section rates are a controversial issue. While caesarean section deliveries are the best option for some women and are associated with lower maternal or neonatal mortality, high rates have been linked with increased maternal morbidity and mortality, and neonatal intensive care unit admission.\textsuperscript{23,24,25}

Caesarean sections can be emergency (unplanned) or elective (planned). Elective caesarean sections are the type of delivery for which there is an element of discretionary care.

In 2014–15, 32.4% of deliveries (public and private) in NSW were caesarean sections (elective and emergency), compared with 27.3% in 2004–05. While caesarean section rates have increased across the state, the greatest increase was in outer regional and remote areas (Figure 3.23).

There are no published recommendations to guide the appropriate level for elective procedures. Between 2004 and 2014, elective caesarean section rates increased from 13% to 16% of all deliveries in NSW (Figure 3.24).

Such increases in elective caesarean section rates have been attributed to a range of factors including maternal age, number of previous pregnancies, birthweight, patient choice, and changes in obstetric practices.

Among public hospitals, the rates of elective caesarean sections do not appear to be related to remoteness and were around 16% of births in 2014–15 (Figure 3.25).

Figure 3.23 Type of birth, public and private hospitals, NSW by remoteness of residence, 2004–05 and 2014–15

<table>
<thead>
<tr>
<th></th>
<th>Normal vaginal delivery</th>
<th>Caesarean section</th>
<th>Instrumental vaginal delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004–05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outer regional and remote</td>
<td>67.1%</td>
<td>25.1%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>65.4%</td>
<td>25.6%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Major cities</td>
<td>60.9%</td>
<td>27.9%</td>
<td>11.0%</td>
</tr>
<tr>
<td>2014–15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outer regional and remote</td>
<td>54.9%</td>
<td>31.3%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>61.2%</td>
<td>30.1%</td>
<td>8.6%</td>
</tr>
<tr>
<td>Major cities</td>
<td>61.1%</td>
<td>32.9%</td>
<td>11.9%</td>
</tr>
</tbody>
</table>

Source: NSW Perinatal Data Collection (SAPHaRI), Centre for Epidemiology and Evidence, NSW Ministry of Health (BHI analysis).
Figure 3.24  Elective caesarean sections, as a percentage of all births, NSW public hospitals by remoteness, 2004–14

Source: Centre for Epidemiology and Evidence, Health Statistics New South Wales, Sydney: NSW Ministry of Health. Available at: healthstats.nsw.gov.au

Figure 3.25  Type of caesarean sections, percentage of all births, NSW public hospitals by remoteness, 2014–15

Source: Centre for Epidemiology and Evidence, Health Statistics New South Wales, Sydney: NSW Ministry of Health. Available at: healthstats.nsw.gov.au
Appropriateness of cancer services

Most rural patients said they were always treated with respect and dignity

In the past two years, BHI has released two reports that focus on cancer patients’ experiences of care.26,27 The first report focused on hospital care. Overall, hospitalised cancer patients responded very positively to questions about the appropriateness of care – particularly questions about respectfulness, kindness and courtesy.26 Patients hospitalised in rural hospitals were slightly more positive than those in major city hospitals (Figure 3.26).

The second report focused on the experiences and outcomes of care among patients who visited an outpatient cancer clinic. There were no cancer outpatient clinics situated in outer regional and remote areas of NSW. The outpatient survey features a number of questions on shared decision-making. When given the opportunity, most people with cancer want to be involved in decisions about their care. Shared decision-making is a collaborative process that allows...
patients and health professionals to explore together the different options for treatment and care, taking into account the best scientific evidence available, as well as patients’ values and preferences.27

A cancer care plan is developed through shared decision-making processes. It is a vital document that sets out a patient’s needs and goals for the treatment and management of their cancer. In inner regional hospitals, 76% of patients said they were ‘definitely’ involved in decisions about their care and treatment (as much as they wanted to be) compared with 74% in major city hospitals. While about six in 10 patients (61% in inner regional hospitals and 57% in major city hospitals) who needed a cancer care plan said they had one; less than half said they were ‘definitely’ asked for their ideas and preferences when developing it (44% inner regional and 47% major city) (Figure 3.27).

Figure 3.27  Shared decision-making, percentage of cancer outpatients who selected the most positive response category, NSW public hospitals by remoteness, 2015

- Inner regional hospital
- Major city hospital
- Inner regional hospital
- Major city hospital

Had care plan in place for cancer treatment

Health professionals reviewed cancer care plan at most recent visit [for those who had a care plan]

‘Definitely’ involved in decisions about care and treatment

‘Definitely’ asked for ideas and preferences when developing cancer care plan

Listening to patients hospitalised in small facilities

Small hospitals provide coordinated care

Small hospitals play a vital role in providing healthcare to people in rural and regional NSW. While patients admitted to principal referral, major and district hospitals in NSW have been surveyed for over 10 years, until now there has been no data about the experiences of patients admitted to smaller facilities.

The figures on pages 85 to 88 show results from the Small and Rural Facilities survey. Figures 3.28 and 3.30 provide results for each local health district (LHD), comparing responses from patients admitted in larger hospitals with those admitted to smaller hospitals. Figures 3.29 and 3.31 show the variation across all the small facilities surveyed in NSW, by rurality.

Figure 3.28 Communication, coordination and comprehensiveness, percentage of patients who selected the most positive response category, adult admitted and small and rural hospital surveys, LHDs, NSW, 2015

<table>
<thead>
<tr>
<th>Rural LHDs</th>
<th>Urban LHDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunter New England</td>
<td>Sydney</td>
</tr>
<tr>
<td>Mid North Coast</td>
<td>Western Sydney</td>
</tr>
<tr>
<td>Murrumbidgee</td>
<td>Central Coast</td>
</tr>
<tr>
<td>Northern NSW</td>
<td>Illawarra Shoalhaven</td>
</tr>
<tr>
<td>Southern NSW</td>
<td>Nepean Blue Mountains</td>
</tr>
<tr>
<td>Western NSW</td>
<td>Northern Sydney</td>
</tr>
<tr>
<td>Admitted Patient Survey 2015</td>
<td>Small and Rural Facilities Survey 2015</td>
</tr>
</tbody>
</table>


* Peer group A includes (very large) principal referral and specialist hospitals; peer group B includes (large) major hospitals and peer group C includes (medium and small) district hospitals.
Results for nine key questions are reported: they focus on communication, coordination and comprehensiveness, respectfulness, responsiveness and patient engagement.

Around six in 10 patients in small rural hospitals said they were ‘completely’ told about medication side effects (Figure 3.29). Notably, in the smaller facilities survey, 22% of patients in NSW overall said they were not told about potential side effects compared with 25% in the adult admitted survey [data not shown].

There was marked variation in responses to some of the questions. For example, 82% of patients hospitalised in small facilities in outer regional and remote NSW said hospital staff took their family and home situation into account when planning their discharge, but this ranged across facilities from 63% to 97% (Figure 3.29).

Figure 3.29 Communication, coordination and comprehensiveness, percentage of patients who selected the most positive response category, NSW small rural public hospitals by remoteness, 2015

Listening to patients hospitalised in small facilities

Small hospitals provide responsive care

Questions that focus on assistance, respect and patient engagement also revealed considerable variation. For example, only 58% of patients hospitalised in small facilities in outer regional and remote NSW said if they needed assistance, they were able to get a member of staff to help them within a reasonable timeframe – and this ranged from 39% to 85% (Figure 3.31). Similarly, while 71% of patients did you feel you were treated with respect and dignity while you were in the hospital? (% answering "Yes, always")

Did you feel you were involved, as much as you wanted to be, in decisions about your care and treatment? (% answering "Yes, definitely")

hospitalised in small facilities in outer regional and remote NSW said they were involved as much as they wanted to be in decisions about their care, this ranged from 53% to 88% (Figure 3.31).

Figure 3.31  Assistance, respect and engagement, percentage of patients who selected the most positive response category, NSW small rural public hospitals by remoteness, 2015

The 2014 Adult Admitted Patient Survey included an oversample of Aboriginal patients in order to explore, for the first time, variation across NSW in their experiences and self-reported outcomes of hospital care. The survey was sent to a random sample of 13,031 adult patients who were identified as Aboriginal and/or Torres Strait Islander in the admitted patient data collection. Completed questionnaires were received from 2,714 of patients (response rate 21%). Almost one in 10 of all adult Aboriginal patients hospitalised in 2014 responded to the survey (2,714 out of 13,031 patients).

Aboriginal patients reflected positively on their experiences in hospital – 64% rated care overall as ‘very good’ compared to 63% of non-Aboriginal patients.

Figure 3.32 Appropriateness of care, percentage of patients who selected the most positive response category, Aboriginal and non-Aboriginal patients, urban and rural NSW public hospitals, 2014

<table>
<thead>
<tr>
<th>Category</th>
<th>Urban hospitals</th>
<th>Rural hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Always’ got the opportunity to talk to a nurse when needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘Always’ got the opportunity to talk to a doctor when needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff assisted within a reasonable timeframe ‘all of the time’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthcare professional ‘completely’ discussed worries or fears</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural or religious beliefs were ‘always’ respected</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘Always’ treated with respect and dignity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Bureau of Health Information. Patient Perspectives. Hospital Care for Aboriginal People. Sydney (NSW); BHI; 2016.

* There was a significant difference in the proportion of Aboriginal and non-Aboriginal patients who selected the most positive response category.
patients. However, when asked about specific aspects of care, Aboriginal patients were less positive than non-Aboriginal patients for 26 of the 55 survey questions analysed in the BHI report.

Differences in experiences of care between Aboriginal and non-Aboriginal patients are generally bigger in hospitals in rural areas (regional and remote) than those in urban areas (major cities). Results from the NSW Patient Survey Program generally show that patients hospitalised in rural hospitals report more positive patient experiences than those hospitalised in urban hospitals,28 however this effect was often not apparent among Aboriginal patients (Figures 3.32 and 3.33).

Figure 3.33  Appropriateness of care, percentage of patients who selected the most positive response category, Aboriginal and non-Aboriginal patients, urban and rural NSW public hospitals, 2014

Source: Bureau of Health Information. Patient Perspectives. Hospital Care for Aboriginal People. Sydney (NSW); BHI; 2016.

* There was a significant difference in the proportion of Aboriginal and non-Aboriginal patients who selected the most positive response category.
Effectiveness

Making a difference for patients
Effectiveness

Making a difference for patients

Effectiveness refers to the extent to which healthcare services deliver the benefits expected from them – do they reduce the incidence, duration, intensity or consequences of patients’ health problems?

Effectiveness is closely aligned to the broader concept of impact which considers the extent to which a patient’s overall health and wellbeing are affected by the care received.

Effectiveness measures focus on the outcomes of treatment – such as mortality, unplanned readmissions, changes in functional status, and quality of life – as well as patients’ confidence and trust in the healthcare systems and providers, and their ability to realise the potential benefits of treatment, through increased health literacy and self-efficacy at managing their health problems.

Measures can include:

- Assessments of safety outcomes – whether there were any adverse events
- Measures that assess whether the healthcare services provided made a discernible change to patients’ health and functional status
- Measures of public trust and confidence in healthcare professionals, organisations and systems.

Summary of findings

- Across the three remoteness categories, a higher proportion of people who lived in outer regional and remote areas were ‘very confident’ or ‘confident’ in managing their health problems
- Results from a survey of adult admitted patients showed that a higher proportion of patients in rural hospitals had confidence and trust in healthcare professionals, compared to patients in major city hospitals
- Emergency department re-presentations within 48 hours were more common in rural hospitals
- Hospitals with higher than expected 30-day mortality and readmission rates were located in rural and urban areas
- A smaller proportion of patients hospitalised in rural hospitals experienced complications
- Responses from patients in two rural outpatient cancer clinics were more positive than NSW for multiple measures
- Aboriginal patients were less positive than non-Aboriginal patients regarding self-reported outcomes of hospital care.
Insights from the peer reviewed literature

- There is a marked gradient of increasing chronic disease mortality from cities to remote and very remote areas in NSW.\(^1\)\(^2\)

- A systematic review found that common elements of effective and acceptable chronic kidney disease management programs for Indigenous people include integration within existing health services, nurse-led care, intensive follow-up, provision of culturally-appropriate education, governance structures, community ownership, robust clinical systems supporting communication and the role of Indigenous health workers.\(^3\)

- Online and mobile phone-delivered mental health programs may be effective and acceptable tools for reducing symptoms of depression and other mental health problems in rural areas.\(^4\)\(^5\)

- Community outreach midwifery-led models of care can improve access to antenatal care for Aboriginal women living in remote areas.\(^6\)

- Telehealth and teleoncology models of care allow for the timely and safe delivery of chemotherapy to patients in rural and remote areas.\(^7\)\(^8\)

- Patients living in rural areas are less likely to survive out of hospital cardiac arrest than those living in urban areas.\(^9\)

- A data linkage study found that risk of death from potentially curable colorectal cancer was higher in patients living in remote areas compared with those living in metropolitan areas.\(^10\)

- Under-supply of primary healthcare services contributes to unplanned re-presentations to regional NSW hospitals.\(^11\)

- Mobile screening for abdominal aortic aneurysm in a remote area of Australia was found to be highly acceptable to the target population, with no deleterious effect on psychological well-being or quality of life.\(^12\)

- Cardiologist-supported remote risk stratification, management and facilitated access to tertiary hospital-based early invasive management was associated with an improvement in 30-day mortality for patients who initially present to rural hospitals and are diagnosed with acute myocardial infarction (AMI).\(^13\)

- Asthma death rates per 100,000 population are lowest in major cities in NSW and highest in inner regional areas.\(^12\)
Making a difference: Enabling patients

A higher proportion of people in outer regional and remote areas were ‘very confident’ or ‘confident’ in managing their health problems

Effective healthcare supports and enables patients to manage their own care. Often referred to as ‘self-efficacy’, such patient engagement is associated with better quality care, fewer errors and more positive attitudes towards the healthcare system. It is particularly important for patients with chronic conditions.14

Measures of self efficacy focus on patients’ confidence in their ability to participate in their care; and in seeking, obtaining and understanding health information.

Survey data show that among NSW people with a chronic condition, those who lived in outer regional and remote areas had relatively high levels of self-efficacy – 39% said they were ‘very confident’ and 57% said they were ‘confident’ in managing their own health problems (Figure 4.1).

When asked about the effectiveness of their chronic disease treatment plan, compared to other remoteness categories, a higher proportion of patients in inner regional areas said their plan helped a lot (Figure 4.1).

---

Figure 4.1  Self-efficacy and management of chronic conditions, all response categories, adults aged 55+ years, NSW by remoteness of residence, 2013 and 2014

Sources: 2013 Commonwealth Fund International Health Policy Survey. 2014 Commonwealth Fund International Health Policy Survey of Older Adults.
Among adults with a chronic disease a higher proportion of those in inner regional and remote areas of NSW said they had been hospitalised or visited an ED in the preceding year because of their chronic condition (Figure 4.1).

In international comparisons, patients in outer regional and remote areas were most likely to express confidence in their ability to manage their health problems (Figure 4.2).

Figure 4.2 Self efficacy and management of chronic conditions, percentage of adults aged 55+ years who selected positive response categories, NSW, Canada and Sweden, by remoteness of residence, 2013 and 2014

<table>
<thead>
<tr>
<th>How confident are you that you can control and manage your health problems? (% answering &quot;Very confident&quot; or &quot;Confident&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW</td>
</tr>
<tr>
<td>Has the treatment plan you have for your condition helped you control or manage your chronic condition? (% answering &quot;A lot&quot;; adults aged 55+ years)</td>
</tr>
<tr>
<td>NSW</td>
</tr>
<tr>
<td>In the past year, have you stayed overnight in a hospital or visited the emergency department because of your condition (hypertension, diabetes or asthma)? (% answering &quot;Yes&quot;; adults aged 55+ years)</td>
</tr>
<tr>
<td>NSW</td>
</tr>
</tbody>
</table>

Sources: 2013 Commonwealth Fund International Health Policy Survey, 2014 Commonwealth Fund International Health Policy Survey of Older Adults.

* Estimate is significantly different to major cities.
Emergency department re-presentations

Re-presentations to ED are more common in rural hospitals but are reducing

Emergency department (ED) visits that are followed by an unplanned re-presentation to an ED within 48 hours may indicate sub-optimal care. It may also represent inefficiency in terms of patients making two or more visits to the ED when one should have dealt with their presenting problem satisfactorily.

In the year 2015–16, 5.7% of visits to outer regional and remote hospital EDs were re-presentations; compared with 5.9% of visits to inner regional EDs and 4.7% of visits to major city EDs.

The proportion of visits that were re-presentations within 48 hours has slightly increased in both major city and inner regional hospitals, but has been decreasing in outer regional and remote hospitals since 2012–13 (Figure 4.3).

Rates of re-presentation vary more widely across outer regional and remote hospitals than across major city hospitals (Figure 4.4).

Importantly, these data should be interpreted in light of the role that some rural hospital EDs play in providing primary care services. In these cases, re-presentations may be both appropriate and efficient.

Figure 4.3  Emergency department re-presentations, percentage of ED visits for which patient had been to an ED in the preceding 48 hours, NSW by remoteness of hospital, 2011–12 to 2015–16

Source: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence (BHI analysis).
Views from the qualitative consultation

Different models of emergency department care are used in rural NSW:

“High re-presentation rates to rural EDs can be a reflection of the primary care role some perform. In some EDs, there are perverse incentives for re-presentations as GPs contracted to work in the ED are paid per consultation, increasing the likelihood that patients would be asked to return to the ED for check-ups or tests.”
(Qualitative consultation respondent)

“Regional hospital A offers a ‘fast-track system’ in the ED, with a GP onsite. The GP often asks people to come back to the ED for test results rather than referring them on.”
(Qualitative consultation respondent)

“The urgent care centre is staffed by local GPs. As the service is open 6am – 6pm, staff find that it is convenient for patients to use the urgent care centre for primary care, but re-presentation rates are low as the GPs in the urgent care centre refer patients back to GP practices in town for follow up.”
(Qualitative consultation respondent)
Making a difference: Confidence and trust

Confidence and trust in doctors and nurses are higher in rural areas

Trust between healthcare professionals and patients is essential to performance. Trust leads to open communication, lower referral rates, better patient outcomes and encourages patient enablement. It stems from patients’ opinions about the competence of healthcare professionals in both clinical and interpersonal skills.

Ratings of confidence and trust can therefore reflect the effectiveness of healthcare. Levels of patient-reported confidence and trust were higher in rural areas. Over eight in 10 patients admitted to inner regional hospitals ‘always’ had confidence and trust in the doctors (84%) and nurses (88%) treating them (Figure 4.5).

Figure 4.5  Confidence and trust in doctors and nurses, all response categories, public hospital patients, NSW by remoteness, 2015

<table>
<thead>
<tr>
<th></th>
<th>Yes, always</th>
<th>Yes, sometimes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you have confidence and trust in the doctors treating you?</td>
<td>Outer regional and remote</td>
<td>82%</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>Inner regional</td>
<td>84%</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>Major cities</td>
<td>81%</td>
<td>16%</td>
</tr>
<tr>
<td>Did you have confidence and trust in the nurses treating you?</td>
<td>Outer regional and remote</td>
<td>87%</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Inner regional</td>
<td>88%</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Major cities</td>
<td>83%</td>
<td>16%</td>
</tr>
</tbody>
</table>

There was variation at a hospital level however. For rural hospitals, the proportion of patients who said they ‘always’ had confidence and trust in doctors ranged from 75% to 91%; while in major city hospitals it ranged from 74% to 93% (Figure 4.6).

Similarly the proportion of patients in rural hospitals who said they ‘always’ had confidence and trust in nurses ranged from 81% to 94% while in major city hospitals it ranged from 76% to 94% (Figure 4.6).

There were only four rural hospitals where less than 80% of patients said they ‘always’ had confidence and trust in doctors and no rural hospitals where less than 80% of patients said they ‘always’ had confidence and trust in nurses (Figure 4.6).

Views from the qualitative consultation

“My [clients] want to see me – they know me and trust me. I provide antenatal, child health, promotion and prevention. I do their antenatal and follow them all the way through. We have a 100% vaccination rate. We also have 100% attendance at our dental clinics. If I put them on the list, they will come.”

(Qualitative consultation respondent)
Outcomes of care: Mortality and readmissions

Hospitals with higher than expected mortality and readmissions were located in rural and urban areas

BHI has released a series of reports that measure unwarranted clinical variation in outcomes among NSW patients hospitalised for acute myocardial infarction (heart attacks), ischaemic stroke, haemorrhagic stroke, congestive heart failure, pneumonia, chronic obstructive pulmonary disease, and hip fracture surgery and joint replacement surgery.\textsuperscript{15,16}

Results were reported for mortality in the 30 days following hospitalisation in terms of a risk-standardised mortality ratio (RSMR); and for unplanned readmissions in the 30 days following discharge from hospital in terms of a risk-standardised readmission ratio (RSRR).

For each individual hospital in NSW, statistical models were used to calculate an ‘expected’ rate of mortality and readmissions, given the characteristics of patients admitted to that hospital.

Results were expressed as ‘lower than expected’, ‘no different than expected’ or ‘higher than expected’. Detailed results for all NSW hospitals data are available on BHI’s interactive data portal at bhi.nsw.gov.au/healthcare_observer

Figure 4.7 Risk-standardised 30-day mortality rate, NSW public hospitals, by remoteness, July 2009 to June 2012

<table>
<thead>
<tr>
<th>Condition</th>
<th>Outer regional and remote hospital</th>
<th>Inner regional hospital</th>
<th>Major city hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of hospitals with lower than expected mortality</td>
<td>6 23 27</td>
<td>22 22 22</td>
<td>28 28 28</td>
</tr>
<tr>
<td>Acute myocardial infarction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ischaemic stroke</td>
<td>2 11 22</td>
<td>22 22 22</td>
<td>28 28 28</td>
</tr>
<tr>
<td>Congestive heart failure</td>
<td>6 22 30</td>
<td>22 22 22</td>
<td>28 28 28</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease</td>
<td>11 28 28</td>
<td>28 28 28</td>
<td>28 28 28</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>8 30 26</td>
<td>26 26 26</td>
<td>26 26 26</td>
</tr>
<tr>
<td>Hip fracture surgery</td>
<td>1 9 21</td>
<td>21 21 21</td>
<td>21 21 21</td>
</tr>
</tbody>
</table>

Source: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence (BHI analysis).
Note: Includes A-C hospitals with more than 50 index admissions.
Figures 4.7 and 4.8 display patterns of hospital results according to remoteness. For example, for acute myocardial infarction 30-day mortality, among the 65 hospitals that admitted acute patients there were 27 major city hospitals, 23 inner regional hospitals and six outer regional and remote hospitals that had RSMRs no different than expected. There were three hospitals with lower than expected RSMRs and all of these were sited in major cities. There were six hospitals with higher than expected RSMRs – two of these were major city hospitals and four were inner regional hospitals.

Looking across the suite of results, major city hospitals were more likely to achieve lower than expected mortality and readmissions. Hospitals with higher than expected mortality and readmissions were found across the remoteness categories.

### Figure 4.8  Risk-standardised 30-day readmission rate, NSW public hospitals, by remoteness, July 2009 to June 2012

<table>
<thead>
<tr>
<th>Condition</th>
<th>Outer regional and remote hospital</th>
<th>Inner regional hospital</th>
<th>Major city hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute myocardial infarction</td>
<td></td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>Ischaemic stroke</td>
<td></td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Congestive heart failure</td>
<td></td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease</td>
<td></td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>Pneumonia</td>
<td></td>
<td>10</td>
<td>29</td>
</tr>
<tr>
<td>Hip fracture surgery</td>
<td></td>
<td>1</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence (BHI analysis). Note: Includes A-C hospitals with more than 50 index admissions.
Complications and adverse events

Rural hospitals have lower rates of complications

Complications of surgical or medical care are associated with hospital care but can also be influenced by the availability of primary care or community care. While rates serve as short-term indicators of performance, not all complications are avoidable and rates should be interpreted with caution. This is particularly true if results have not been adjusted for case mix, as is the case here.

In 2014–15, there were 15,139 hospitalisations in NSW public hospitals for which ‘complications of surgical or medical care’ was the principal diagnosis. Calculated as an age–sex standardised rate, complications were highest in major city hospitals (2,272 per 100,000 hospitalisations) and lowest in outer regional and remote hospitals (1,435 per 100,000) (Figure 4.9).

Patient survey data provide another perspective on complications. Among patients admitted to a public hospital in outer regional and remote NSW, 13% said they experienced a complication during or shortly after their hospital stay. This was a lower proportion than among patients hospitalised in inner regional (14%) or major city (16%) hospitals (Figure 4.10).

Infection was the most commonly reported complication. Across NSW, 4% of patients hospitalised in outer regional or remote hospitals and 5% of patients hospitalised in major city hospitals said they experienced an infection (Figure 4.11).

---

Figure 4.9

Hospitalisations for complications of surgical and medical care, public hospitals in NSW by remoteness, 2014–15

- **Outer regional and remote**: 1,435 per 100,000
- **Inner regional**: 2,084 per 100,000
- **Major cities**: 2,272 per 100,000

Source: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence (BHI analysis).

Note: Select hospitalisations include overnight admissions for persons aged 15+ years, excluding maternity and newborn. These figures do not take account of case mix or complexity of patients seen and should be interpreted with caution.
Figure 4.10  Patient-reported complications, percentage of public hospital patients who experienced a complication, NSW by remoteness of hospital, 2015

13% Outer regional & remote
14% Inner regional
16% Major cities


Figure 4.11  Patient-reported complications, percentage of public hospital patients who experienced a complication by type, NSW by remoteness, 2015

<table>
<thead>
<tr>
<th>Type of Complication</th>
<th>Outer regional and remote</th>
<th>Inner regional</th>
<th>Major cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure wound/bed sore</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Infection</td>
<td>4%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Blood clot</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>A fall</td>
<td>2%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Effectiveness of maternity services

Rates of obstetric trauma are lower in rural hospitals

Measures of the effectiveness of maternity care focus on outcomes for babies or mothers. Birthweight is a measure that reflects the health and wellbeing of mothers during their pregnancy. It is a key determinant of a baby’s future health, development and wellbeing. Babies are considered to be of low birthweight if they weigh less than 2.5 kilograms at birth. In 2014, 6.3% of NSW babies were of low birthweight, and the proportion ranged across local health districts (LHDs) from 4.2% in Southern NSW to 7.2% in Hunter New England (Figure 4.12).

Following childbirth, poor outcomes include serious lacerations or tears in the perineum (categorised as third- or fourth-degree tears, and referred to as obstetric trauma). These tears usually require surgical repair and can have long term consequences for mothers, such as ongoing pain and incontinence.

Among all hospitals in NSW in 2014, the rate of obstetric trauma for all vaginal births (instrument assisted and non-assisted) was 3 per 100 births (2 per 100 vaginal births in private hospitals and 4 per 100 in public hospitals). By remoteness, outer regional and remote hospitals had the lowest rates of obstetric trauma (although rates of non-assisted vaginal births are also lowest) (Figure 4.13).

Patient survey data provide additional information about complications and adverse events experienced by maternity patients. In 2015, 18% of women who gave birth in an outer regional or remote hospital said they experienced a complication – a lower proportion than in inner regional (21%) or major city hospitals (23%) (Figure 4.14). Among women who experienced a complication, the proportion who said it was ‘very serious’ was 8% in outer regional and remote hospitals, 10% in inner regional hospitals, and 14% in major city hospitals (Figure 4.15).

---

**Figure 4.12**  Percentage of babies who were low birthweight (<2.5kg), public and private hospitals, by mothers’ LHD of residence, NSW, 2014

- Hunter New England: Rural - 7.2%, Urban - 6.9%
- Mid North Coast: Rural - 6.9%, Urban - 6.7%
- Western Sydney: Rural - 6.7%, Urban - 6.7%
- Central Coast: Rural - 6.7%, Urban - 6.7%
- Western NSW: Rural - 6.6%, Urban - 6.6%
- Nepean Blue Mountains: Rural - 6.6%, Urban - 6.6%
- South Western Sydney: Rural - 6.1%, Urban - 6.1%
- South Eastern Sydney: Rural - 6.1%, Urban - 6.1%
- Illawarra Shoalhaven: Rural - 5.8%, Urban - 5.5%
- Far West: Rural - 5.5%, Urban - 5.1%
- Sydney: Rural - 5.5%, Urban - 5.1%
- Northern Sydney: Rural - 5.5%, Urban - 5.1%
- Northern NSW: Rural - 5.5%, Urban - 5.1%
- Murrumbidgee: Rural - 5.1%, Urban - 5.1%
- Southern NSW: Rural - 4.2%, Urban - 4.2%

Source: NSW Perinatal Data Collection (SAPHaRI), Centre for Epidemiology and Evidence, NSW Ministry of Health (BHI analysis).
Figure 4.13  Rates of obstetric trauma, NSW public hospitals by remoteness, 2014

Source: NSW Perinatal Data Collection (SAPHaRI), Centre for Epidemiology and Evidence, NSW Ministry of Health (BHI analysis).

Figure 4.14  Patient-reported complications, percentage of women who said they experienced a complication, NSW public hospitals by remoteness, 2015

Source: BHI, Maternity Care Survey, 2015.

Figure 4.15  Seriousness of complications, all response categories, women who said they experienced a complication, NSW public hospitals by remoteness, 2015

Source: BHI, Maternity Care Survey, 2015.
Effectiveness of cancer services

Responses from patients in two rural outpatient cancer clinics were more positive than NSW for multiple measures

In 2016, BHI released a report that explored how outpatient cancer clinics performed across NSW. The report featured responses from outpatients (who were in an active treatment phase for cancer) to questions about symptom severity and perceptions about self-efficacy and outcomes. Respondents were asked for their views approximately three months after the outpatient visit of interest.17

The report featured data collected with the Edmonton Symptom Assessment System (ESAS).17 This survey tool consists of numerical rating scales for common symptoms of cancer and cancer treatment and asks patients to rate their symptoms on a 10-point rating scale of severity (e.g. ‘no pain’ to ‘worst possible pain’). Lower scores indicate lower symptom burden.

Patients in two rural cancer clinics (Coffs Harbour and Port Macquarie) reported significantly lower scores than the NSW result for two or more symptoms (Figure 4.16).

The report also featured data collected with the Communication and Attitudinal Self-Efficacy Scale for cancer (CASE-Cancer). It was used to ask patients to reflect on how confident they are in their ability to participate in their care; whether they can maintain a positive attitude; and their confidence in seeking, obtaining and understanding information. Their responses were converted into a score and results compared across clinics (Figure 4.17).

Responses from patients in a rural clinic – Coffs Harbour – were more positive than the NSW result for two of the three self-efficacy components.

Prior to the outpatient cancer clinics report, BHI released a report on cancer patients’ experiences of hospital care.17 The majority of patients responded positively to questions about outcomes but patients hospitalised in rural hospitals were generally more positive than those in major city hospitals (Figure 4.18).

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**Figure 4.17**  Self-efficacy score at time of survey completion (CASE), patients in active treatment phase, public hospital results relative to NSW, 2015

| Seeking and obtaining information | 8.3 | 8.8 | 9.4 | 8.1 | 9.7 | 8.5 | 8.9 | 8.9 | 9.5 | 9.4 | 8.8 | 9.2 | 9.0 | 9.1 | 9.0 | 9.1 | 9.1 | 8.9 | 9.1 | 9.1 | 8.8 | 8.8 |
| Understanding and participating in care | 8.0 | 8.2 | 8.8 | 7.6 | 9.3 | 8.0 | 8.7 | 8.7 | 8.4 | 8.6 | 9.0 | 8.8 | 8.8 | 8.6 | 8.7 | 8.6 | 8.7 | 8.2 | 8.4 |
| Maintaining a positive attitude | 7.7 | 8.2 | 8.4 | 6.6 | 8.5 | 7.5 | 8.1 | 8.4 | 8.3 | 7.9 | 8.3 | 8.4 | 8.3 | 8.1 | 8.2 | 8.5 | 8.8 | 7.6 | 8.0 |


Note: At the time of sampling, no patient level data were available for hospitals in Far West, Murrumbidgee, Southern NSW and Hunter New England local health districts (LHDs). Western NSW LHD, Bathurst, Sydney/Sydney Eye, Dubbo, Orange, Prince of Wales, Royal Prince Alfred and St George hospitals are excluded due to insufficient responses (<30). Results are generated by scoring the four response options and averaging the scores by theme.

* Chris O’Brien Lifehouse is not a NSW Health facility but is contracted to provide services to some public hospital patients.

**Figure 4.18**  Patient-reported outcomes, percentage of cancer patients who selected the most positive response category, NSW public hospitals by remoteness, 2013–14

- **Not including the reason you came to hospital, did you experience any of the following complications or problems?** (% answering ‘No complication or problem’)
  - Outer regional and remote hospital: 87%
  - Inner regional hospital: 81%
  - Major city hospital: 83%

- **Did the care and treatment received in hospital help you?** (% answering ‘Yes, definitely’)
  - Outer regional and remote hospital: 74%
  - Inner regional hospital: 75%
  - Major city hospital: 75%

- **Is the problem you went to hospital for...?** (% answering ‘Much better’)
  - Outer regional and remote hospital: 59%
  - Inner regional hospital: 68%
  - Major city hospital: 47%

Hospital size and effectiveness measures

Patients admitted to rural hospitals were less likely to experience a complication

BHI’s surveys make it possible to compare the experiences of patients in principal referral, major or district hospitals (often called peer groups A, B and C) and smaller hospitals (all other peer groups) across remoteness categories.

In terms of effectiveness measures, within most rural LHDs there was only a slight difference between small and large hospitals in the proportion of patients who said the care and treatment they received in hospital helped them; and who said they experienced a complication (Figure 4.19).

Within the small hospital survey however, there was variation in the proportion of patients who said care ‘definitely’ helped them – ranging from 63% of patients in a small outer regional and remote hospital to 93% in two hospitals, one outer regional and remote and one inner regional hospital (Figure 4.21).

The Small and Rural Facilities Survey also asked patients whether they had been readmitted or visited an emergency department (ED) in the month following their discharge (Figure 4.20).

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**Figure 4.19** Patient-reported outcomes, percentage of patients who selected the most positive response category, adult admitted (larger hospitals) and small and rural public hospital surveys, LHDs, NSW, 2015

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* Peer group A includes (very large) principal referral and specialist hospitals; peer group B includes (large) major hospitals and peer group C includes (medium and small) district hospitals.
Figure 4.20  Patient-reported outcomes, all response categories, small public hospitals in NSW by remoteness, 2015

<table>
<thead>
<tr>
<th>Remoteness</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer regional and remote</td>
<td>7%</td>
<td>93%</td>
</tr>
<tr>
<td>Inner regional</td>
<td>5%</td>
<td>95%</td>
</tr>
<tr>
<td>Major cities</td>
<td>7%</td>
<td>93%</td>
</tr>
</tbody>
</table>


Figure 4.21  Patient-reported outcomes, percentage of patients who selected the most positive response category, NSW small public hospitals by remoteness, 2015

- Outer regional and remote hospital
- Inner regional hospital

Did the care and treatment received in hospital help you? (% answering *Yes, definitely*)

78%  82%

Experienced complication or problem during or shortly after hospital stay


Full results are available on BHI’s interactive data portal, Healthcare Observer at:
bhi.nsw.gov.au/healthcare_observer
Effectiveness and Aboriginality

Differences in patient-reported outcomes by Aboriginality were seen in rural and urban hospitals

Within the Adult Admitted Patient Survey of larger public hospitals, there were three questions that asked about outcomes of care. For all three of these self-reported outcome measures, Aboriginal patients were less positive than non-Aboriginal patients. There were differences in the percentage who said: they experienced a complication or problem (22% of Aboriginal patients and 16% of non-Aboriginal patients); care and treatment ‘definitely’ helped them (70% and 77%); and at the time of questionnaire completion (approximately three months after hospital discharge), the problem that prompted their hospital stay was ‘much better’ (66% and 73%) (Figure 4.22).

Across NSW, 22% of Aboriginal patients said they experienced a complication, compared with 16% of non-Aboriginal patients. Infections were more often reported by Aboriginal patients (9%) than by non-Aboriginal patients (5%). Among those who reported a complication, Aboriginal patients were more likely to rate it as ‘very serious’ (29% and 19%) [data not shown].

Differences between Aboriginal and non-Aboriginal patient-reported outcomes were seen in rural (regional and remote) and urban (major city) hospitals (Figure 4.23).

Comparing Aboriginal patients’ responses across LHDs, the widest variation was in the question about whether patients were ‘definitely’ helped by the care they received which ranged from 52% to 91% (Figure 4.24).

---

Source: Bureau of Health Information. Patient Perspectives. Hospital Care for Aboriginal People. Sydney (NSW); BHI; 2016.

* There was a significant difference in the proportion of Aboriginal and non-Aboriginal patients.
Figure 4.23  Patient-reported outcomes, percentage of patients who selected most positive response category, Aboriginal and non-Aboriginal patients, urban and rural NSW public hospitals, 2014

- Did not experience complication related to hospital care
- Care and treatment received ‘definitely’ helped
- The problem went to hospital for ‘much better’

Source: Bureau of Health Information. Patient Perspectives. Hospital Care for Aboriginal People. Sydney (NSW); BHI; 2016.

* There was a significant difference in the proportion of Aboriginal and non-Aboriginal patients who selected the most positive response category.

Figure 4.24  Patient-reported outcomes, percentage of patients who selected the most positive response category, Aboriginal patients, LHDs, NSW 2014

- No reported complication or problem during or shortly after stay
- Care and treatment received ‘definitely’ helped
- The problem went to hospital for ‘much better’

Source: Bureau of Health Information. Patient Perspectives. Hospital Care for Aboriginal People. Sydney (NSW); BHI; 2016.
Appendices
Appendix 1: Public hospitals in NSW

Hospitals differ in terms of size, complexity of services, and remoteness. These tables provide descriptive information about public hospitals in NSW.

Principal referral hospitals are only found in major cities. Small hospitals are distributed throughout the state. Across local health districts (LHDs), the percentage of hospitalisations that occur in community hospitals, multipurpose services (MPS) or smaller facilities ranges from 0% in several metropolitan LHDs to 22% in Western NSW and 32% in Murrumbidgee.

The number of public facilities by area and hospital peer group, NSW, 2015

<table>
<thead>
<tr>
<th>Remoteness</th>
<th>Principal referral</th>
<th>Paediatric specialist</th>
<th>Acute</th>
<th>Major</th>
<th>Medium District</th>
<th>Small District</th>
<th>Community acute (with surgery)</th>
<th>Community acute (without surgery)</th>
<th>Community non-acute</th>
<th>Psychiatric</th>
<th>Multipurpose Service</th>
<th>Other (all categories below MPS)</th>
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<tbody>
<tr>
<td>Major cities</td>
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<td>3</td>
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<td>8</td>
<td>8</td>
<td>2</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Outer regional/remote</td>
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<td>0</td>
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Source: NSW Health Information Exchange (HIE)

NSW public hospital peer groups

<table>
<thead>
<tr>
<th>Peer group</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Principal referral</td>
<td>Very large hospitals providing a broad range of services, including specialised units at a state or national level.</td>
</tr>
<tr>
<td>A2</td>
<td>Paediatric specialist</td>
<td>Specialist hospitals for children and young people.</td>
</tr>
<tr>
<td>A3</td>
<td>Ungrouped acute – tertiary referral</td>
<td>Major specialist hospitals that are not similar enough to any other peer group to be classified with them.</td>
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<tr>
<td>B</td>
<td>Major</td>
<td>Large metropolitan and non-metropolitan hospitals.</td>
</tr>
<tr>
<td>C1</td>
<td>District group 1</td>
<td>Medium sized hospitals treating between 5,000–10,000 patients each year.</td>
</tr>
<tr>
<td>C2</td>
<td>District group 2</td>
<td>Smaller hospitals typically in rural locations.</td>
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### The percentage of acute hospitalisations by LHD and hospital peer group, NSW, 2015

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<th>Rural local health districts</th>
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<th>Major</th>
<th>Medium District</th>
<th>Small District</th>
<th>Community acute (with surgery)</th>
<th>Community acute (without surgery)</th>
<th>Multipurpose Service</th>
<th>Other (all categories below MPS)</th>
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<th>Acute</th>
<th>Major</th>
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<th>Small District</th>
<th>Community acute (with surgery)</th>
<th>Community acute (without surgery)</th>
<th>Multipurpose Service</th>
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NSW *

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<tr>
<th>Principal referral</th>
<th>Paediatric specialist</th>
<th>Acute</th>
<th>Major</th>
<th>Medium District</th>
<th>Small District</th>
<th>Community acute (with surgery)</th>
<th>Community acute (without surgery)</th>
<th>Multipurpose Service</th>
<th>Other (all categories below MPS)</th>
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</table>

Source: NSW Ministry of Health, extracted from Clinical Services Planning Analytics (CaSPA) FlowInfo v15.0, Health System Planning and Investment Branch (BHI Analysis).

* Excludes hospital in the home, renal dialysis & chemotherapy
Appendix 2: LHD survey results at a glance

This Appendix summarises results at an LHD level for six NSW patient surveys. Each row corresponds to a survey question. Squares for which an LHD result was significantly higher than NSW are coloured green, while those with results significantly lower than NSW are coloured red.

Summarising survey results at an LHD level in this way reveals patterns of performance across aspects of care as well as across geographies.

While this report focuses on healthcare in rural NSW, metropolitan LHD results are provided for context.

Adult Admitted Patient Survey 2014: Aboriginal patients

<table>
<thead>
<tr>
<th>Aspect of care</th>
<th>Question</th>
<th>NSW</th>
<th>Central Coast</th>
<th>Hunter New England</th>
<th>Illawarra Shoalhaven</th>
<th>Mid North Coast</th>
<th>Northern NSW</th>
<th>Northern Sydney</th>
<th>South Eastern Sydney</th>
<th>South Western Sydney</th>
<th>Southern NSW</th>
<th>St Vincent's Health Network</th>
<th>Sydney</th>
<th>Western NSW</th>
<th>Western Sydney</th>
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<tbody>
<tr>
<td>Overall experience</td>
<td>Would ‘speak highly’ of the hospital to friends and family</td>
<td>72</td>
<td>73</td>
<td>77</td>
<td>76</td>
<td>57</td>
<td>57</td>
<td>76</td>
<td>81</td>
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<td>63</td>
<td>80</td>
<td>86</td>
<td>87</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>Overall care in hospital was ‘very good’</td>
<td>64</td>
<td>69</td>
<td>65</td>
<td>69</td>
<td>58</td>
<td>54</td>
<td>67</td>
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<td>68</td>
<td>69</td>
<td>71</td>
<td>77</td>
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<tr>
<td>Access and timeliness</td>
<td>Time spent in the emergency department was ‘about right’</td>
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<td>69</td>
<td>48</td>
<td>68</td>
<td>45</td>
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<td>73</td>
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<td>71</td>
<td>73</td>
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<tr>
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<td>Time waited to be admitted to hospital was ‘about right’</td>
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<td>71</td>
<td>57</td>
<td>57</td>
<td>77</td>
<td>74</td>
<td>79</td>
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<td>73</td>
<td>70</td>
<td>73</td>
<td>73</td>
<td>70</td>
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<tr>
<td>Physical environment and comfort</td>
<td>Wards or rooms were ‘very clean’</td>
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<td>69</td>
<td>65</td>
<td>65</td>
<td>55</td>
<td>54</td>
<td>71</td>
<td>61</td>
<td>59</td>
<td>81</td>
<td>59</td>
<td>70</td>
<td>69</td>
<td>70</td>
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<tr>
<td></td>
<td>Toilets and bathrooms were ‘very clean’</td>
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<td>59</td>
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<td>55</td>
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<td>Information provision</td>
<td>Given ‘right amount’ of information about condition or treatment during stay</td>
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<td>82</td>
<td>71</td>
<td>85</td>
<td>66</td>
<td>81</td>
<td>83</td>
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<tr>
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<td>‘Completely’ informed about medication side effects to watch for</td>
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<td>Responsible communication</td>
<td>Nurses ‘always’ answered important questions in an understandable way</td>
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<td>78</td>
<td>66</td>
<td>76</td>
<td>64</td>
<td>96</td>
<td>73</td>
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<td>73</td>
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<tr>
<td></td>
<td>Doctors ‘always’ answered important questions in an understandable way</td>
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<td>69</td>
<td>53</td>
<td>51</td>
<td>76</td>
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<td>Respectful practices</td>
<td>Cultural or religious beliefs were ‘always’ respected</td>
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<td>‘Always’ treated with respect and dignity</td>
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<tr>
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<td>‘Always’ given enough privacy when being examined or treated</td>
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<td>76</td>
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<td>Engagement and participation</td>
<td>‘Definitely’ involved in decisions about care and treatment</td>
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<tr>
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<td>‘Definitely’ involved in decisions about discharge</td>
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<td>68</td>
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<td>72</td>
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<td></td>
<td>Given ‘completely’ enough information to manage care at home</td>
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<td>Comprehensive and whole-person care</td>
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<td>Coordinination and continuity</td>
<td>‘Staff considered family and home situation when planning discharge’</td>
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<tr>
<td></td>
<td>‘Always’ got the opportunity to talk to a doctor when needed</td>
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<td>‘Staff assisted within a reasonable timeframe of all the time’</td>
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<td>Trust and confidence</td>
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LHD result, relative to NSW:  ■ Significantly higher  ■ Significantly lower  ■ No significant difference

Targeted oversampling allowed the survey to make comparisons among Aboriginal patients – assessing whether responses from hospitalised Aboriginal patients in each LHD were significantly different to those from NSW Aboriginal patients overall.
## Maternity Care Patient Survey 2015

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<th>Aspect of care</th>
<th>Question</th>
<th>NSW</th>
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<th>Mid North Coast</th>
<th>Murrumbidgee</th>
<th>Nepean Blue Mountains</th>
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<td>Coordination and continuity</td>
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<td>‘Completely’ involved in decisions about care and treatment</td>
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</table>

LHD result, relative to NSW:   ![Significantly higher](https://example.com/higher.png) **Significantly lower** ![No significant difference](https://example.com/no_difference.png)

Results for patients hospitalised in small facilities in rural LHDs are shown. Results that were significantly different to NSW results are highlighted.

---

**The Insights Series – Healthcare in rural, regional and remote NSW**

bhi.nsw.gov.au 118
**Adult Admitted Patient Survey 2015**

<table>
<thead>
<tr>
<th>Aspect of care</th>
<th>Overall experience</th>
<th>Access and timeliness</th>
<th>Physical environment and comfort</th>
<th>Communication and information</th>
<th>Respect and dignity</th>
<th>Engagement and participation</th>
<th>Comprehensive and whole-person care</th>
<th>Coordination and continuity</th>
<th>Assistance and responsiveness</th>
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<th>Trust and confidence</th>
<th>Patient reported outcomes</th>
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<tbody>
<tr>
<td><strong>Overall experience</strong></td>
<td>Overall, care in hospital was 'very good'</td>
<td>Time from arrival until taken in room/ward was 'about right'</td>
<td>Wards or rooms were 'very clean'</td>
<td>Doctors 'always' answered important questions in an understandable way</td>
<td>'Always' treated with respect and dignity</td>
<td>'Definitely' involved in decisions about care and treatment</td>
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<td>Staff assisted within a reasonable timeframe 'all of the time'</td>
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LHD result, relative to NSW: [Significantly higher] [Significantly lower] [No significant difference]

Appendix 2: LHD survey results at a glance continued
## Cancer Outpatient Survey 2015

### Overall experience of care

<table>
<thead>
<tr>
<th>Aspect of care</th>
<th>Question</th>
<th>NSW</th>
<th>Central Coast</th>
<th>Hunter New England</th>
<th>Mid North Coast</th>
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<tr>
<td></td>
<td>Overall, care was rated as 'very good'</td>
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<td>Would 'speak highly' of the clinic to friends and family</td>
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<td>Overall, health professionals were rated as 'very good'</td>
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**LHD result, relative to NSW:**
- **Significantly higher**
- **Significantly lower**
- **No significant difference**
## Appendix 2: LHD survey results at a glance continued

### Adult Admitted Patient Survey 2013–14: Cancer inpatients

| Aspect of care | Question                                                                 | NSW | Central Coast | Western NSW | South Eastern Sydney | South Western Sydney | Illawarra Shoalhaven | Murrumbidgee | Nepean Blue Mountains | Hunter New England | Northern Sydney | Northern NSW | St Vincent’s Health Network | Sydney | Western NSW | Sydney
|----------------|--------------------------------------------------------------------------|-----|---------------|-------------|----------------------|----------------------|-----------------------|--------------|------------------------|------------------|----------------|----------------|----------------------------------|----------|-------------|----------|
| **Overall experience** | Overall, how would you rate the care you received while in hospital? | 72  | 72  | 74  | 71  | 72  | 74  | 69  | 70  | 74  | 69  | 70  | 71  | 71
| **Access** | Time between booking appointment with specialist and admission to hospital was ‘about right’ | 27  | 27  | 28  | 25  | 27  | 28  | 24  | 25  | 27  | 24  | 26  | 24  | 24
| **Continuity of care and relationships** | Patient told who to contact if they were worried after discharge | 75  | 77  | 76  | 76  | 78  | 78  | 74  | 73  | 76  | 76  | 73  | 75  | 75
| **Communication** | Hospital staff explained surgical procedure in a ‘completely’ understandable way | 71  | 72  | 74  | 67  | 71  | 68  | 66  | 74  | 72  | 71  | 74  | 78  | 73
| **Information** | Staff ‘always’ explained the purpose of test, X-ray or scans | 69  | 68  | 66  | 72  | 67  | 69  | 65  | 67  | 65  | 63  | 62  | 60  | 56
| **Shared decision-making** | Felt ‘completely’ involved in decisions about discharge | 68  | 69  | 68  | 74  | 72  | 68  | 63  | 71  | 78  | 74  | 72  | 66  | 66
| **Addressing patient concerns** | ‘Always’ had confidence and trust in doctors | 79  | 77  | 76  | 81  | 76  | 74  | 71  | 76  | 77  | 75  | 75  | 71  | 71
| **Care requirements** | Hospital staff ‘definitely’ did everything they could to help manage pain | 82  | 84  | 87  | 86  | 84  | 85  | 82  | 85  | 82  | 85  | 82  | 83  | 82
| **Respect for the patient** | ‘Always’ saw nurses wash their hands or use clean gloves | 57  | 55  | 54  | 58  | 57  | 58  | 54  | 55  | 54  | 53  | 54  | 50  | 55
| **Tailoring healthcare services for each patient** | Felt well enough to leave hospital when discharged | 56  | 57  | 57  | 57  | 57  | 57  | 57  | 57  | 57  | 57  | 57  | 57  | 57
| **Patient reported outcomes** | Did not report complication or problem | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74  | 74

LHD result, relative to NSW:  
- **Green**: Significantly higher  
- **Red**: Significantly lower  
- **Gray**: No significant difference

---

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Setting the scene


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Appropriateness


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References continued

Effectiveness


Acknowledgements

The Bureau of Health Information (BHI) is the main source of information for the people of NSW about the performance of their public healthcare system. A NSW board-governed organisation, BHI is led by Acting Chairperson Mary Elizabeth Rummery AM and Chief Executive Jean-Frédéric Lévesque MD, PhD.

We would like to thank colleagues from the NSW Ministry of Health and pillar organisations, our expert advisors, reviewers and staff who contributed to the report.

External Advisors and Reviewers

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<td>Brian Shimadry</td>
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Research

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<td>Lilian Daly</td>
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Support Analytics

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<td>Behnoosh Khalaj</td>
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Design

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Communications and Stakeholder Engagement

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The Bureau of Health Information (BHI) is a board-governed organisation that provides independent information about the performance of the NSW public healthcare system.

BHI was established in 2009 to provide system-wide support through transparent reporting.

BHI supports the accountability of the healthcare system by providing regular and detailed information to the community, government and healthcare professionals. This in turn supports quality improvement by highlighting how well the healthcare system is functioning and where there are opportunities to improve.

BHI manages the NSW Patient Survey Program, gathering information from patients about their experiences in public hospitals and other healthcare facilities.

BHI publishes a range of reports and tools that provide relevant, accurate and impartial information about how the health system is measuring up in terms of:

- Accessibility – healthcare when and where needed
- Appropriateness – the right healthcare, the right way
- Effectiveness – making a difference for patients
- Efficiency – value for money
- Equity – health for all, healthcare that’s fair
- Sustainability – caring for the future.

BHI’s work relies on the efforts of a wide range of healthcare, data and policy experts. All of our assessment efforts leverage the work of hospital coders, analysts, technicians and healthcare providers who gather, codify and report data. Our public reporting of performance information is enabled and enhanced by the infrastructure, expertise and stewardship provided by colleagues from NSW Health and its pillar organisations.