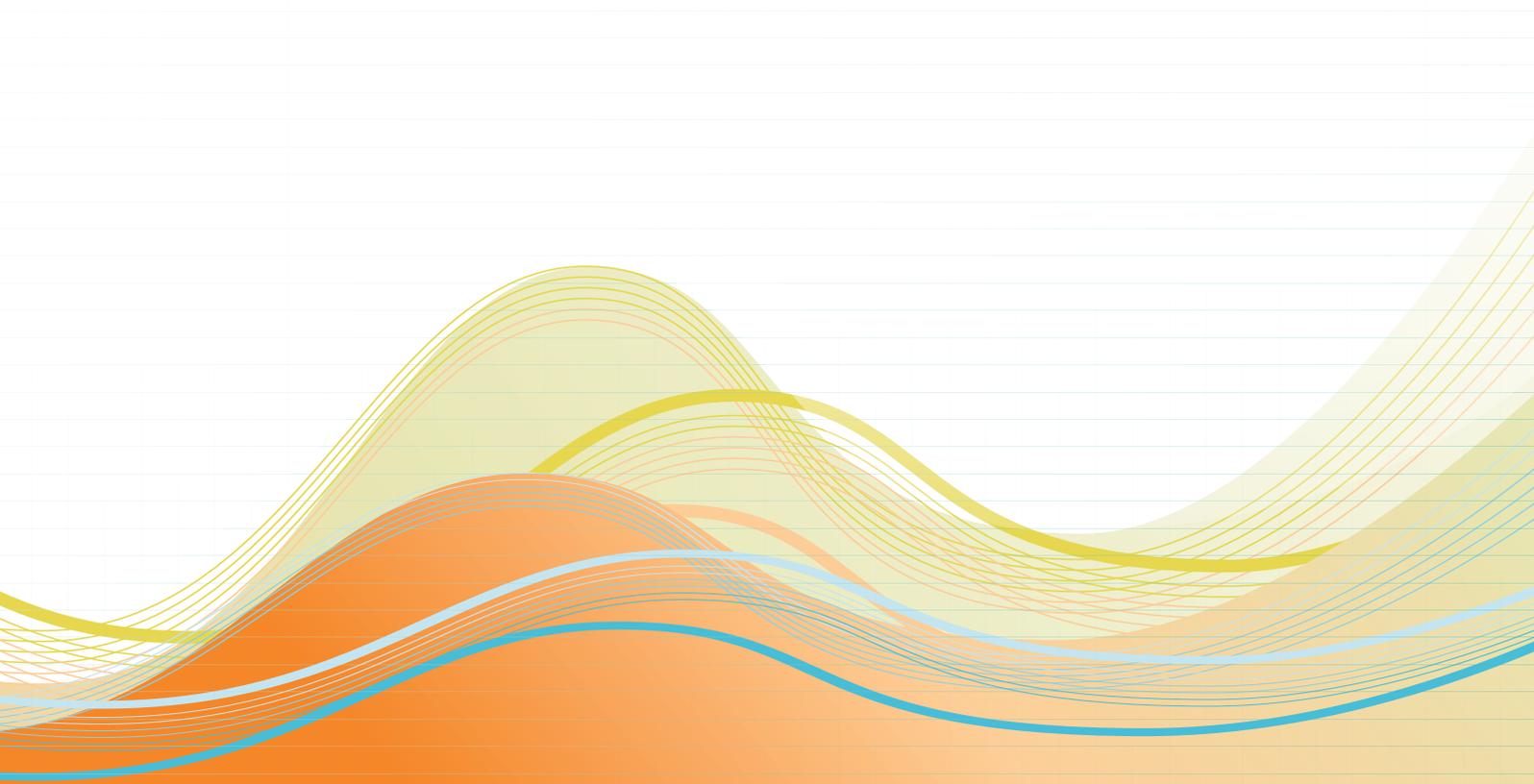


Healthcare in Focus

how NSW compares internationally

Annual performance report: December 2010



BUREAU OF HEALTH INFORMATION

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Foreword

Good patient care and strong healthcare policy are built on several foundations – one of which is quality information about how the health system performs.

The Bureau of Health Information plays an important role in the provision of this quality information to the community, healthcare professionals and policymakers.

Established in response to a key recommendation of Commissioner Peter Garling SC's Special Commission of Inquiry into Acute Care Services in NSW Public Hospitals, the Bureau's mandate is to provide timely, accurate and comparable information on the performance of the NSW healthcare system.

Our independent, board-governed organisation has a number of functions, including the provision of an annual report to the NSW Minister for Health and Parliament on the performance of the state's healthcare system. *Healthcare in Focus: how NSW compares internationally* is the Bureau's first annual report.

The report includes almost 90 measures of performance to compare the state with the rest of Australia and 10 other countries.

With this report, the Bureau has built on its existing suite of publications, which include the *Hospital Quarterly* report series.

This new publication provides a comprehensive view of performance. In contrast to previous Bureau reports, which have focused on the state's public hospital system, *Healthcare in Focus* draws on information from across the healthcare landscape.

The annual report looks across the NSW healthcare system – inclusive of private and public sectors; the hospital system and primary care. It uses data mainly from the Commonwealth Fund and the Organisation for Economic Co-operation and Development (OECD) to support comparisons between jurisdictions.

Healthcare in Focus examines performance in the areas of safety and quality, effectiveness and appropriateness, equity, access and timeliness, person-centred care and whether care is cost efficient and sustainable.

The Bureau's objective is that this report will inform efforts to improve healthcare across NSW and provide a baseline to monitor how the system performs in the future.



Professor Bruce Armstrong AM
Chairman of the Board



Dr Diane Watson
Chief Executive

Executive summary

Communities want healthcare systems that offer value and provide high-quality, safe care

People want long, healthy lives.

Communities want healthcare systems that offer value and provide high-quality, safe care.

The goal of all healthcare systems is therefore to improve the health of the population they serve in an efficient way. To reach this goal it is important to understand the keys to high performance and to what extent they feature in our own healthcare system.

We need to ask: are healthcare services effective, appropriate, safe and delivered on the basis of clinical need? To what degree are they patient-focused? Can people access care when and where they need it? Do services have enough resources and how do costs of care compare?

When we ask questions about our population's health, external factors, as well as health system performance, inform the answer. External factors include lifestyle and socioeconomic circumstance and are largely outside the control of healthcare systems.

Healthcare in Focus: how NSW compares internationally takes a comprehensive look at how the NSW health system compares to the rest of Australia and 10 other countries. To do this, the Bureau mainly used data from the 2010 Commonwealth Fund International Health Policy Survey and the Organisation for Economic Co-operation and Development (OECD).

In making these comparisons, the report travels across international borders. It examines performance in both private and public sectors; in the hospital system and in primary care.

This performance information focuses on three main areas: how healthy NSW people are compared to those in other countries; how system performance as a whole compares; and what value NSW gets from the healthcare dollars it spends compared to funds spent internationally.

The report includes almost 90 performance measures, selected on the basis of comparable information from overseas. As a result, the report does not align directly with performance priorities identified for NSW. It does, however, include information that might inform future priorities.

Comparative performance is summarised in each chapter with a simple ranking scheme. In setting the performance of NSW alongside the rest of Australia and 10 other countries, the report ranks jurisdictions in order of achievement. The top four are ranked 'higher', the next four 'middle' and the bottom four 'lower'.

Healthcare in Focus deliberately looks at the big picture, taking a step back from the more granular approach of other Bureau publications such as *Hospital Quarterly*. While examining hospital-based performance targets is important for public policy and patient care, it is also enlightening to step back from the trees and take a look at the entire forest.

So what did we find?

Health and lifestyle determinants

Nearly 60% of NSW adults rate their own health as either excellent or very good – a higher percentage than in most other countries. Our life expectancy is long and deaths from cancer and heart disease have decreased dramatically in the past decade. Improvements over time in the health of NSW people are considerable when placed in an international context.

Yet nearly 70% of adults in NSW say they have been diagnosed with a long-term health condition, a greater proportion than that seen internationally. NSW also struggles with an obesity problem but we are not alone. More than 60% of people are either overweight or obese, ranking NSW in the middle of other countries. These findings are important, given that chronic disease and rising rates of obesity have ongoing implications for the healthcare system.

Effectiveness and appropriateness

Measuring effectiveness and appropriateness gives an insight into whether the people of NSW receive healthcare that works.

The report found that years of life lost to circulatory disease and cancer have fallen, reflecting positively on healthcare interventions in the state. Most adults report receiving appropriate monitoring tests for blood pressure and cholesterol, ranking NSW high among the countries surveyed.

There are however, areas where current performance levels may be of concern. Caesarean section rates in NSW are high by international standards (almost 30% of live births) and have increased more rapidly than in other countries. Although a caesarean section is appropriate for

some mothers, it involves risks and requires more resources than a vaginal delivery.

In 2010, among NSW adults hospitalised in the previous two years, about one in six reported returning to hospital because of complications. This is significantly higher than France and Switzerland and lower than the United Kingdom.

People with diabetes also experience preventable complications, such as amputations, at a greater rate than in other countries. In NSW, the rate of diabetes-associated lower limb amputation is 18 per 100,000 of the population, which is surpassed only by the United States and suggests there are opportunities for improvement.

Safety

In primary care, more than 70% of people taking at least one prescription say a general practitioner (GP) or staff member at their regular place of care reviewed their medications and explained potential side effects. When being discharged from hospital, nearly 70% of people are given written instructions about what to do when they return home. Internationally, NSW adults are among the most likely to receive these on leaving hospital.

NSW achieves a middle ranking when it comes to test delays and medication error. While most people receive timely test results, 6% of patients who had a medical test in the previous two years report experiencing a delay in receiving abnormal results and 5% report being given the wrong medication by a healthcare professional.

In NSW 10% of people think a medical mistake has been made in their care in the past two years, although the extent of harm was not assessed. In this area NSW has a lower ranking.

Access and timeliness

More than 60% of adults are able to get a same-day or next-day primary care appointment, and more than 80% who visit emergency departments (EDs) say they waited less than four hours for treatment. More than half though, find it difficult to access after-hours medical care without going to the emergency department. NSW achieves a middle ranking on these three measures.

About one in six patients who received elective surgery (in public or private hospitals) reported waiting more than six months for their operation. Compared to other countries, NSW ranks lower on this measure of timeliness.

Areas for improvement may include cost barriers to care. About one in six people with a medical problem in the previous year did not visit a doctor because of cost concerns and nearly 10% of people do not visit the doctor because of travel difficulties. Compared to other countries, NSW ranks lower on these measures of access, though the percentage of adults reporting travel difficulties were not dissimilar to other large countries.

Person centredness

Healthcare systems that are person centred have communities that actively participate in efforts to achieve a good system and place patients at the centre of their medical treatment. In this area, NSW generally achieves high rankings compared to other countries.

Most adults for example, rate the care given by their GP as excellent or very good. Most people say their regular GP always knows important information about their medical history, always spends enough time with them and always involves them as much as they want to be in decisions about their care. More than 60% have their care co-ordinated by someone in their regular GP practice. In these areas NSW achieves high rankings.

Patients have observed problems in sending their medical details to GPs after leaving hospital, with a sizeable minority reporting difficulties in information flow to general practice after a visit to the ED (about 30%), or hospitalisation (about 20%). NSW ranks lower on this measure.

More than 70% are confident they will receive the most effective treatment if they become seriously ill, though fewer people in NSW are confident in this area than those in other countries.

At the same time, almost a quarter say the Australian healthcare system works pretty well, and half say there are some good things about the system but fundamental changes are needed. A quarter of adults say the Australian healthcare system has so much wrong with it that it needs a complete rebuild. Among Australians these views have remained stable since 2001.

Equity

Although the overall health and wellbeing of NSW people is high compared to other countries, there are considerable disparities in the health status of different groups within the state.

Healthcare in Focus shows that people who live in more socioeconomically disadvantaged areas have more health problems but do not always receive more care.

People with below average income are less likely to report good or excellent health status or have confidence in receiving the most effective care than people with above average income. Relative to other countries the income-associated gap in health status or confidence places NSW in the middle ranking.

Across rural NSW, people have a lower life expectancy than those living in cities. They also have higher rates of potentially preventable hospitalisations.

Aboriginal mothers are more likely to have low birth weight or preterm babies compared to non-Aboriginal mothers. This places infants at increased risk of ill health. As adults, Aboriginal people are more likely to be hospitalised for a range of medical conditions and have a lower life expectancy than non-Aboriginal people.

Resources, activity and sustainability

In 2007, NSW spent \$4,727 on average per person on public and private healthcare. After accounting for differences in currency, this ranks mid-range relative to 20 similar countries, including those featured in our report and founding European Union members. In 2008, NSW had slightly more nurses and more GPs per person than most other countries. NSW is similar to other countries in terms of the number of working doctors and beds per 1,000 of the population.

Overall then, how does NSW perform?

Considering the health of NSW people ranks highly compared to other countries and that state health spending is mid-range compared to other nations' spending, NSW does well in achieving health per dollar spent. No country spends less per person than NSW and has better health.

The state has made significant health gains over recent years and is an international leader in this area. At the same time, *Healthcare in Focus* identifies where NSW needs to do better and points to countries it can learn from.

Learning from success and focusing attention on areas for improvement are critically important in the quest to deliver high-quality, safe healthcare services to people when they need them.

Setting the scene

- The report's approach
- NSW population health overview

Health and the quality of healthcare services are vitally important to communities around the world. In NSW, people expect timely access to safe, high-quality care for all who need it. They also want ready access to information about what their healthcare system is delivering and how it compares to others.

Comprehensively assessing and comparing health and healthcare systems is challenging. Healthcare systems are large, complex networks of diverse organisations that deliver a wide range of services to millions of people. In response to this challenge, significant international efforts have been made to:

- Build consensus on what a high-performance healthcare system looks like, while acknowledging that different jurisdictions have their own values, priorities and goals
- Select common indicators that measure performance dimensions and identify high performers.

In this inaugural annual performance report, *Healthcare in Focus*, the Bureau of Health Information draws on these international efforts and compares the NSW health system to the rest of Australia and 10 other countries.

In making its comparisons for this report the Bureau principally relied on data from two main sources.

- **The 2010 Commonwealth Fund International Health Policy Survey:**

These telephone survey data reflect the views and self-reported experiences of almost 20,000 people in 11 countries. In NSW, 1,550 adults (18 years or older) were surveyed between March and June 2010. Results are weighted to represent the age, sex, education and regional distribution of each country's population. For questions asked of all adults, the margin of sampling error is plus or minus 2 or 3%, depending on sample size (95% confidence interval).

- **The Organisation for Economic Co-operation and Development (OECD):**

These data reflect health system expenditure, capacity and achievements in OECD member countries. In order to fairly compare NSW, the Bureau commissioned the Australian Institute of Health and Welfare (AIHW) to calculate performance measures for NSW and the rest of Australia using OECD data definitions and methods.

Healthcare in Focus aims to: paint a timely and comprehensive overview of healthcare; focus on public and patient perspectives; and put the performance of the NSW healthcare system in an international context. Therefore the report:

- **Compares the performance of the NSW healthcare system to the rest of Australia and 10 countries** participating in the Commonwealth Fund's 2010 International Health Policy Survey.
- **Includes information on the State Government-operated hospital system and on primary care services** which are largely a Federal Government policy and funding responsibility. The most frequent interaction and most enduring relationships with healthcare professionals take place in primary care settings for the majority of NSW people.
- **Contains some sets of figures that include both public and private sector healthcare.** International data that support comparisons across countries do not distinguish public and private patients or sectors.
- **Draws on information from 2010 or the most recent year** for which internationally comparable data are available.
- **Deliberately takes a broad approach** rather than addressing more granular performance measures such as those covered in the Bureau's *Hospital Quarterly* reports.

- **Presents performance indicators selected on the basis of international data availability.**

Therefore, the indicators do not completely align with current NSW performance priorities. The report includes some information on services provided in hospitals, including elective surgery and emergency departments. More extensive coverage of these topics is limited by a lack of international data to support comparisons. For more detailed analysis of NSW performance in these areas, see the Bureau's *Hospital Quarterly* reports (www.bhi.nsw.gov.au).

The information in this report is intended to provide a “whole of system” perspective on healthcare in NSW. To achieve this, the Bureau has developed a conceptual framework that shows the elements of a high-performance health system (**Figure 1.1**).

More information about the data sources, survey methods and other analyses used in this report is available in the *Healthcare in Focus: technical supplement, 2010* available from the Bureau of Health Information at www.bhi.nsw.gov.au

The conceptual framework

A guide to understanding and evaluating the NSW healthcare system

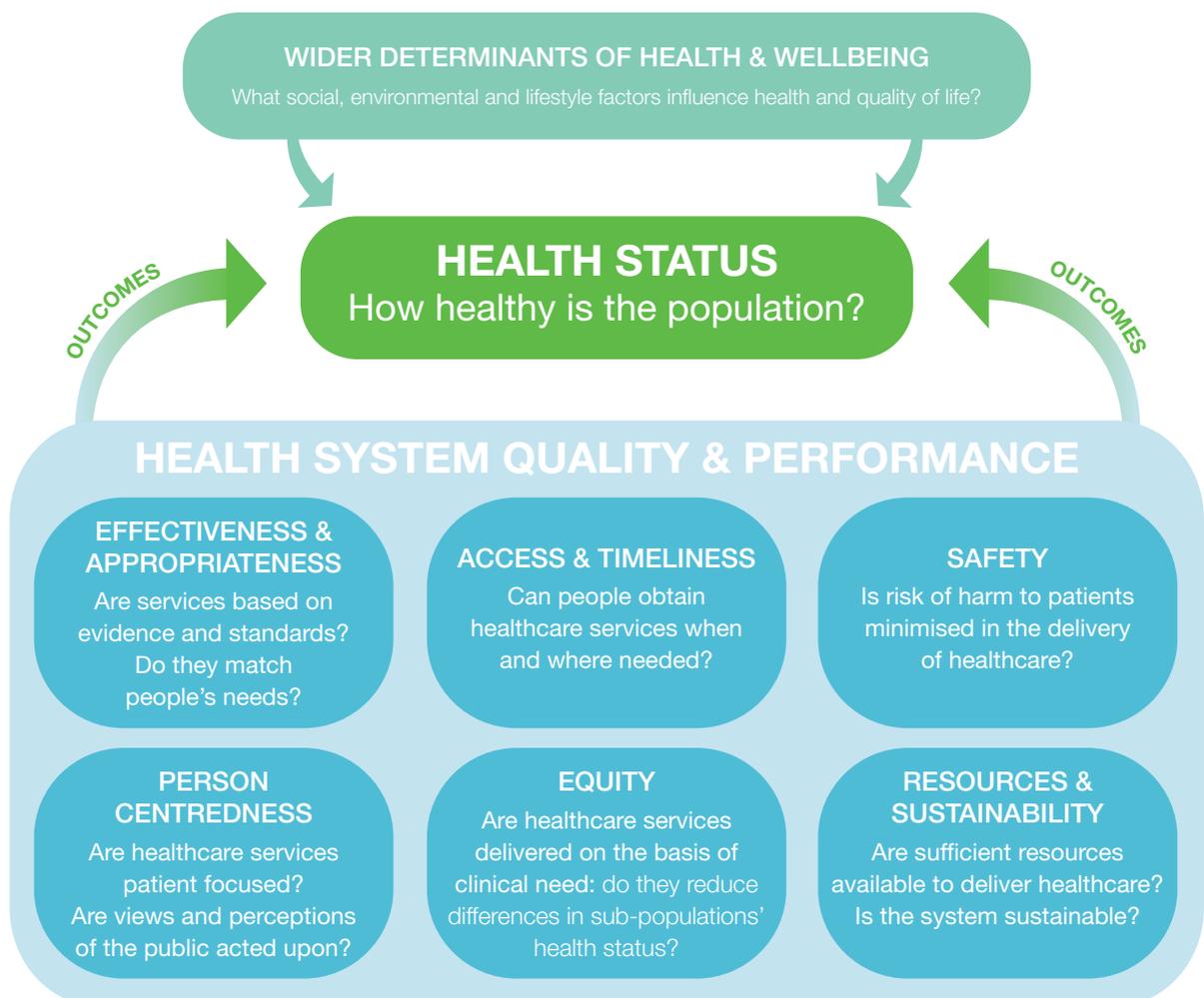
The health status of the population is at the centre of the framework, recognising that the overall goal of any health system is to improve the health and wellbeing of the community it serves.

It recognises that factors such as age, sex, heredity, community, socioeconomic circumstance and lifestyle choices can significantly affect health status. While these

determinants may be influenced by public health and other interventions, they are largely outside the control of the healthcare system.

The framework considers the performance of the healthcare system in terms of six domains: effectiveness and appropriateness; access and timeliness; safety; person centredness; equity; and resources and sustainability.

Figure 1.1: The Bureau of Health Information’s performance framework: a guide for understanding and evaluating the NSW healthcare system



Note: Adapted from the Australian Institute of Health and Welfare¹ and work conducted on behalf of the OECD.²

Health and wider determinants

How healthy are the people of NSW?

Measures of health status focus on health outcomes such as life expectancy, disease prevalence and quality of life.

Health status measures are shaped by actions, behaviours and treatments that sometimes take years, or even decades, to have a measurable effect. Many lifestyle factors that affect health and wellbeing, although largely beyond direct control of the healthcare system, can be influenced by health prevention measures and public policy.

The table below summarises the data contained in the next section – providing a brief overview of health status measures, wider

determinants of health and how NSW compares internationally. Similar tables with a simple ranking scheme are provided at the beginning of each chapter in this report.

In setting the performance of NSW alongside the rest of Australia and 10 other countries, the tables rank jurisdictions in order of achievement. The top four are ranked '*higher*', the next four '*middle*' and the bottom four '*lower*'.

A more comprehensive account of health and its determinants in NSW can be found in the *Report of the Chief Health Officer*.*

What we learnt about NSW	How does NSW compare internationally?		
	Higher ranking	Middle ranking	Lower ranking
Almost six in 10 adults rate their own health as either excellent (21%) or very good (36%)	■		
Almost seven in 10 adults (66%) report that they have been diagnosed with a long-term health condition	Long-term conditions are reported more often by NSW adults than those surveyed in other countries		
Life expectancy at birth is 79.8 years for males and 84.4 years for females	■		
Mortality from circulatory diseases and cancer has decreased dramatically in the past decade	■		
Six in 10 people (61%) are either overweight or obese		■	

* *The health of the people of New South Wales: Report of the Chief Health Officer 2010*, available at www.health.nsw.gov.au/public-health/chorep

Self-reported health status

Most NSW adults rate their health positively but self-reported prevalence of chronic disease is high

In 2010, almost six in 10 adults (57%) in NSW rated their health positively, with 21% rating it as excellent and 36% saying it was very good. They were more likely to describe their health as excellent than people in other countries (Figure 1.2).

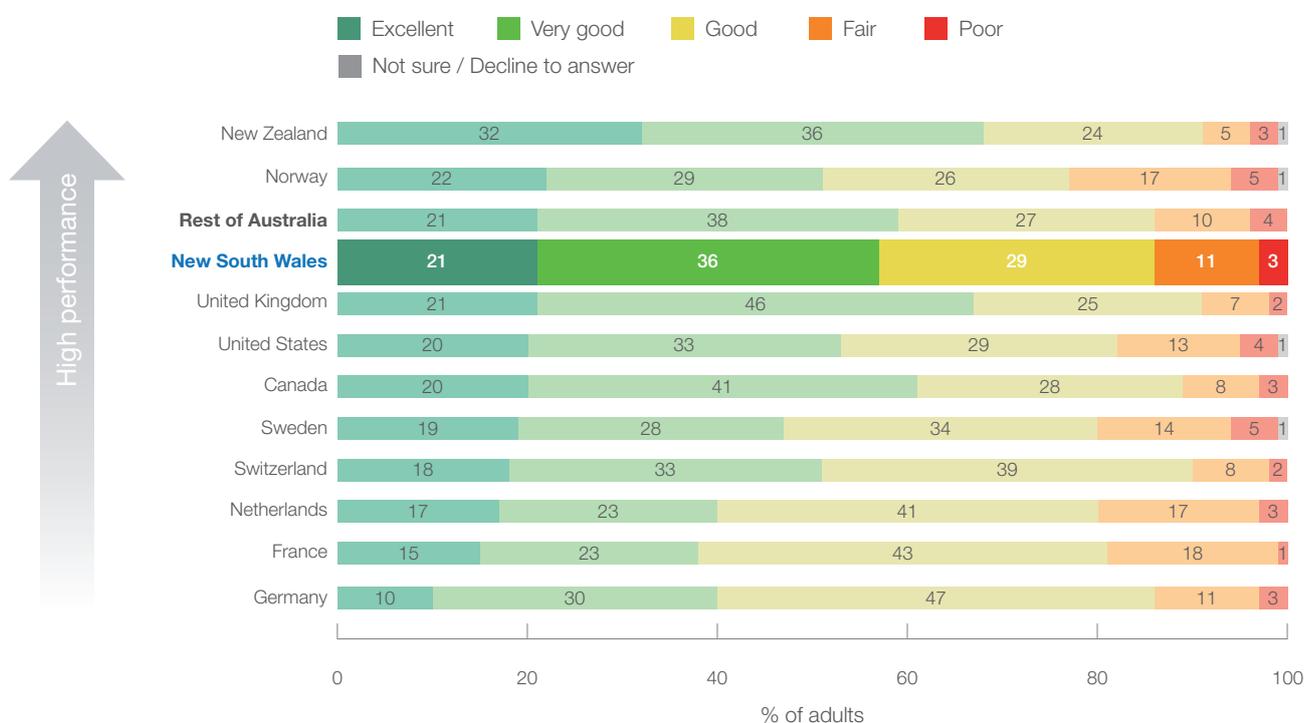
When asked about specific diagnoses however, almost seven in 10 (66%) NSW adults said they had been told they had at least one of the following conditions: arthritis; asthma or chronic lung disease (chronic bronchitis, chronic obstructive pulmonary disease (COPD) or emphysema); cancer; depression, anxiety or other

mental health problems; diabetes; heart disease (including heart attack); hypertension (high blood pressure); or high cholesterol.

Internationally, NSW had the highest proportion of adults reporting two or more diagnosed conditions (Figure 1.3).

Figure 1.4 provides more detailed information about the long-term conditions affecting the people of NSW. In 2010, hypertension was the most commonly reported condition.

Figure 1.2: Survey 2010: In general, how would you describe your own health?*



(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding, Figure 1.4 depicts data from the Commonwealth Fund survey (including confidence intervals) which asked respondents whether they had ever been told they had one of the listed conditions. The NSW Population Health Survey and the ABS National Health Survey also provide survey-based prevalence data but use different survey questions. Therefore results are not directly comparable. This report uses the Commonwealth Fund data because it offers international comparisons).

Figure 1.3: **Survey 2010: Have you EVER been told by a doctor that you have arthritis; asthma or chronic lung disease such as chronic bronchitis, emphysema or COPD; cancer; depression, anxiety or other mental health problems; diabetes; heart disease, including heart attack; hypertension; high cholesterol?***

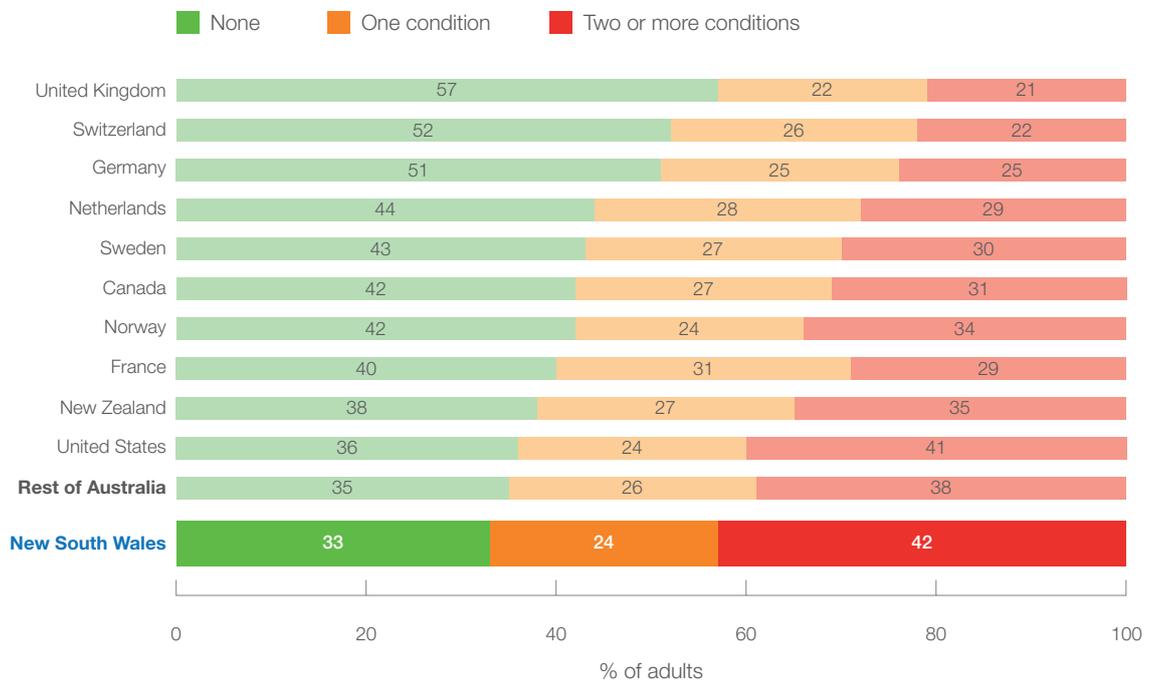
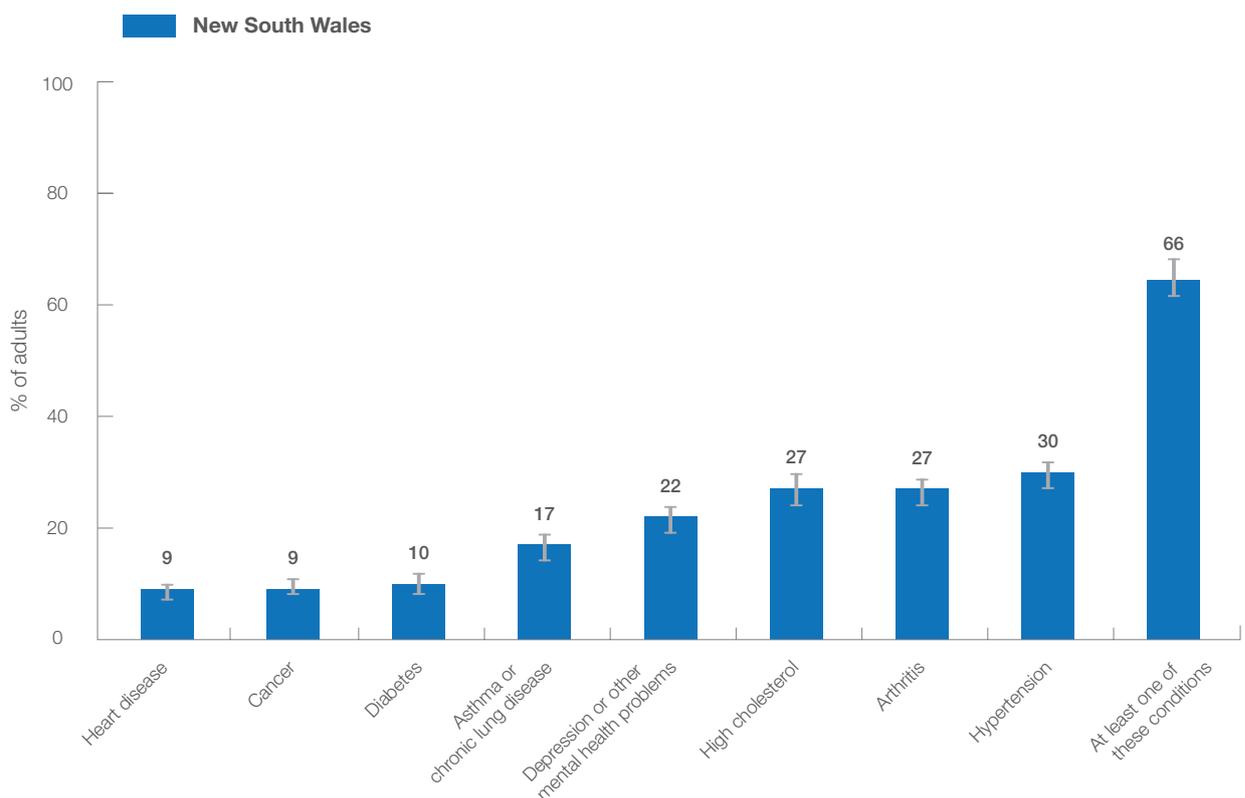


Figure 1.4: **Survey 2010 (NSW only): Have you EVER been told by a doctor that you have arthritis; asthma or chronic lung disease such as chronic bronchitis, emphysema or COPD; cancer; depression, anxiety or other mental health problems; diabetes; heart disease, including heart attack; hypertension; high cholesterol?***



Health Status: mortality

The people of NSW have a long life expectancy

Recent years have seen marked decreases in deaths from many high-prevalence, high-impact diseases and the people of NSW have a long life expectancy.

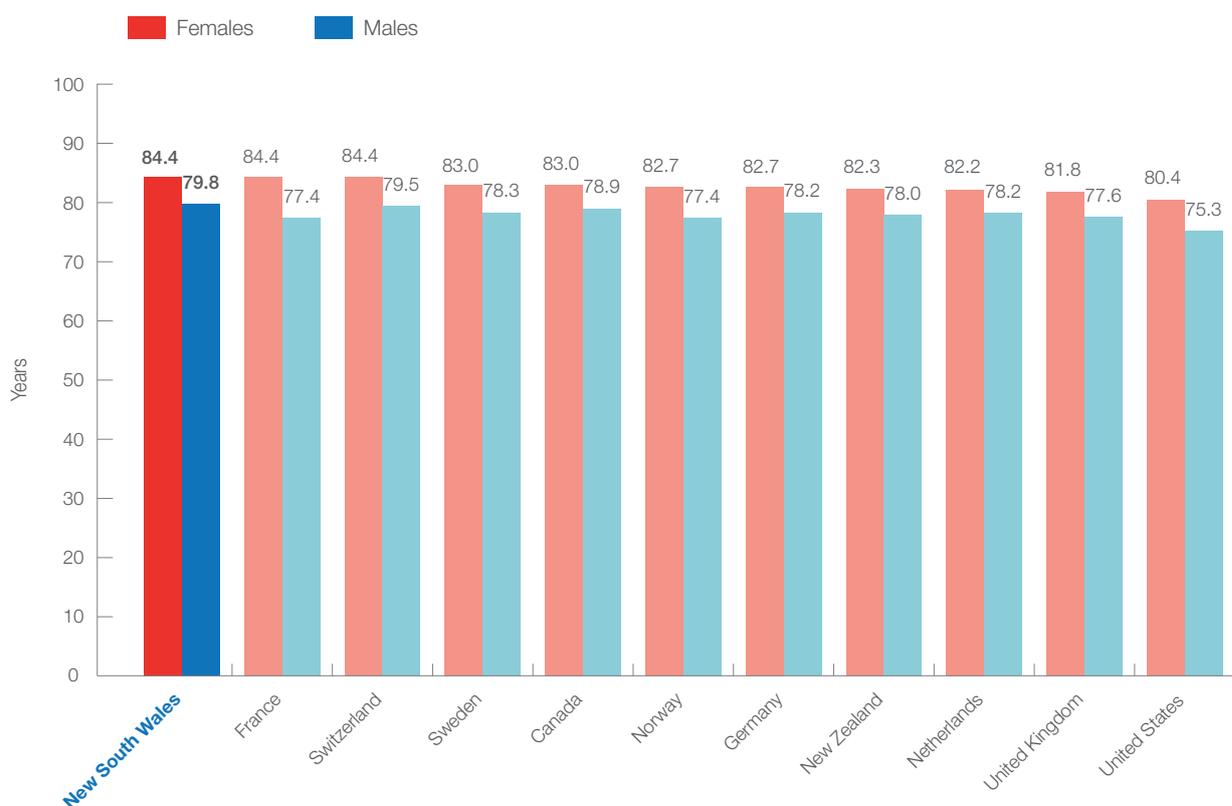
A child born in NSW in 2007 can expect to live for 79.8 years if he is male and 84.4 years if she is female – longer than in other countries surveyed (Figure 1.5).

Between 1997 and 2007, mortality rates from major disease decreased markedly in NSW. The most marked decreases were recorded

for ischaemic heart disease (47% decrease), stroke (37% decrease) and colorectal cancer (30% decrease) (Figure 1.6).

To put these changes in context, international data show that for ischaemic heart disease, NSW ranked second in terms of improvement (47% decrease in deaths) between 1997 and 2007 (Figure 1.7).

Figure 1.5: Life expectancy at birth, 2007†



(†) OECD Health Data 2010 and Australian Bureau of Statistics Life tables.

(‡) OECD Health Data 2010 and AIHW analyses of WHO mortality database (Notes: Data are age-standardised to the 1980 OECD population; DSR is directly standardised rate).

Figure 1.6: Mortality from circulatory disease and cancer, NSW 1997-2007[†]

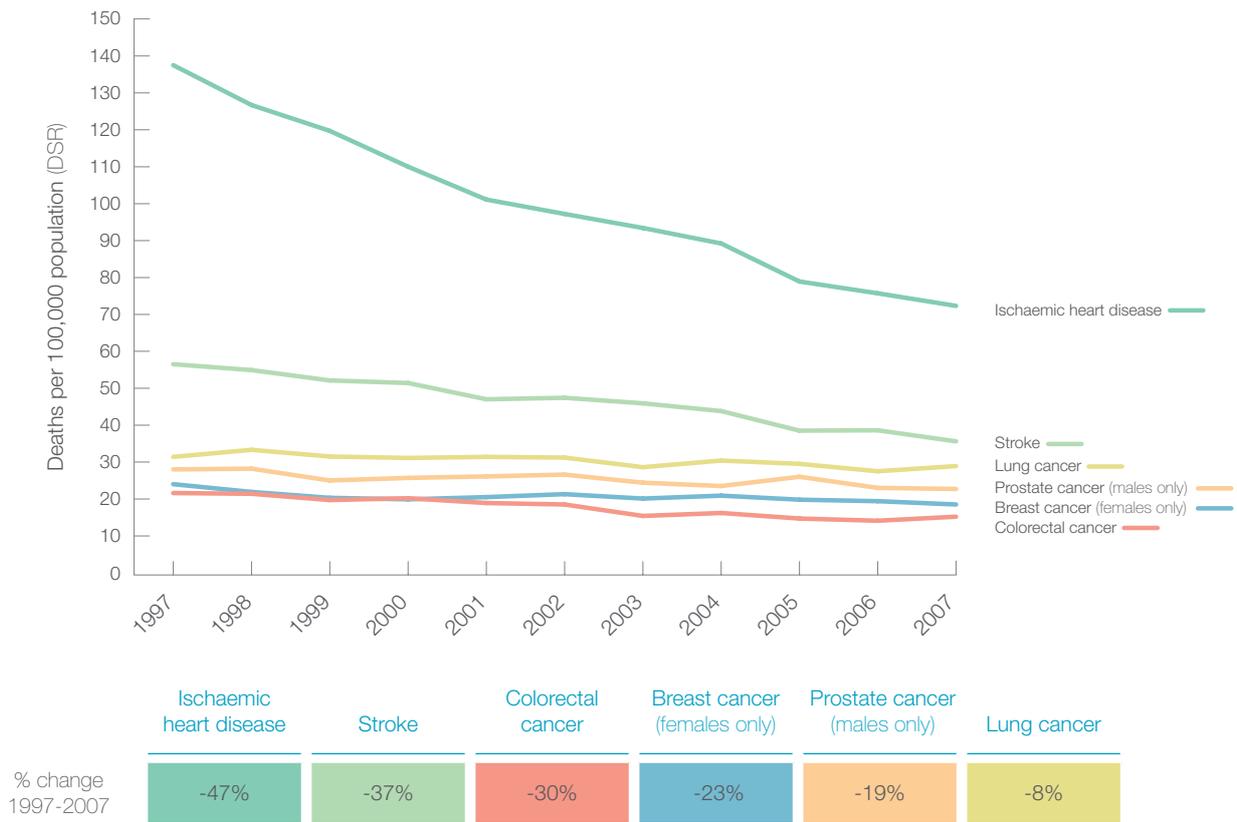
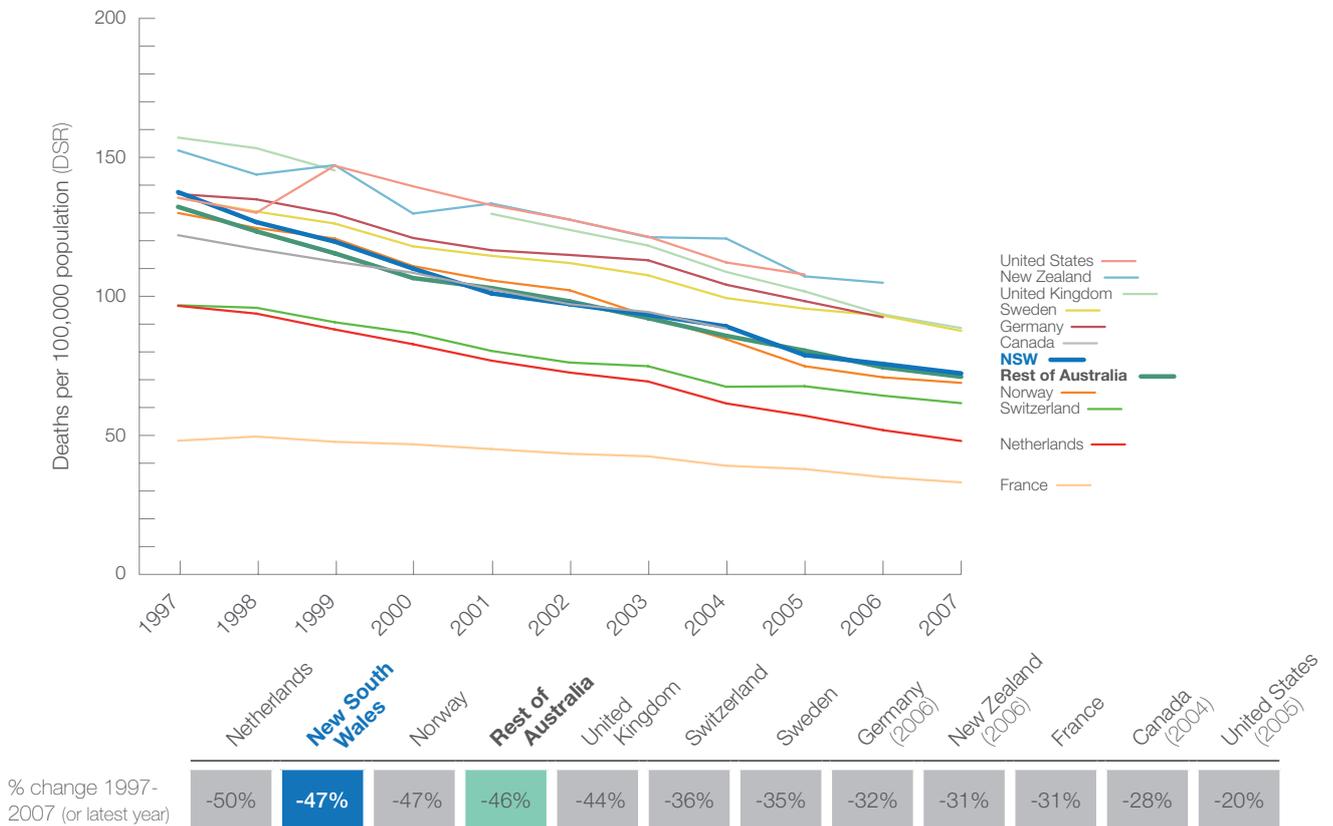


Figure 1.7: Mortality from ischaemic heart disease 1997-2007 (or latest year)[†]



Lifestyle determinants of health and wellbeing

Levels of obesity and overweight threaten health in NSW

A wide range of factors contribute to the health of individuals, including:

- Age, sex and hereditary factors
- Lifestyle factors such as diet, exercise, smoking and risky drinking
- Social and community influences, for example local support networks
- General socioeconomic, cultural and environmental conditions including education, employment, housing, air and water quality, and occupational safety.³

Modern medical care can improve prognosis after a diagnosis and support recovery from injury, but the wider determinants of health and wellbeing are more important to the health of populations. The wider determinants of health have cumulative effects and these tend to be concentrated among particular subgroups of the community.

The Royal Australian College of General Practitioners (RACGP) highlights the importance

of ‘SNAP’ behavioural or lifestyle risk factors (Smoking, Nutrition, Alcohol and Physical activity). RACGP guidelines recommend the provision of counselling and advice.⁴

Current NSW data from the 2009 NSW Population Health Survey⁵ show that:

- About two in 10 NSW adults (17%) are smokers
- Almost one-third of adults (31%) report risky drinking behaviour
- Nearly half of people aged over 16 (45%) report inadequate levels of physical activity.

Findings from the Australian Bureau of Statistics (ABS) National Health Survey show that six in every 10 people (61%) in NSW are overweight or obese (Figure 1.8).

Notably, NSW general practitioners (GPs) discuss important health behaviours and lifestyles with their patients more often than those in other countries (Figure 1.9).

Figure 1.8: Percentage of population overweight or obese (measured), 2007 or 2008†

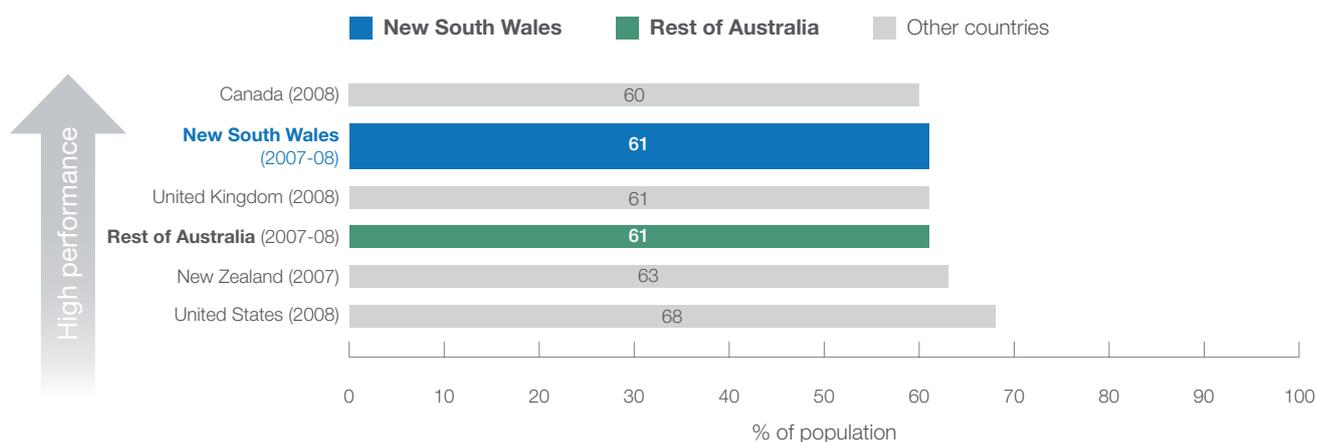
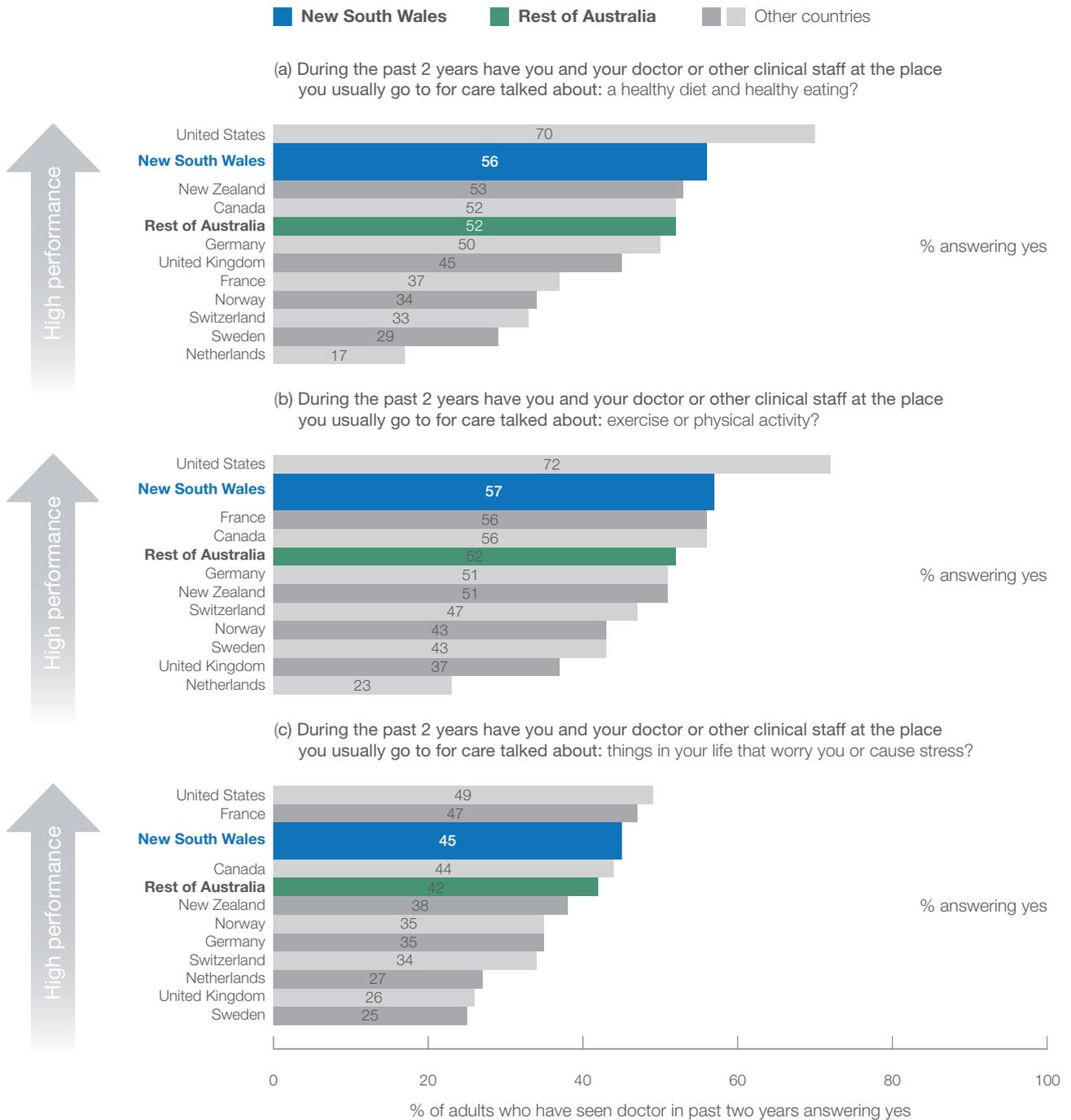


Figure 1.9: Survey 2010: During the past two years have you and your doctor or other clinical staff at the place you usually go for care talked about: (a) a healthy diet and healthy eating; (b) exercise or physical activity; (c) things in your life that worry you or cause you stress?*



(†) OECD Health Data 2010 and ABS National Health Survey (Note: Overweight or obese refers to those with a measured body mass index of 25 kg/m² or more).

(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding).

Effectiveness and appropriateness

Improving health with care that meets patient needs

High-performance health systems improve health by providing care that is both effective and appropriate.

Effective care encompasses medical treatments, services and preventive actions that are of proven value in improving health outcomes. This chapter looks briefly at effectiveness indicators for high-prevalence / high-impact diseases such as circulatory disease, cancer and diabetes. These indicators focus on:

- **Processes:** whether care delivered to patients is evidence-based, or has been shown to be associated with improved health
- **Outcomes:** whether there have been improvements in health status or determinants of health, which would suggest interventions have worked.

Appropriateness indicators measure how well effective care is delivered to meet patient needs. They can help identify cases where:

- Effective care is not provided despite being medically necessary or of proven benefit to patients
- Care is provided when it is not medically necessary
- Care is not provided correctly (care is suboptimal because of a preventable problem such as medical error, misdiagnosis or avoidable complications).

Appropriateness indicators covered in this chapter include:

- Compliance with evidence-based guidelines on cholesterol testing
- Caesarean section rates
- Hip and knee replacement rates
- Preventable hospitalisations
- Unplanned hospital readmissions.

What we learnt about NSW

How does NSW compare internationally?

	Higher ranking	Middle ranking	Lower ranking
Between 1997 and 2007, there was a 37% decrease in the years of life lost (before age 70 years) to circulatory disease	■		
Years of life lost (before age 70 years) to cancer fell by 20% between 1997 and 2007	■		
Rates of diabetes-associated lower limb amputation are 18 per 100,000 population			■
Most adults report receiving appropriate monitoring tests for blood pressure (88%) and cholesterol (93%)	■		
Hospitalisation rates for chronic obstructive pulmonary disease (COPD) and bronchiectasis are 278 per 100,000 population	Some hospitalisations for these chronic conditions are appropriate but the rate is higher in NSW than in comparator countries		
Hip replacements are performed at a rate of 145 per 100,000 population	Hip replacements are effective at improving the health of people who need them. The rate may be appropriate in NSW but it is lower than in all comparator countries		
Knee replacements are performed at a rate of 164 per 100,000 population	Knee replacements are effective at improving the health of people who need them. The rate may be appropriate in NSW as it is lower than in some and higher than most comparator countries		
Almost one in three (30%) live births are caesarean deliveries	Caesarean sections are appropriate for some mothers but the rate is higher and is increasing faster in NSW than in most comparator countries		
Almost one in five (17%) adults hospitalised in the previous two years reported they were either readmitted or visited the ED because of complications.	Readmissions are appropriate for some people but the rate is higher in NSW than in comparator countries		

Effectiveness: circulatory disease

Premature deaths from circulatory disease have dropped significantly

The circulatory system moves blood around the body and is composed of the heart, arteries, capillaries and veins. Circulatory disease (also called cardiovascular disease) includes heart disease and stroke. The main cause of circulatory disease is atherosclerosis, a process where abnormal build-ups of plaque (made up of fat, cholesterol and other substances) occur in the inner lining of arteries. Atherosclerosis is most serious when it affects the blood supply to the heart (causing angina or heart attack) or to the brain (which can lead to a stroke).

In 2006, circulatory disease accounted for 16,245 deaths (35% of all deaths) in NSW.¹ Between 1997 and 2007, the state recorded

a 37% decrease in the years of life lost (before age 70 years) to circulatory disease (Figure 2.1). This improvement compares well internationally.

Major risk factors for circulatory disease include high blood pressure, high blood cholesterol, smoking and obesity. The RACGP recommends that for effective primary care, blood pressure should be measured in all adults from 18 years of age at least every two years.²

Almost nine in 10 NSW adults (88%) reported in 2010 having their blood pressure checked by a doctor or nurse in the previous year – one of the highest percentages internationally (Figure 2.2).

Figure 2.1: Potential years of life lost (<70 years) to circulatory disease, 1997-2007 (or latest year)[†]

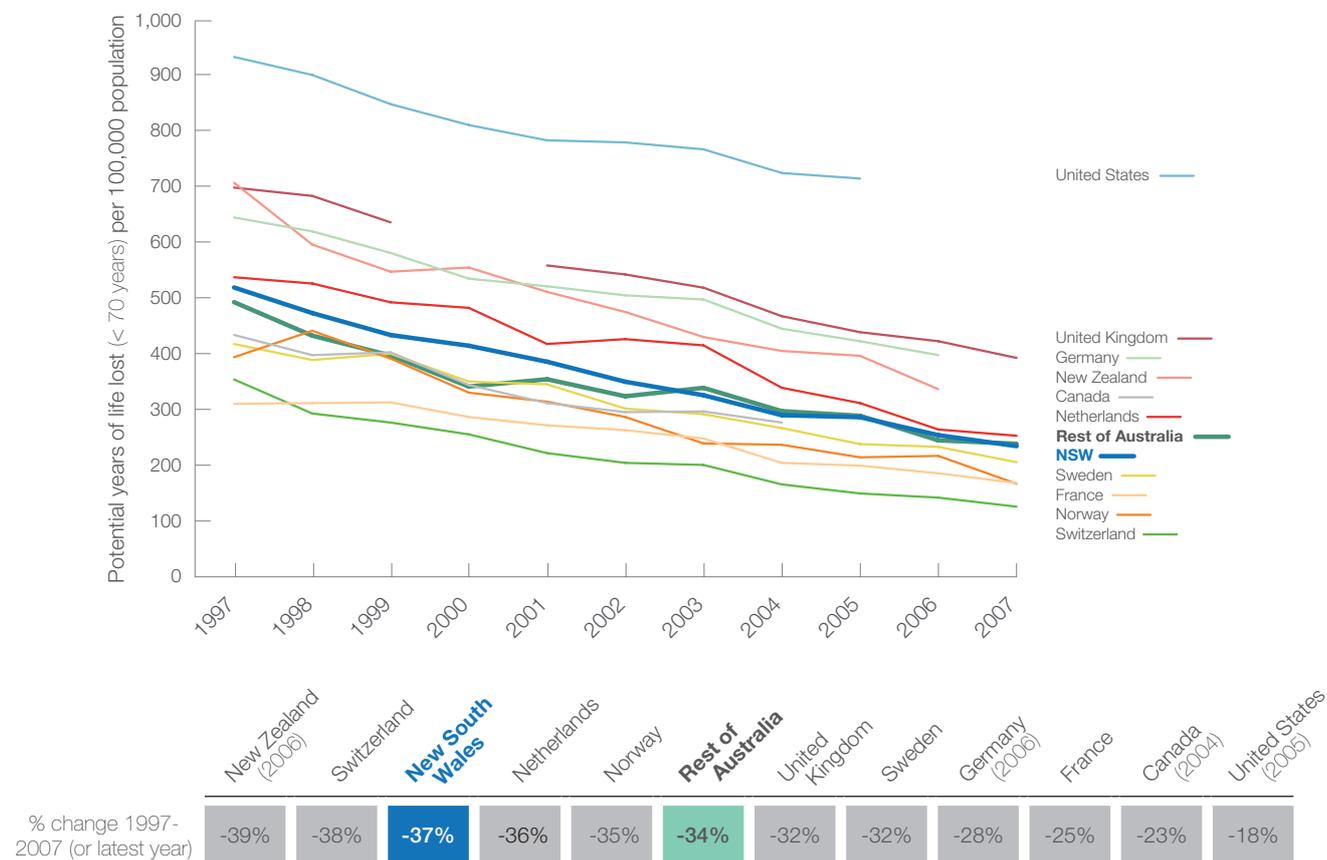
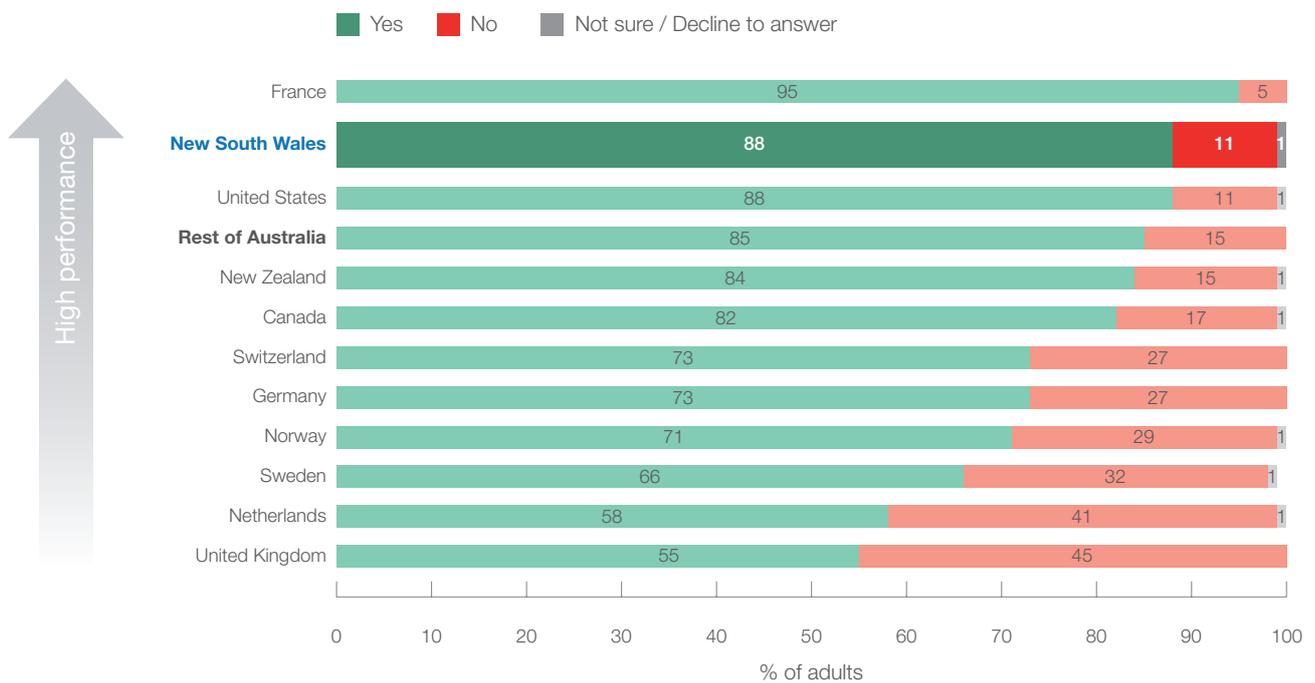


Figure 2.2: Survey 2010: In the past year, have you had your blood pressure checked by a doctor or nurse?*



Effectiveness and appropriateness

(‡) OECD Health Data 2010 and AIHW analyses of WHO mortality database (Notes: Data are age-standardised to the 1980 OECD population; potential years of life lost is a summary measure of premature mortality, calculated by totalling all deaths from circulatory disease at each age and multiplying this figure by the number of remaining years of life up to a selected age limit, here 70 years).

(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding).

Effectiveness: cancer

Premature death from cancer has dropped significantly

Cancer is a group of diseases characterised by uncontrolled growth and spread of abnormal cells. In 2008, 36,611 NSW people (20,873 males and 15,738 females) were diagnosed with cancer. Cancers of the prostate, bowel, breast, melanoma and lung were together responsible for 63% of all new cases. There were 13,213 cancer deaths across the state.³

Potential years of life lost to cancer (before aged 70 years) in NSW fell by 20% in a decade. This was a greater improvement than that seen in other countries except Norway and New Zealand (Figure 2.3).

Cancer survival is improving in NSW and compares well internationally³ (Figure 2.4).

For some cancers, regular screening can detect disease in its early stages, increasing treatment options available and improving outcomes. For breast cancer, a little over one-half of women (54%) in NSW in the target age group of 50-69 years were screened within the 24 month period 2007-2008 (Figure 2.5). This is an increase from 2003-2004, when 50% of women aged 50-69 years had a mammogram. Rates are below the national target of 70% of women screened every 24 month period and are low relative to other countries.⁴

Figure 2.3: Potential years of life lost to cancer, 1997-2007 (or latest year)[†]

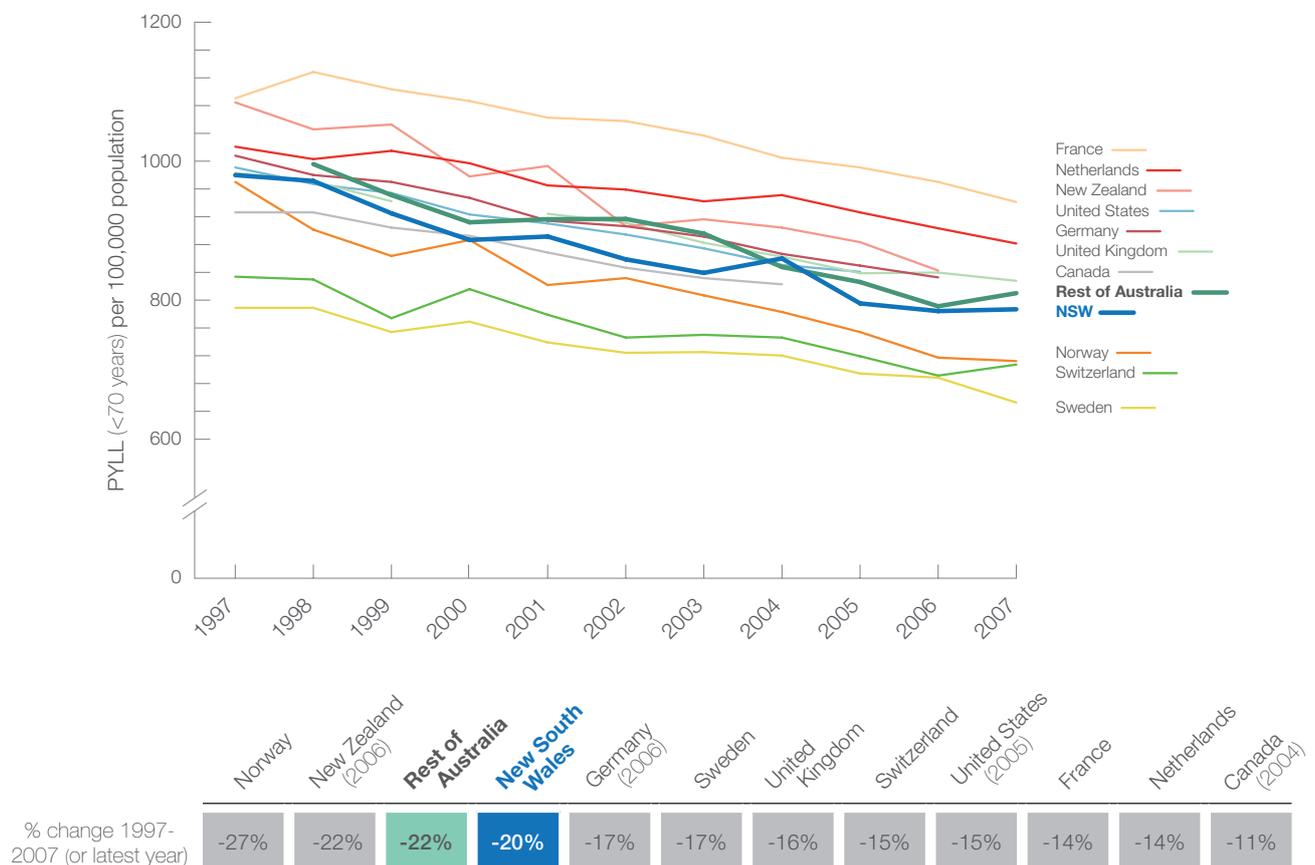
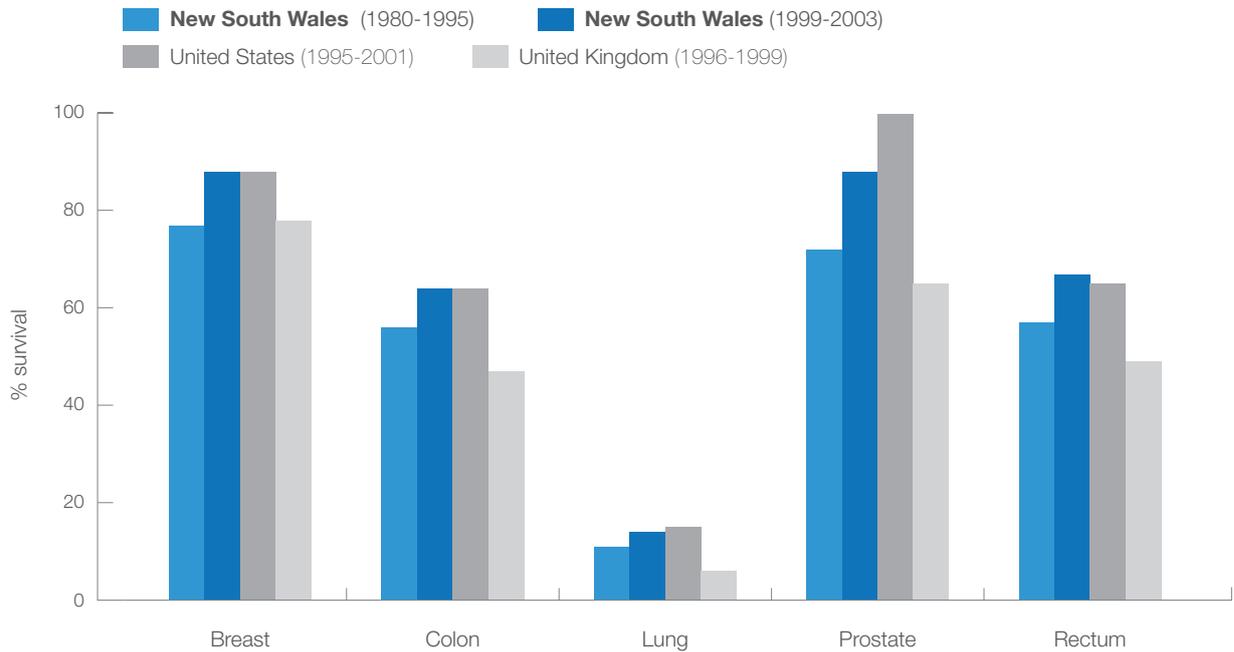
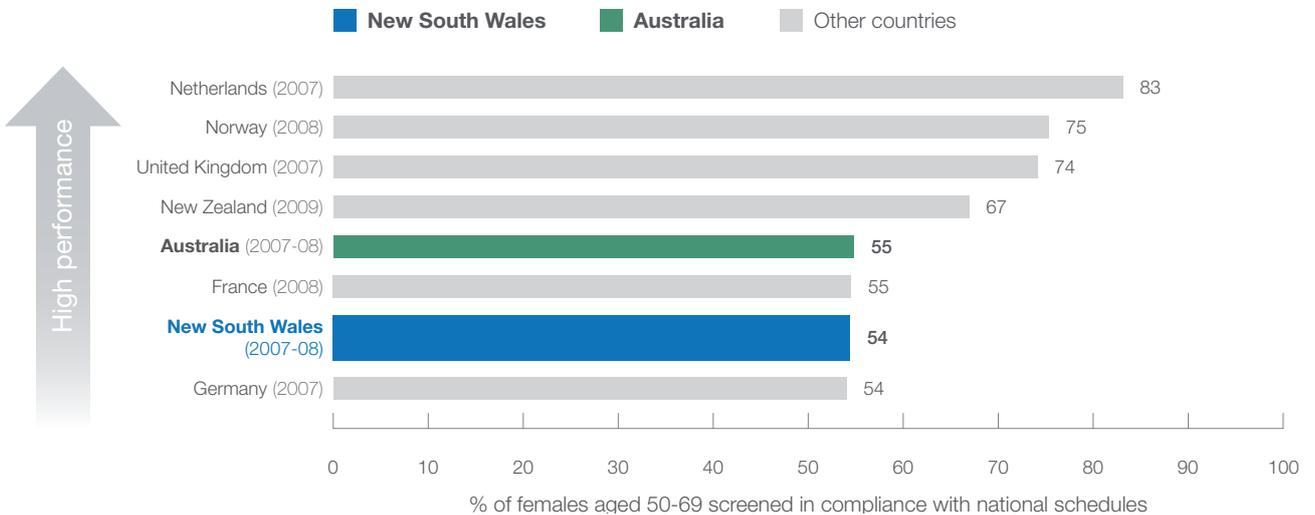


Figure 2.4: Five-year relative survival with major cancers, NSW (1980-1995 and 1999-2003), United States (1995-2001) and United Kingdom (1996-1999)[§]



Effectiveness and appropriateness

Figure 2.5: Percentage of women aged 50-69 years participating in breast screening programs, 2009 (or latest year)[†]



(‡) OECD Health Data 2010 and AIHW analyses of WHO mortality database (Notes: Data are age-standardised to the 1980 OECD population; years of life lost is a summary measure of premature mortality, calculated by totalling all deaths from cancer occurring at each age and multiplying this figure by the number of remaining years of life up to a selected age limit, here 70 years).

(§) Cancer Institute NSW (Note: Five-year relative survival refers to the proportion of patients still alive five years after diagnosis, relative to the proportion of people of same age and sex in the whole population who survived over the same five-year period).

(†) OECD Health Data 2010 and BreastScreen Australia (Notes: Program data; different countries have different screening schedules e.g. in Australia breast screening is recommended every two years while in the UK it is recommended every three years).

Effectiveness: diabetes

Fewer than one in five NSW people with diabetes receive the recommended 'annual cycle of care'

Diabetes mellitus occurs when the body does not produce enough insulin. The pancreas produces insulin which is needed to make the energy in food available to the body's cells. Insulin deficiency results in high blood sugar levels. Across Australia, the prevalence of diabetes has more than doubled over the past two decades.⁵

Appropriate management in primary care can prevent or minimise the severity of complications from high blood sugar, such as circulatory disease, that result in hospitalisation.

Diabetes hospitalisation rates have increased in recent years,¹ although NSW has fewer hospitalisations (separations) for diabetes-related complications than Australia as a whole (Figure 2.6). Low hospitalisation rates can indicate more effective disease management.

Other factors can also influence hospitalisation rates. These include variability in prevalence of the disease and how care is organised, structured and delivered.

Serious diabetes-related circulatory complications can result in lower limb amputation. Rates of diabetes-associated lower limb amputation are higher in NSW than other countries except the United States (Figure 2.7).

Since 2001, Medicare rebates have been available to GPs for completing an 'annual cycle of care' as recommended by the RACGP for effective diabetes management. In 2008-09 about one in five people with diabetes received this cycle of care – a rate similar to that seen across Australia (Figure 2.8).

Figure 2.6: Hospitalisations for complications where the principal diagnosis was Type 2 Diabetes mellitus, 2007-08²

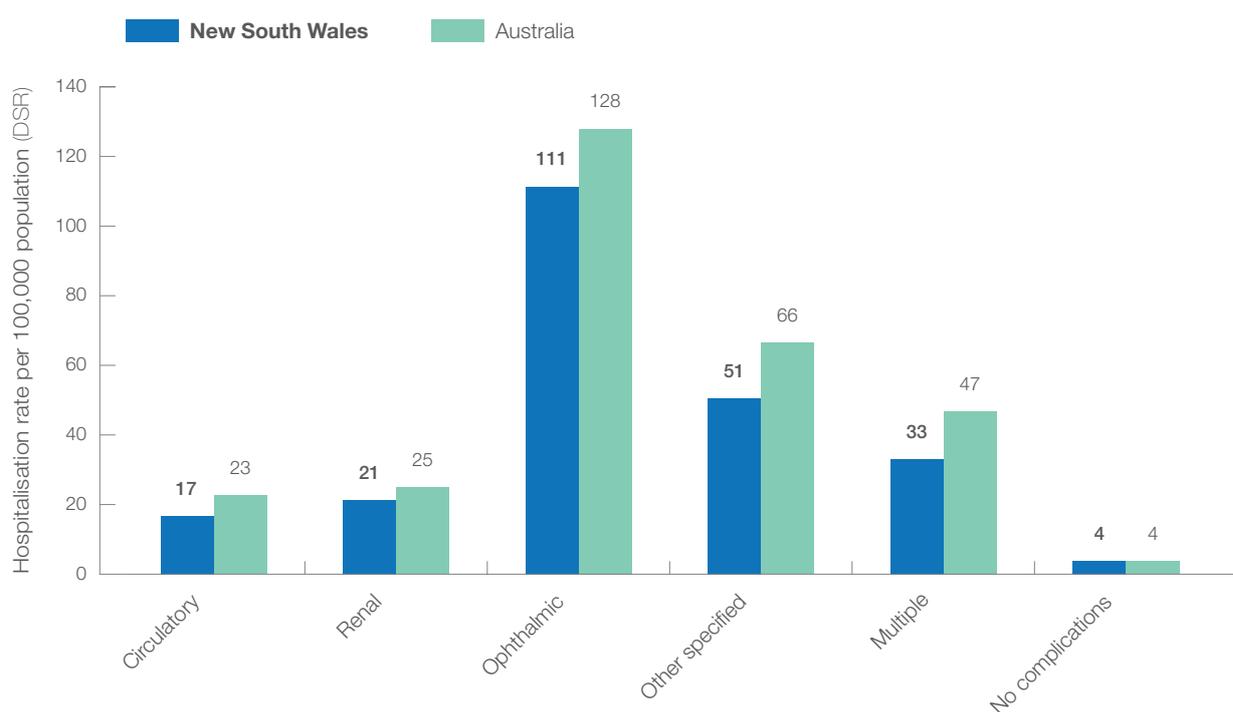
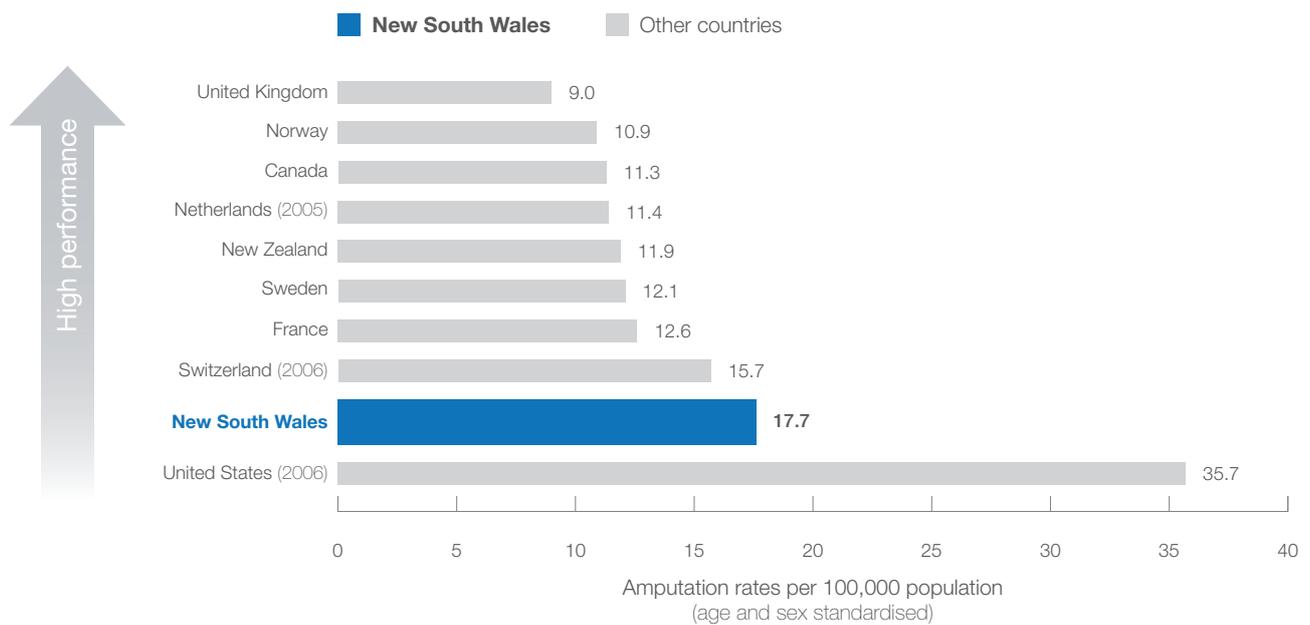
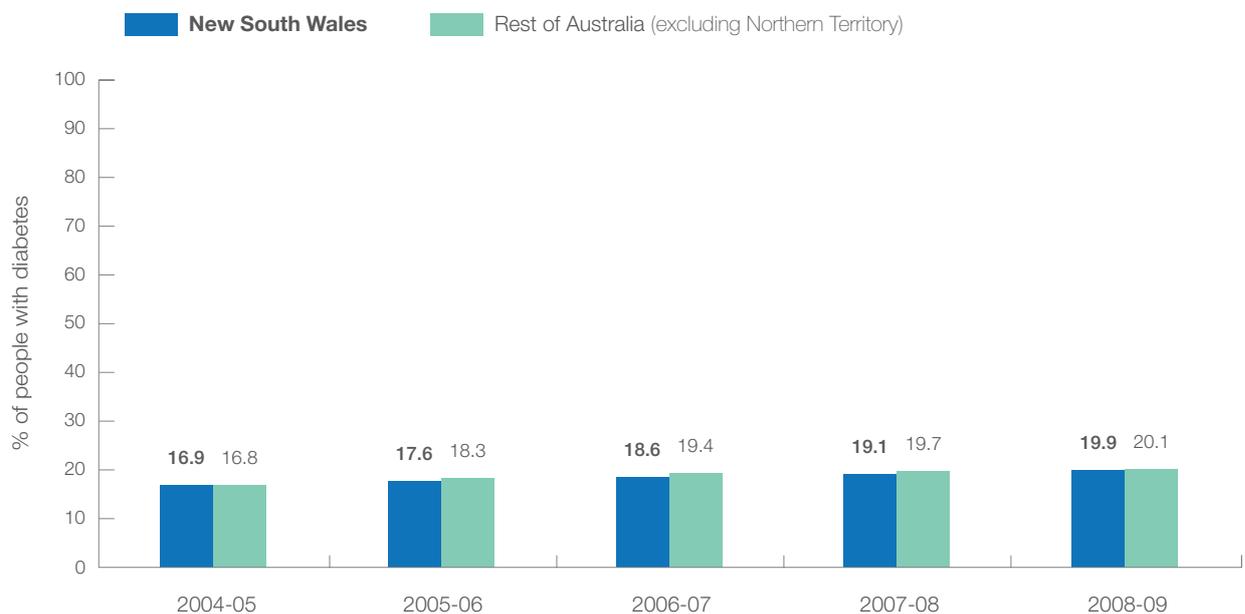


Figure 2.7: Diabetes lower extremity amputation rates, 2007 (or latest year)[†]



Effectiveness and appropriateness

Figure 2.8: Percentage of diabetics receiving annual cycle of care, 2004-05 to 2008-09[§]



- (§) AIHW, National Hospital Morbidity Database (Note: DSR is directly standardised rate).
- (†) OECD Health Data 2010 and NSW Admitted Patient Data Collection (Notes: NSW rate calculated by the Bureau of Health Information; data are age and sex standardised to OECD population 2005; NSW result differs from that published in *The health of the people of New South Wales: Report of the Chief Health Officer 2010* due to differences in population used for age standardisation and data definitions).
- (§) Medicare Benefits Schedule (MBS) (Notes: Data are minimum estimates as GPs may provide the annual cycle of care but not claim the MBS rebate; clinical guidelines are for Type 2 diabetes, while the MBS items do not specify a particular type of diabetes; the number of people with diabetes is estimated by applying diabetes prevalence data from the Australian Bureau of Statistics 2007-08 National Health Survey (NHS) to the estimated resident population; estimates for all years are based on 2007-08 NHS prevalence data).

Appropriateness: cholesterol testing

NSW adults receive appropriate monitoring for cholesterol levels

Cholesterol is a waxy, fat-like substance that occurs naturally in cell membranes throughout the body. It is necessary for the production of many hormones, vitamin D and the bile acids that help to digest fat. It only takes a small amount of cholesterol in the blood to meet these needs. Any excess is deposited in the arteries, where it contributes to the narrowing and blockages that cause the signs and symptoms of heart disease and increase the risk of stroke.

Proactive screening and diagnosis of adults with raised cholesterol levels, followed by ongoing management, has been shown to save lives and help avoid unnecessary hospitalisation.²

The RACGP recommends that all patients over 45 have their cholesterol levels checked every five years. For patients at increased risk

(those who smoke, have hypertension, metabolic syndrome or a family history of circulatory disease in close relatives), cholesterol should be checked every two years. Patients at high risk (such as those with diabetes, circulatory disease, or chronic kidney disease) should have annual cholesterol checks.

In NSW, more than nine in 10 adults (93%) aged 49 or over had their cholesterol levels checked in the previous five years – high among countries surveyed (Figure 2.9).

Among those adults told by a doctor they have diabetes, hypertension, high cholesterol or heart disease, eight in 10 (80%) had their cholesterol level checked in the previous year. This was a relatively high rate internationally (Figure 2.10).

Figure 2.9: Survey 2010: About how long has it been since you had your cholesterol checked? (those aged 49+ years)*

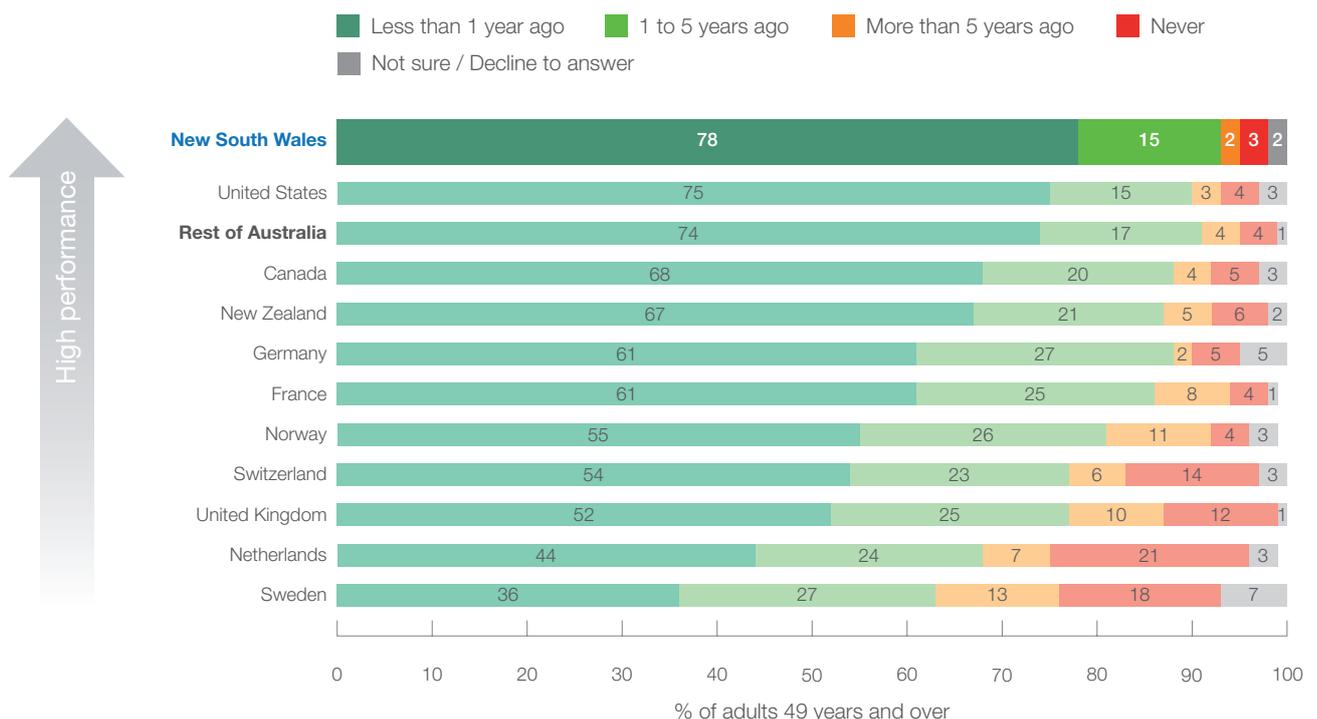
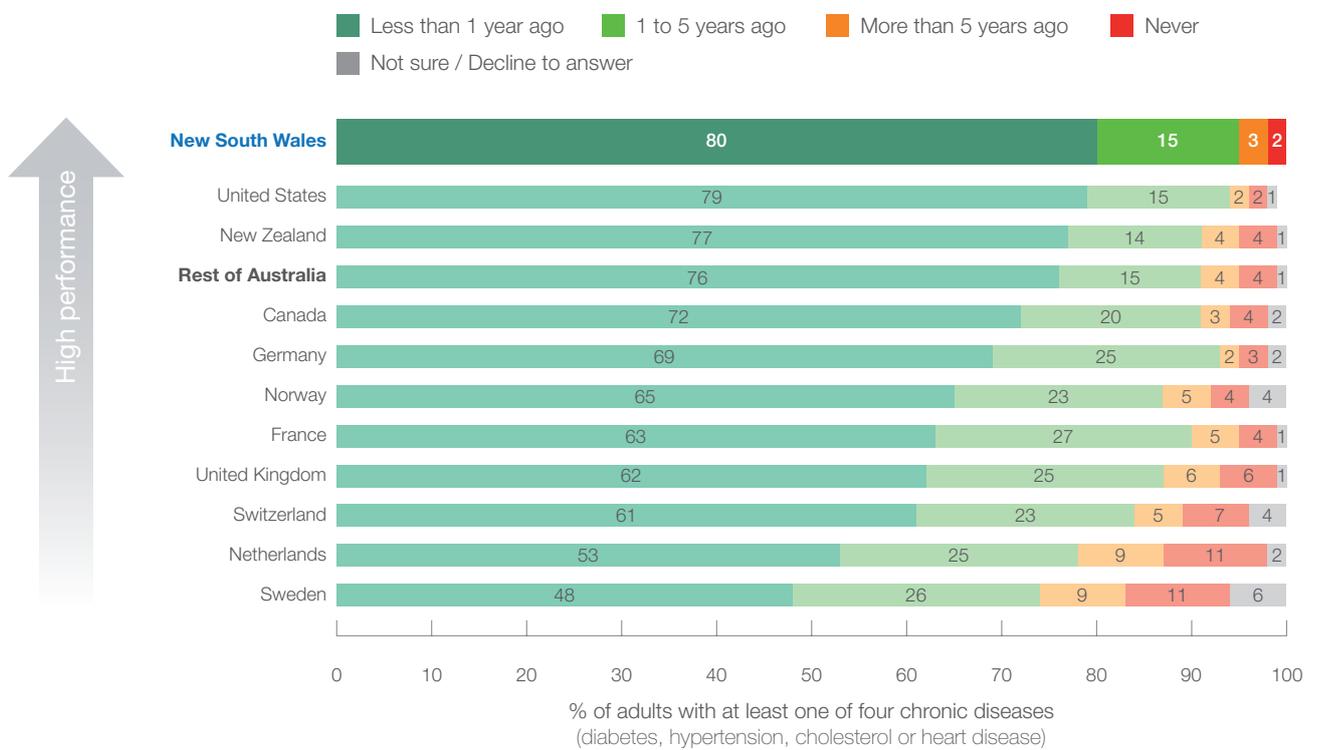


Figure 2.10: **Survey 2010: About how long has it been since you had your cholesterol checked?** (adults who have ever been told they have diabetes, hypertension, high cholesterol or heart disease)*



Effectiveness and appropriateness

(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding).

Appropriateness: caesarean section

NSW caesarean rates are high compared to other countries

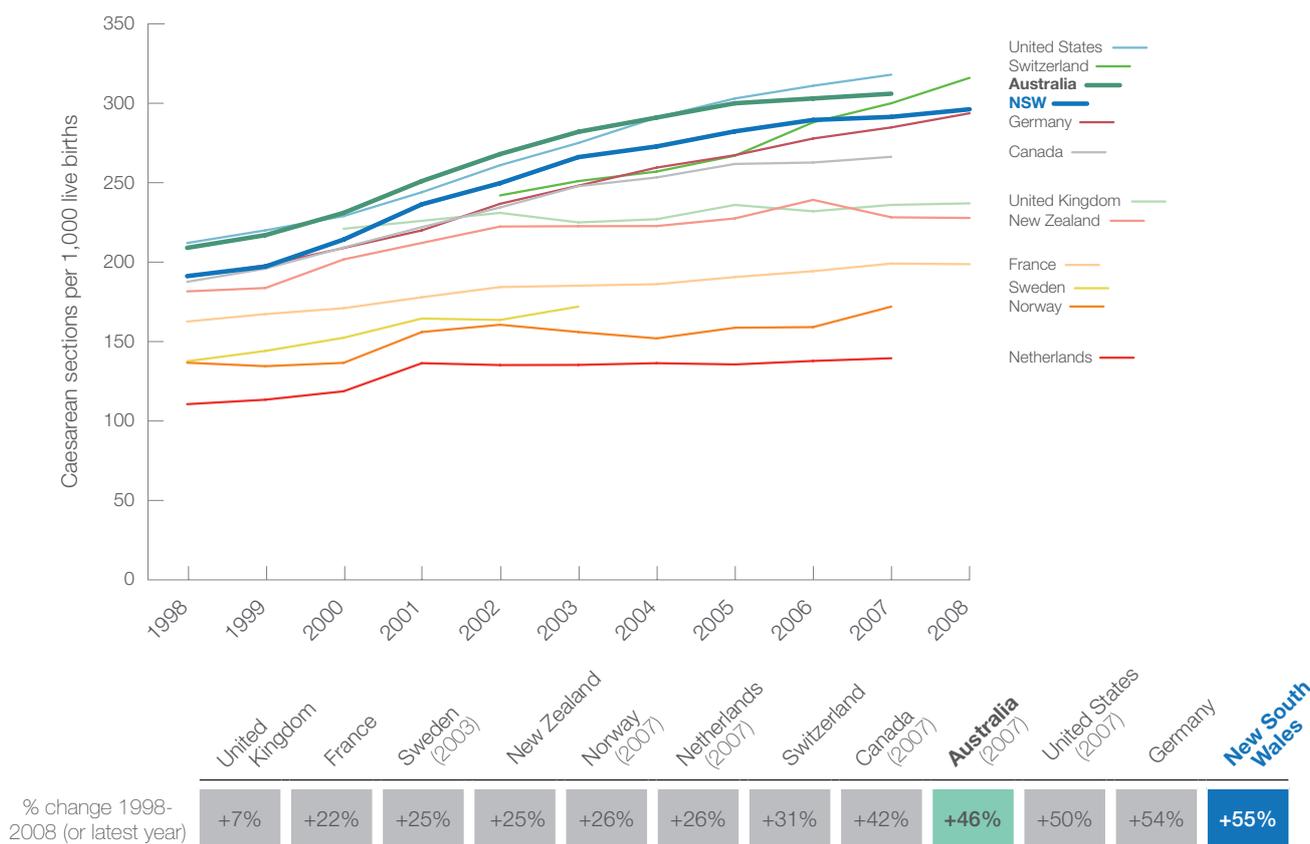
Over recent years, concerns have increased about variation among populations in the amount of healthcare services given to people with particular conditions. Caesarean sections are one area of focus.

A caesarean section is indicated when there is a significant risk to the health of the mother or baby. Although caesarean section surgery is appropriate for some mothers, it involves risks and requires more resources than normal delivery.

In 2008, almost 30% of all live births in NSW were caesareans – a higher percentage than in most other countries.

Between 1998 and 2008 the proportion of babies delivered by caesarean section increased more rapidly in NSW than other countries compared (Figure 2.11).

Figure 2.11: Caesarean sections per 1,000 live births, 1998 - 2008 (or latest year)[†]



(†) OECD Health Data 2010 and NSW Midwives Data Collection (Note: NSW rate calculated by the Bureau of Health Information).

Appropriateness: hip and knee replacement

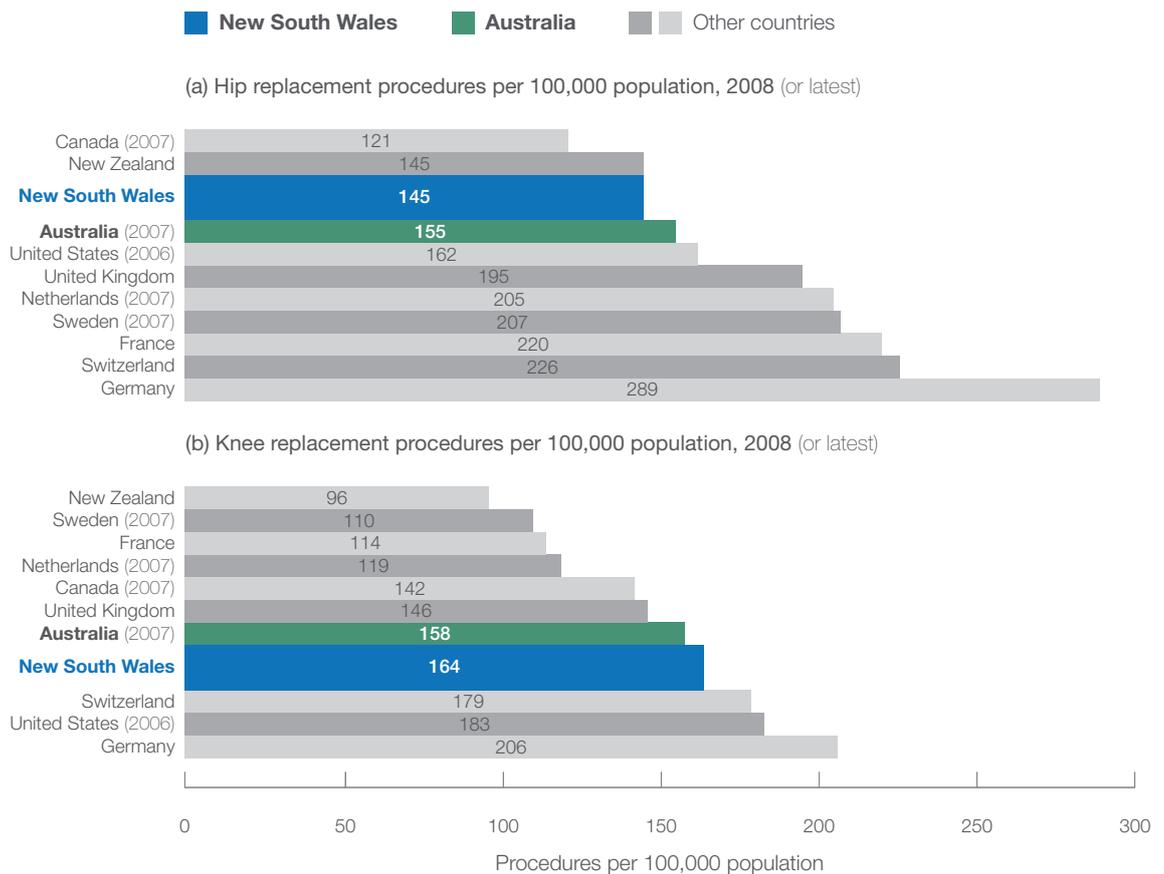
NSW has relatively low hip replacement and relatively high knee replacement rates

Hip and knee replacement surgery is performed to reduce pain and improve joint function. The procedures are most commonly performed on older patients, as a consequence of damage caused by arthritis, or fall-related fractures. For arthritis patients, joint replacement surgery can restore function to near-normal levels. Surgery however, carries risks, which increase with advancing age.

In 2008, the rate of hip replacements in NSW was 145 procedures per 100,000 population. This rate was lower than that reported in most comparator countries.

The rate of knee replacements in 2008 was 164 per 100,000 population. NSW had one of the highest rates among the comparison countries (Figure 2.12).

Figure 2.12: Hip and knee replacement procedures, 2008 (or latest year)[‡]



(‡) OECD Health Data 2010 and NSW Admitted Patient Data Collection (HOIST) excluding same day separations (Notes: NSW rate calculated by the Bureau of Health Information; NSW result differs from that published in *The health of the people of New South Wales: Report of the Chief Health Officer 2010* due to differences in data definitions).

Appropriateness: preventable hospitalisations

NSW has a high rate of COPD hospitalisation

Potentially preventable hospitalisations result when admission to hospital could have been avoided either by effective preventive measures or by access to timely and appropriate healthcare. They include:

- Vaccine preventable diseases**
 e.g. measles, tetanus, influenza.
 Vaccine preventable hospitalisation rates are 0.7 per 1,000 population in NSW and Australia (Figure 2.13)
- Acute conditions** that may not be entirely preventable but can be managed outside hospital provided adequate and timely care is provided e.g. dehydration and gastroenteritis. Preventable hospitalisations attributable to acute conditions were 12.4 per 1,000 population in NSW, compared to 13.5 per 1,000 population for Australia (Figure 2.13)

- Chronic conditions** that may be preventable through lifestyle change but can also be effectively managed through care to prevent complications e.g. diabetes, chronic obstructive pulmonary disease (COPD), congestive heart failure (Figure 2.14).

In 2008-09 across NSW, 201,786 hospitalisations were classified as potentially preventable, of which 107,157 were for chronic conditions. International data show that NSW has relatively high rates of hospitalisations for COPD and bronchiectasis (Figure 2.15).

Figure 2.13: Potentially preventable hospitalisations, acute and vaccine-preventable, NSW and Australia, 2008-09²

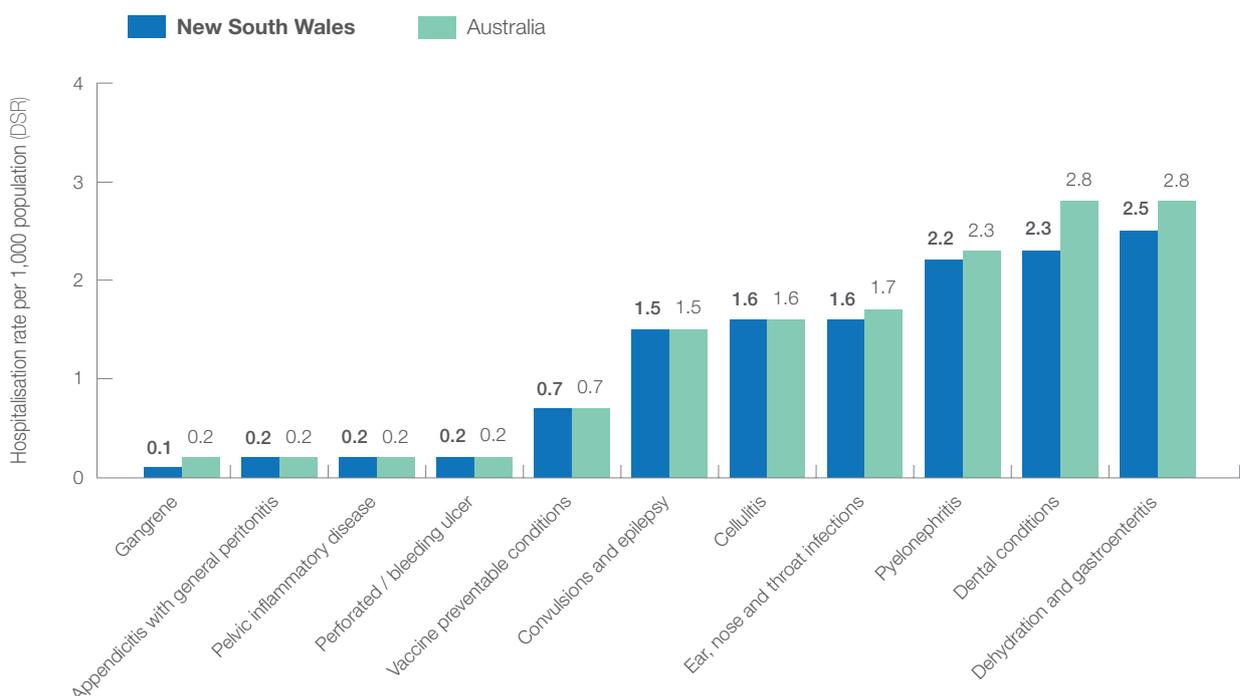
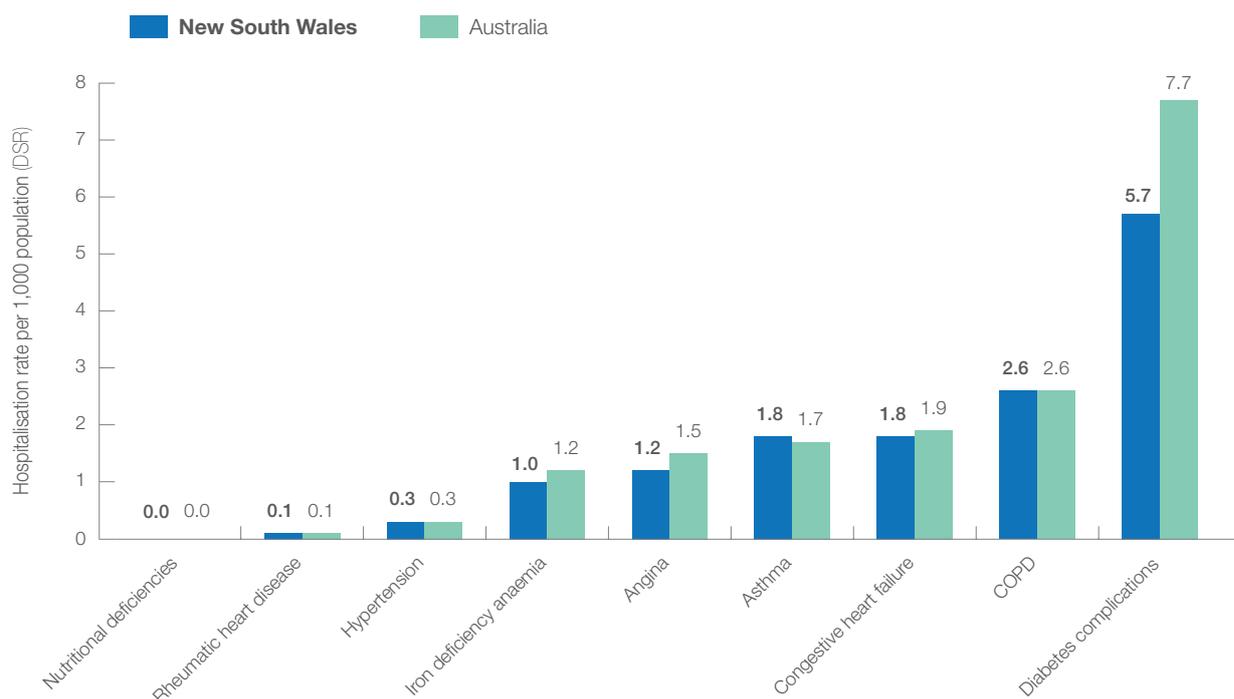
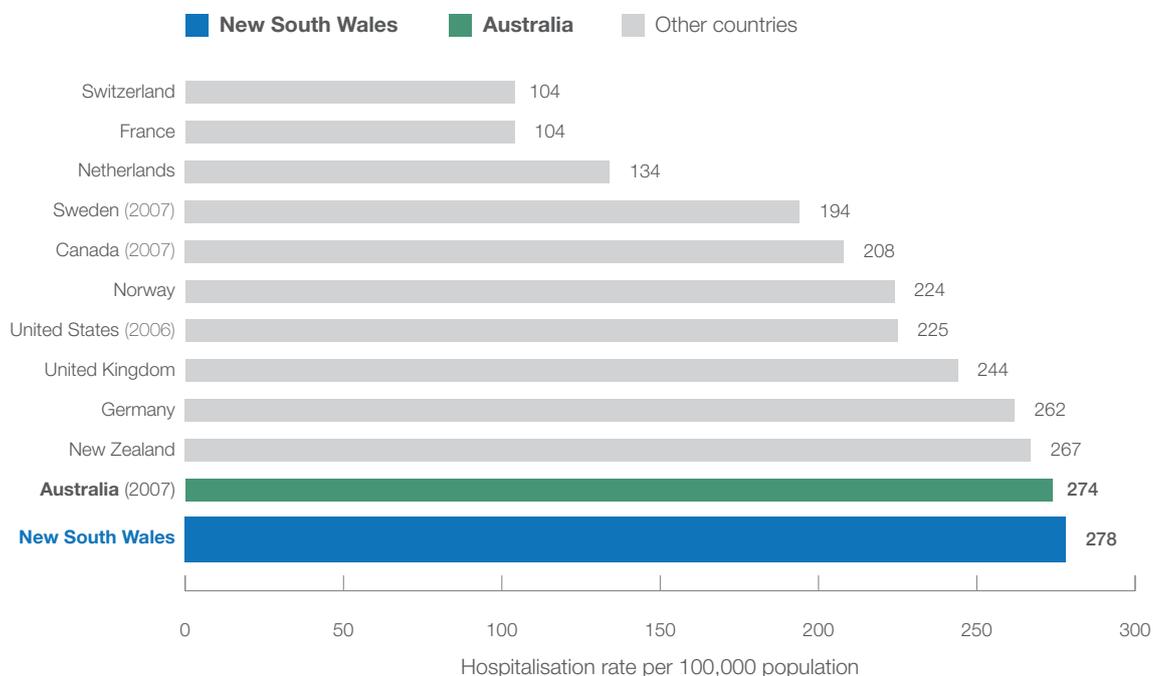


Figure 2.14: Potentially preventable hospitalisations for chronic conditions, NSW and Australia, 2008-09^Σ



Effectiveness and appropriateness

Figure 2.15: Hospitalisation rates for COPD and bronchiectasis, 2008 or latest year[‡]



(Σ) AIHW, Australian Hospital Statistics, citing National Hospital Morbidity Database (Note: DSR is directly standardised rate).
 (‡) OECD Health Data 2010 and NSW Admitted Patient Data Collection (HOIST) excluding same day separations.
 (Notes: NSW rate calculated by the Bureau of Health Information; NSW result differs from that published in *The health of the people of New South Wales: Report of the Chief Health Officer 2010* due to differences in data definitions).

Appropriateness: unplanned readmissions

NSW rates of unplanned readmissions are higher than those across the rest of Australia and many other countries surveyed

Unplanned hospital readmissions can point to suboptimal patient management or poor care coordination. Some unplanned readmissions may however occur when a patient's chronic condition unexpectedly deteriorates.

In 2010, almost one in five (17%) NSW adults who had been hospitalised in the previous two years reported that following hospital discharge, they were either readmitted or visited the emergency department (ED) because of complications. Internationally, this is significantly higher than France and Switzerland and lower than the United Kingdom (Figure 2.16).

In relation to specific surgical procedures, NSW hospital readmission rates are higher than those across Australia for knee replacements and marginally higher for prostatectomies; and lower for hip replacements, tonsillectomies, adenoidectomies, hysterectomies, cataract surgeries and appendicectomies (Figure 2.17).

Figure 2.16: Survey 2010: After you were discharged, were you readmitted to a hospital or did you have to go to a hospital ED as a result of complications?*

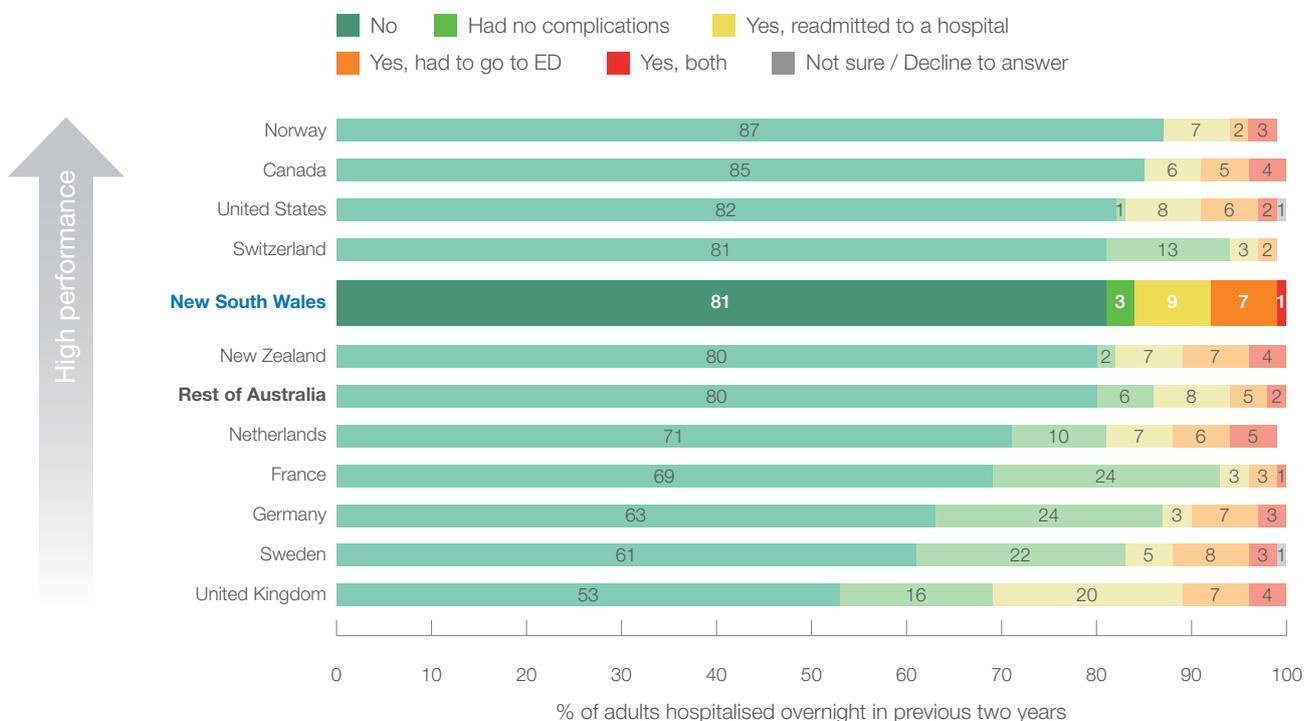
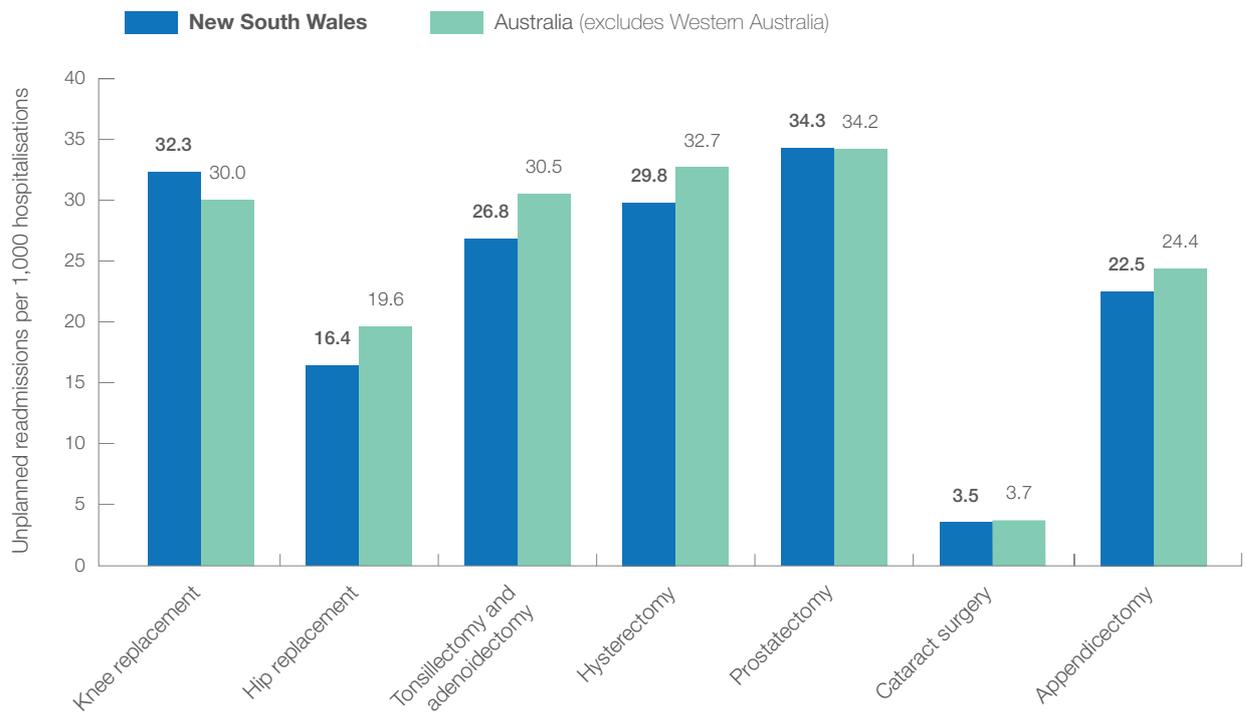


Figure 2.17: Unplanned / unexpected readmissions within 28 days of selected surgical admissions, public hospitals, 2007-08^(μ)



Effectiveness and appropriateness

(*) 2010 Commonwealth Fund International Health Policy Survey (Notes: Percentages may not add up to 100 due to rounding; NSW estimate is 17% with 95% confidence interval from 12 to 21).

(μ) COAG Report NHA 43.1, citing Admitted Patient Care National Minimum Dataset (Notes: Australian data exclude Western Australia; readmission to same hospital).

Access and timeliness

Healthcare services for patients when and where they need them

Ensuring people receive health services when and where they need them is a central element of quality healthcare.

Available evidence suggests access and timeliness of appropriate healthcare are important because:

- Availability of good primary care delivers better access to care and achieves better health outcomes, often at a lower cost
- Waiting times can influence the way patients seek care, such as visiting a hospital emergency department rather than a GP
- If healthcare services and diagnostic test results are not available or not delivered in a timely way, patients can experience emotional distress, physical harm, and higher treatment costs
- Long-term disability or risk of death from acute conditions such as stroke and heart attack are greatly influenced by timeliness of treatment
- Prolonged waiting for certain procedures such as hip replacement and spinal surgery may reduce patients' quality of life, their productivity at work, and the likelihood of achieving good health outcomes.

For most types of elective (or planned) surgery, there is little evidence that moderate waits harm patient health.

This chapter covers:

- Patient assessments of how easily they are able to access healthcare
- Hospital information collected on waiting times for elective surgery and length of waits for specialist appointments
- Barriers to access, such as lack of personal or public transport, and costs.

Although we examine separate data for primary, specialty and surgical care, it is important to note that patients experience a 'healthcare journey' when they are ill and need care, which may include access to different healthcare professionals and services.

What we learnt about NSW

How does NSW compare internationally?

	Higher ranking	Middle ranking	Lower ranking
Six in 10 adults say that the last time they were sick or needed medical attention they were able to get an appointment to see a doctor or nurse on the same day (43%) or the next day (20%)		■	
Less than half of adults who needed out of hours care said it was either very easy (14%) or somewhat easy (23%) to get medical care without going to an emergency department		■	
Around eight in 10 adults (82%) who visited an emergency department in the past two years report waiting less than four hours the last time they went		■	
Around three in 10 adults (33%) report using emergency departments for conditions that could be treated in primary care		■	
Over one in 10 adults (14%) who received elective surgery in the previous two years report waiting more than six months			■
Over three in 10 adults (36%) who were referred to a specialist in the previous two years report waiting more than one month for an appointment			■
Almost one in 10 adults (9%) adults do not visit the doctor because of travel difficulties			■
Around one in seven adults (14%) had a medical problem in the previous year but did not see a doctor because of cost.			■

Access and
timeliness

Access and timeliness: primary care

Access to primary care is difficult after hours

In 2010, 92% of NSW adults reported that they had a regular place providing most of their medical care.*

Six in 10 adults said that the last time they were sick or needed medical attention they were able to get an appointment to see a doctor or nurse on the same day (43%) or the next day (20%) (Figure 3.1).

On evenings, weekends or holidays though, less than half of NSW adults who needed out-of-hours care said it was either very easy (14%) or somewhat easy (23%) to access medical care without going to an emergency department. The percentage of NSW adults who said it was

either somewhat (24%) or very difficult (39%) to access medical care out of hours was higher than in almost all other countries (Figure 3.2).

The ABS Patient Experience Survey conducted in 2009 asked about waiting times for an urgent GP appointment, and more than six in 10 people aged 15 years or over in NSW (64%) were able to obtain an appointment within four hours. Almost nine out of every 10 (88%) were seen on the same or next day (Figure 3.3).

Yet the same survey found that almost one in five people aged 15 or over (18%) considered the wait to see a GP on their last visit unacceptable.[◇]

Figure 3.1: Survey 2010: Last time you were sick or needed medical attention, how quickly could you get an appointment to see a doctor or nurse? Please do not include a visit to the hospital ED*

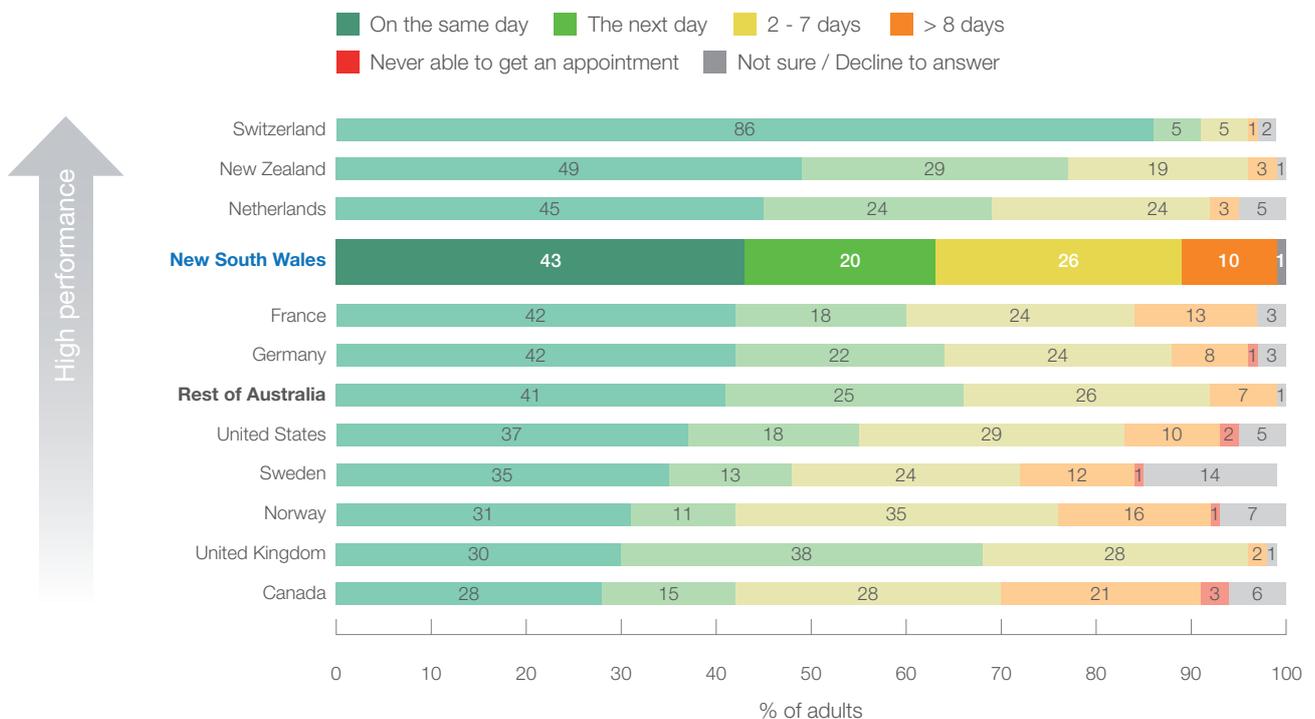


Figure 3.2: Survey 2010: How easy or difficult is it to get medical care in the evenings, on weekends, or holidays without going to the hospital ED?*

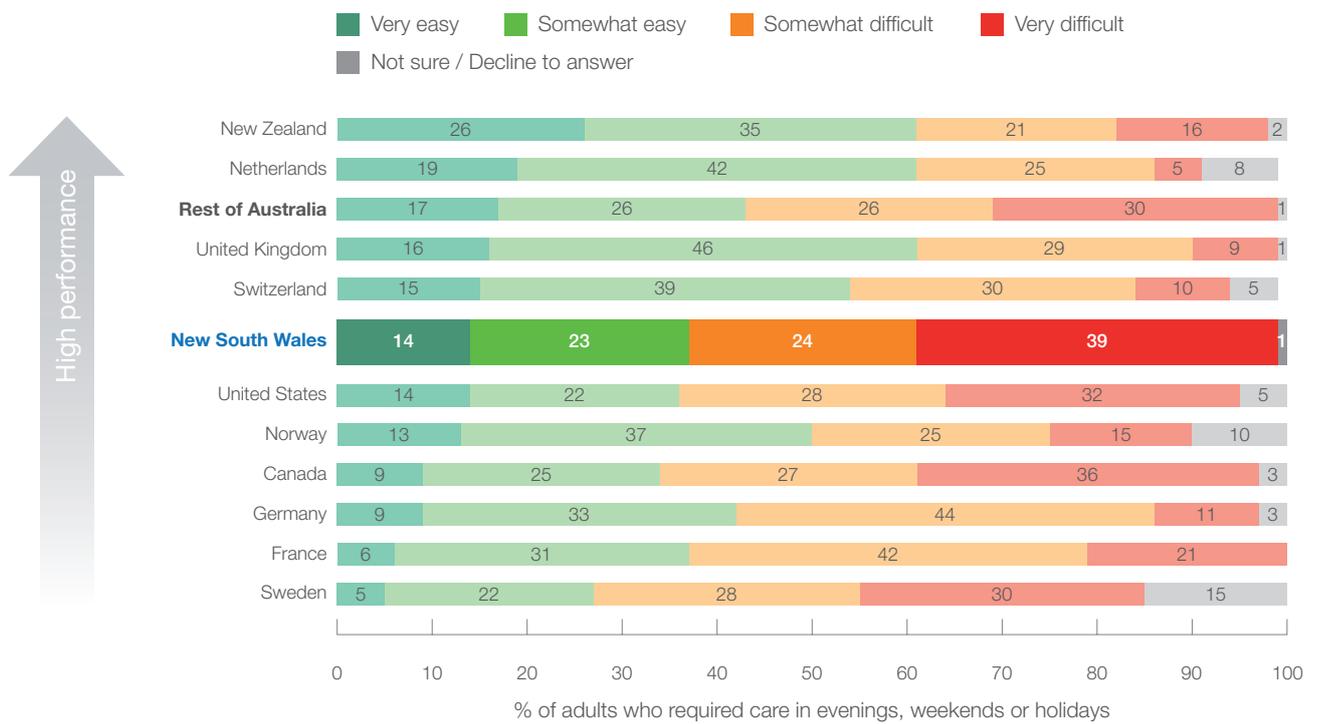
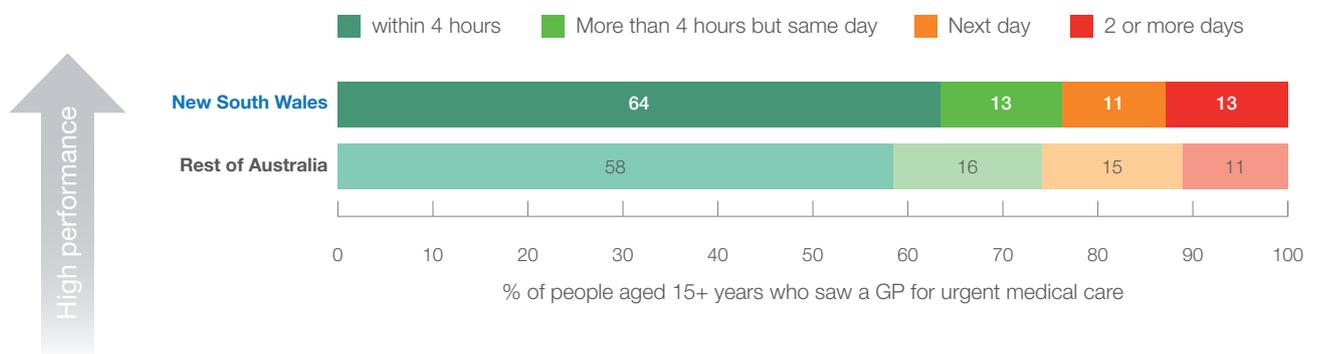


Figure 3.3: Survey 2009: Waiting times for urgent GP appointment, NSW and rest of Australia[⊖]



(*) 2010 Commonwealth Fund International Health Policy Survey (Notes: Percentages may not add up to 100 due to rounding; Figure 3.2 excludes those who never needed out of hours care).

(⊖) ABS Patient Experiences Survey, 2009 (Note: Percentages may not add up to 100 due to rounding).

Access and timeliness: emergency departments

Around eight in 10 people wait less than four hours in NSW emergency departments

According to the ABS Patient Experience Survey in 2009,¹ more than one in 10 (13%) people in NSW aged 15 years or over visited the ED at least once in the previous year. About 3% made multiple visits. Australia-wide figures were 13% and 4% respectively.

In 2010, when asked to recall the time they waited at their last ED visit, 82% of NSW adults reported waiting less than four hours – a percentage similar to that reported in other countries (Figure 3.4).

More detailed data on timeliness of ED care across NSW are available in reports released on a quarterly basis from the Bureau of Health Information (www.bhi.nsw.gov.au).²

There has been some concern across Australia that difficulties accessing primary care may have a knock-on effect on ED workloads and contribute to long treatment delays. This is an important consideration, since there are over two million ED visits annually in NSW.²

More than three in 10 NSW adults (33%) who have a regular GP or general practice and used an ED in the previous two years, reported in 2010 that their most recent ED visit was for a condition they thought could have been treated by doctors or staff at their regular general practice had they been available (Figure 3.5).

NSW performance on this measure sits in the middle of other countries surveyed.

Figure 3.4: Survey 2010: The last time you went to the hospital ED, how long did you wait before being treated?*

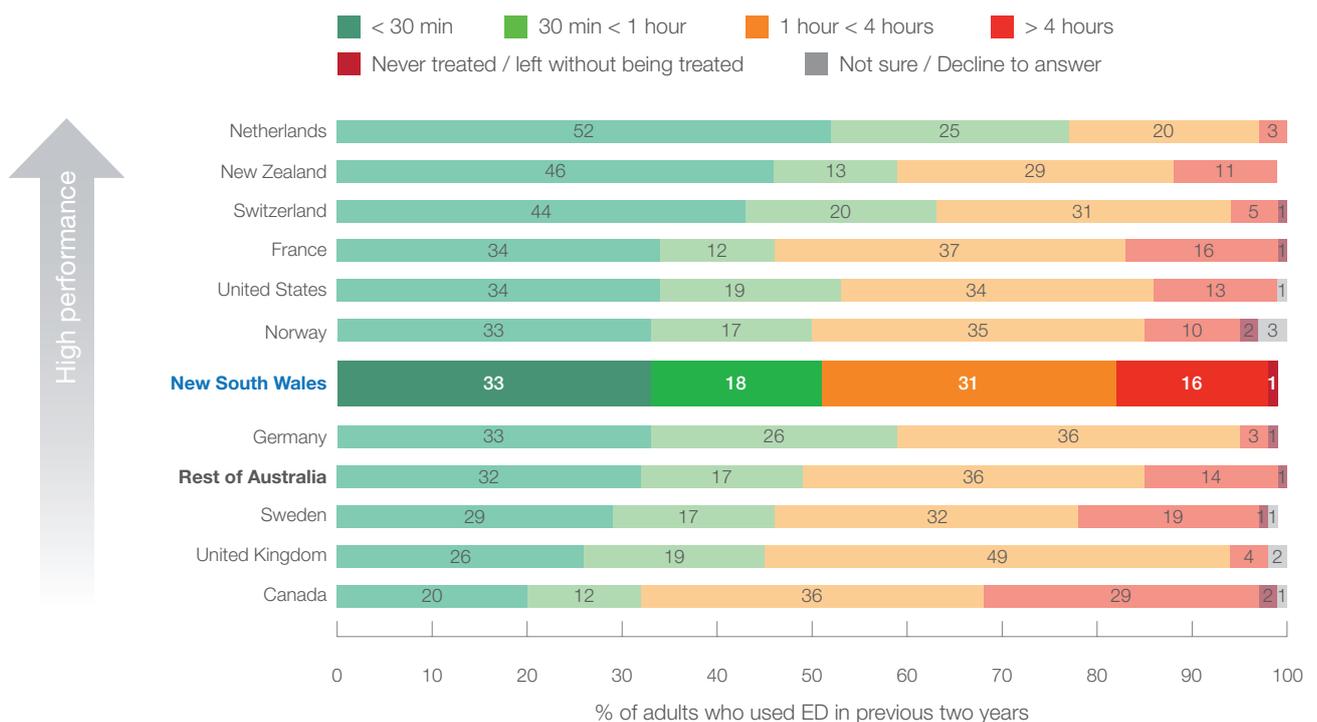
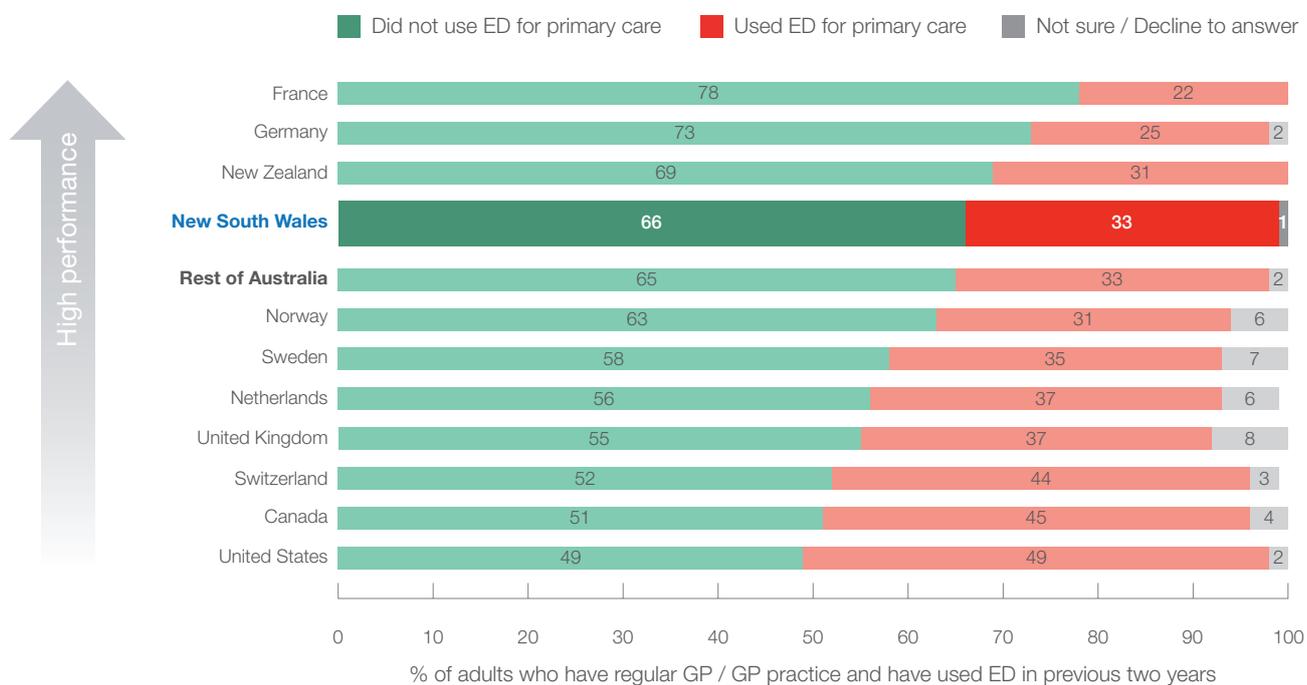


Figure 3.5: Survey 2010: The last time you went to the hospital ED, was it for a condition that you thought could have been treated by doctors or staff at the place where you usually get medical care if they had been available?*



(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding).

Access and timeliness: elective surgery

Many NSW adults have long waits for elective surgery in public and private hospitals

Elective or 'planned' surgery is defined as surgery that a doctor or other health professional believes to be clinically necessary, but which can be delayed for at least 24 hours. These operations are booked in advance, following medical assessment of the patient.

About eight in 10 NSW adults (85%) receiving elective surgery in the previous two years, reported in 2010 that they waited less than six months. More NSW adults wait longer than six months for elective surgery (14%) than in many of the other countries surveyed (Figure 3.6).

In 2008-09, interstate data show that nine in 10 NSW surgery patients (91%) received elective surgery within the timeframe recommended by

their surgeon – a higher percentage than any other state and Australia as a whole (86%).³

Despite this, in 2009-10 NSW had longer median wait times for surgery (44 days) than all other states except the ACT (73 days) and NT (46 days) (Figure 3.7). The median wait refers to the number of days that the 'middle' patient waited i.e. half of all patients had a shorter wait and half of all patients had a longer wait.

Median waits for specific procedures reveal some differences between NSW and Australia as a whole (Figure 3.8). More detailed and recent data on timeliness of elective surgery across NSW public hospitals are available from the Bureau of Health Information (www.bhi.nsw.gov.au).

Figure 3.6: Survey 2010: After you were advised you needed surgery, how long did you have to wait for the non-emergency or elective surgery (public and private hospitals)?*

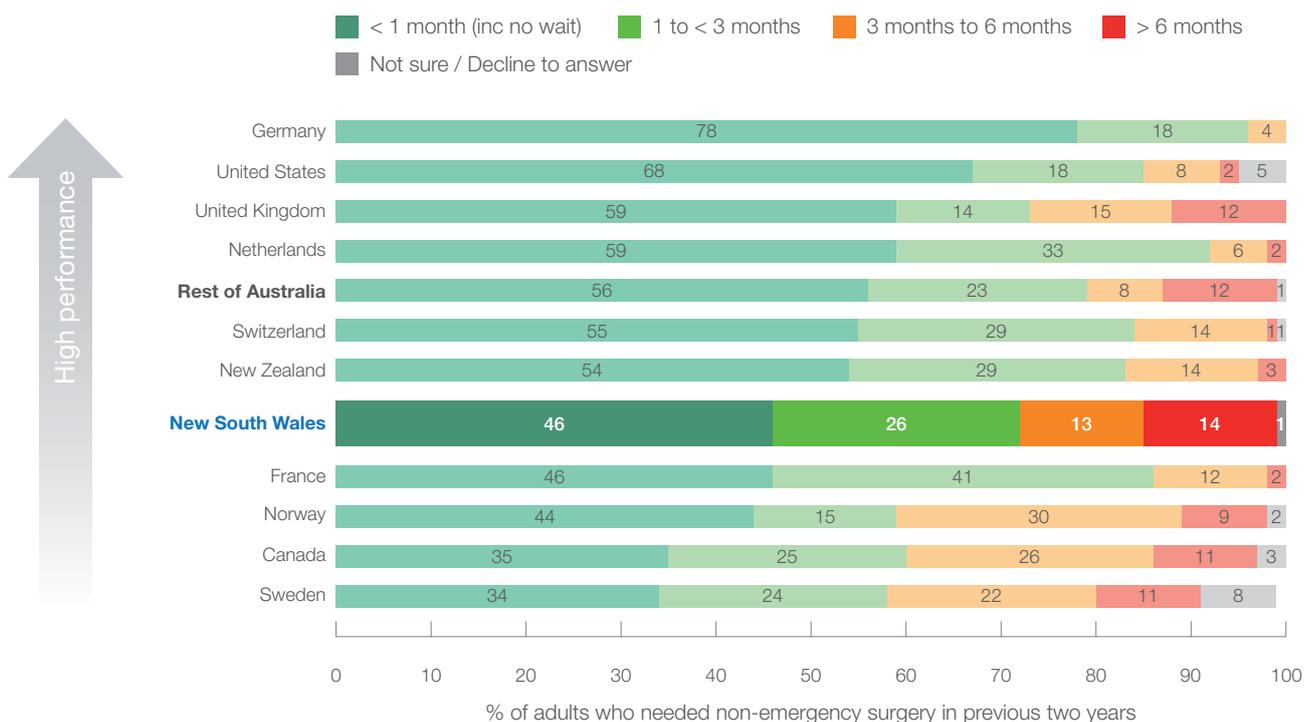
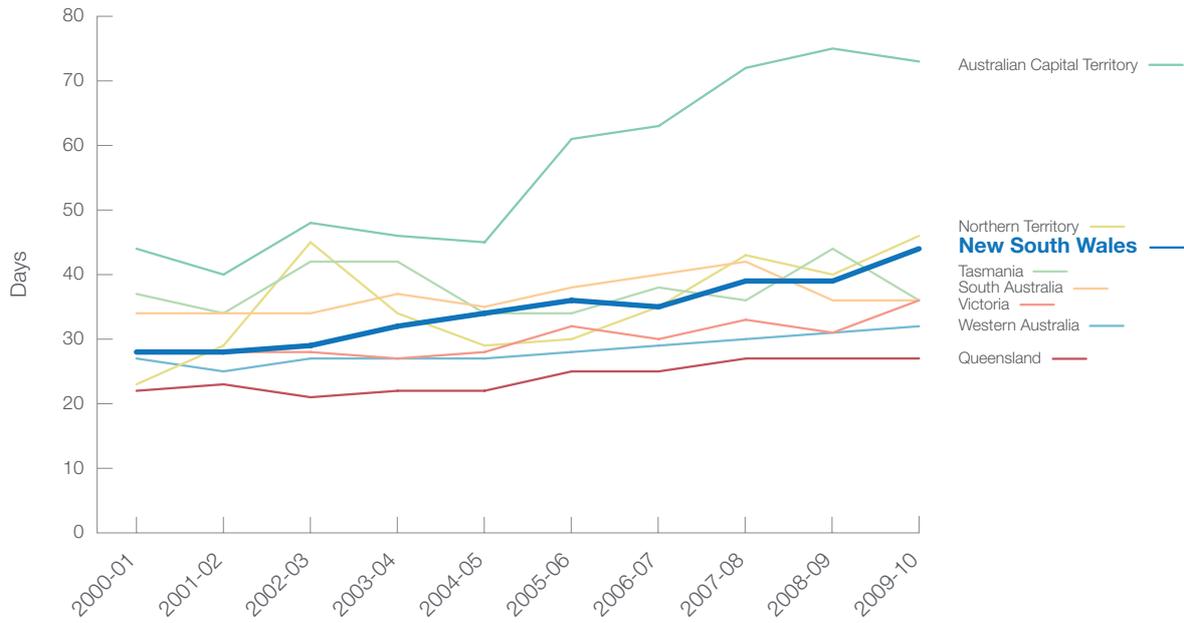


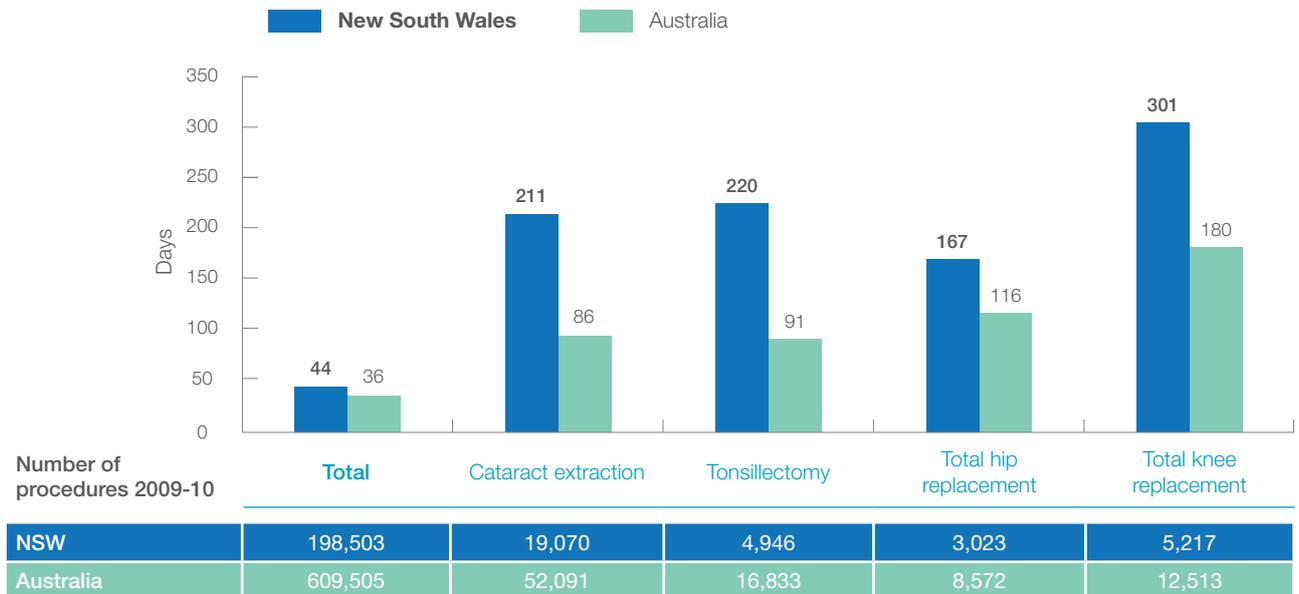
Figure 3.7: Median waits for all elective surgery, public hospitals, 2000-01 to 2009-10²



2000-01 to 2009-10

	Tasmania	South Australia	Queensland	Victoria	New South Wales	Western Australia	Northern Territory	Australian Capital Territory
Change in median waits (days)	-1	+2	+5	+8	+16	+12	+21	+29
% change in elective surgery admissions	+28%	+24%	+9%	+41%	+3%	+55%	+72%	+43%

Figure 3.8: Median waits, selected surgical procedures, public hospitals, NSW and Australia 2009-10²



(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding).
 (Σ) AIHW, Australian Hospital Statistics, citing National Elective Surgery Waiting Times Data Collection, 2000-10.

Access and timeliness: barriers to healthcare

Cost is an important barrier to care in NSW

The 2009 ABS Patient Experience Survey¹ found that around one in 20 people in NSW (5%) had needed healthcare in the previous year on at least one occasion but were unable to access it.

Barriers to accessing healthcare can be caused by a range of factors, including difficulties travelling, lack of health insurance coverage, the availability of services, limited health literacy and costs.

Access to healthcare can be a problem in countries like Australia where distance can pose significant travel difficulties.

In 2010, almost one in 10 (9%) adults in NSW said there was a time in the previous year when they did not visit the doctor because of difficulties travelling. This was among the highest rates seen internationally but not dissimilar to other large countries (Figure 3.9).

More than one in 10 NSW adults reported that concerns about costs created a barrier to accessing healthcare – discouraging them from seeing a doctor (14%), from having a recommended medical test, treatment or follow-up (15%), or from filling or fully following a prescription (13%).

Generally, adults from NSW were more likely to report cost concerns as a barrier to healthcare than those from any other surveyed country except the United States (Figure 3.10).

Figure 3.9: Survey 2010: During the past 12 months, was there a time when you did not visit a doctor because of difficulties travelling?*

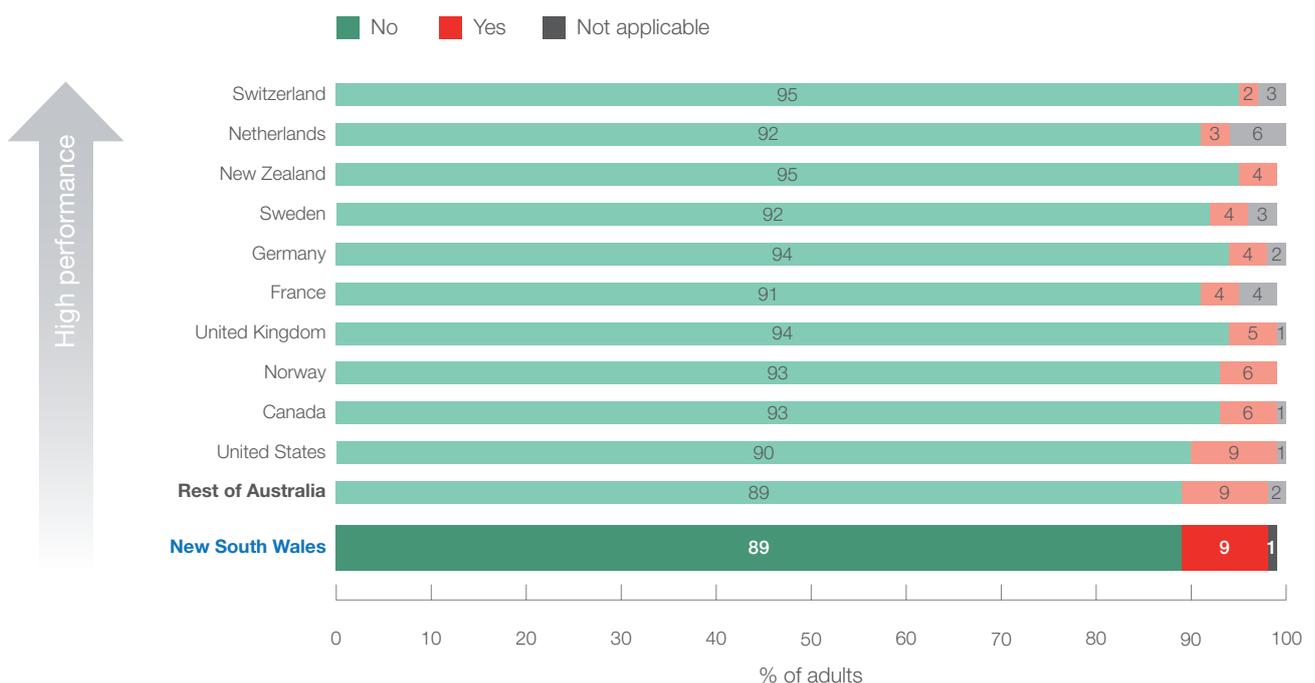
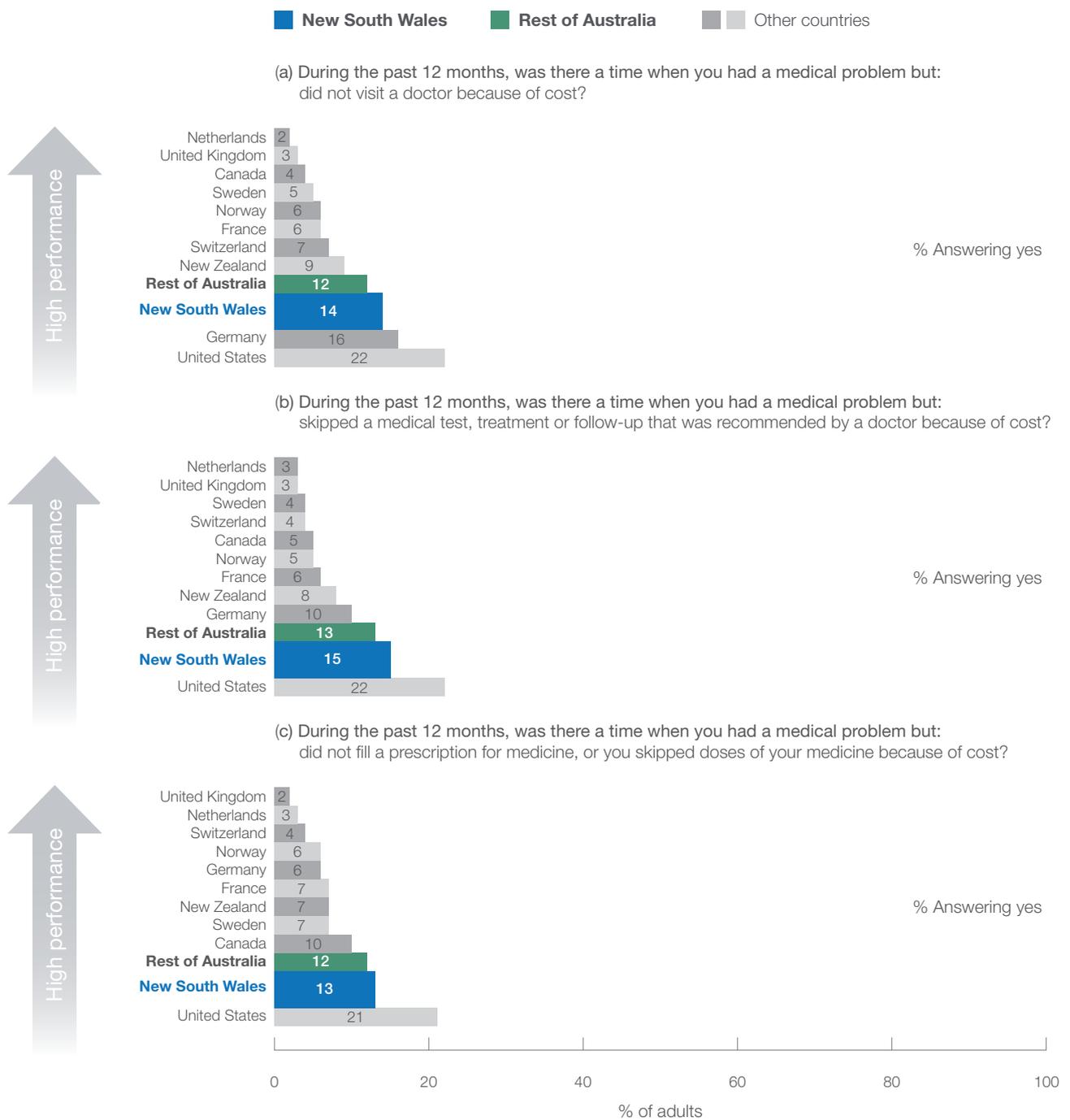


Figure 3.10: Survey 2010: During the past 12 months, was there a time when you had a medical problem but (a) did not visit a doctor because of cost; (b) skipped a medical test, treatment or follow-up that was recommended by a doctor because of cost; (c) did not fill a prescription for medicine, or you skipped doses of your medicine because of cost?*



Access and timeliness

(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding).

Access and timeliness: specialist care

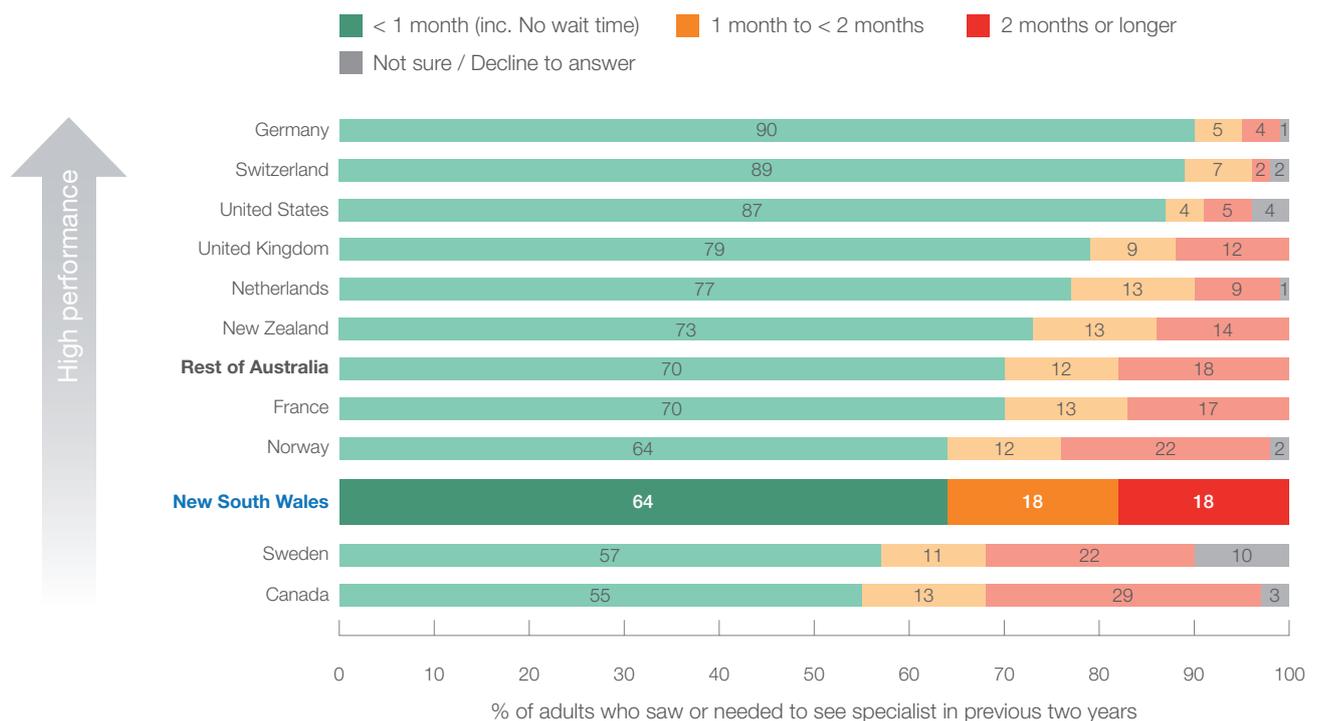
Many patients have considerable waits for specialist appointments

Patients visit specialists for an array of different reasons such as for diagnosis, treatment and monitoring of significant illnesses and injuries; as well as dedicated services related to the health of children, pregnant women and older adults.

The 2009 ABS Patient Experience Survey¹ found that one in five people (19.7%) aged 15 years or over in NSW said they had an unacceptably long wait for a specialist appointment. This is similar to the 20.5% reported for the rest of Australia.

In 2010, among NSW adults who reported they were referred to a specialist in the previous two years, 64% waited less than one month for an appointment. More than a third (36%) waited one month or longer (Figure 3.11).

Figure 3.11: Survey 2010: After you were advised to see or decided to see a specialist doctor or consultant, how long did you have to wait for an appointment?*



(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding).

Safety

An essential building block for quality care

Safety is central to healthcare quality. It means eliminating unnecessary risk to patients. In recent years, safety has come to the fore as a pressing concern for patients and healthcare professionals.

Well-defined, evidence-based sets of patient safety indicators have been published by many international and national organisations. In Australia, a number of safety indicators are used by healthcare professionals and included in the National Healthcare Agreements. Despite good progress on the development of relevant safety measures, they are not used effectively and information is often unavailable or too unreliable to report.¹

Internationally, differences in attitudes towards incident reporting mean that safety information should be interpreted carefully. For example, an increase in the rate of adverse events could, on face value, be interpreted as evidence for deteriorating quality. Instead, it might actually represent an improvement. Why? There may be greater willingness to report adverse events within a 'safety culture' where people see opportunities to learn and prevent future incidents. This, rather than a true increase in the incidence of adverse events, could be behind the higher numbers.

At the same time, comparisons across countries or hospitals must be drawn with care. Higher numbers could reflect more accurate reporting or data collection systems, rather than poorer relative performance.

Patient survey data may be insightful as patients themselves can identify adverse events and take appropriate action.

It should be noted though, that patients do not necessarily have all the information needed to decide whether there has been an error in their care. They might be unaware of some errors that occur or assume errors in situations with a poor outcome, when in fact no mistake was made.

It is possible that high levels of media coverage of patient safety incidents may make people more likely to report such incidents in their care when asked about them.

This chapter covers:

- Safety-related outcomes, such as falls
- Safety processes, such as provision of written and verbal patient information
- Patient reports of medication errors and rates of medication reviews carried out by their GPs and general practice staff.

What we learnt about NSW

How does NSW compare Internationally?

Higher ranking Middle ranking Lower ranking

	Higher ranking	Middle ranking	Lower ranking
One in 10 adults (10%) think a medical mistake has been made in their treatment or care in the past two years though the extent of any harm was not assessed	NSW rate is similar to most comparators but is significantly higher than in four other countries		
Seven in 10 hospitalised patients (69%) report being discharged with written instructions about what to do when they return home and which symptoms they should monitor		■	
More than nine in 10 adult patients (94%) who had a medical test in the previous two years report experiencing no delays in being notified about abnormal results		■	
One in 20 adults (5%) report being given the wrong medication or wrong dose by a doctor, nurse, hospital or pharmacist		■	
More than seven in 10 adults taking at least one prescription have had a GP or other staff member at their regular place of care review their medications (78%) and explain potential side effects (76%).	■		

Safety

Managing for safety: outcomes

One in 10 adults think a medical mistake has been made in their care in the past two years but harm was not assessed

Safety can be measured in terms of medical mistakes or 'adverse events' — some of which are preventable and cause harm. International studies of hospital care show that up to 17% of admitted patients experience an adverse event.^{2,3,4} In 2008-09, events were recorded in almost 5% of Australian hospitalisations.⁵

In NSW, patient safety reporting focuses on 'incidents' or events that pose a risk to patients, regardless of whether actual harm occurs. Between January and June 2009, healthcare staff made 62,369 clinical incident notifications. There were 327 serious incidents reported, a rate of 0.11 per 1,000 bed days - or 0.04% of all admissions. Over time, the rate of incidents per 1,000 bed days has increased from 14.6 in 2005-2006 to 19.6 in 2008-2009.⁶

In 2010, the Commonwealth Fund survey found that one in 10 NSW adults (10%) reported a medical mistake had occurred in their care or treatment in the previous two years (Figure 4.2). The extent of harm was not assessed.

The 2009 ABS Patient Experience Survey found 4.6% of NSW people aged 15 or over reported they had received medication, medical care, treatment or a test that caused harm in the previous year. Australia-wide, the rate was 5.2%.⁷

Patients are at risk of falling in hospitals particularly when they experience confusion or impaired balance. For every 1,000 NSW hospitalisations in 2007-08, 2.5 falls were recorded that resulted in harm. Across Australia, the rate was 2.2 falls resulting in harm per 1,000 hospitalisations (Figure 4.1).

Incidents such as trauma during childbirth are often preventable. Severe perineal lacerations, involving injury to the anal sphincter muscles (3rd degree) and breach of the rectal mucosa (4th degree) can cause significant suffering and extended hospitalisation. Severe perineal lacerations occurred in 1.6% of NSW vaginal births in 2008, the same rate recorded for Australia as a whole (Figure 4.3).

Figure 4.1: Falls resulting in patient harm that occurred in a healthcare setting, NSW and Australia, 2007-08^u

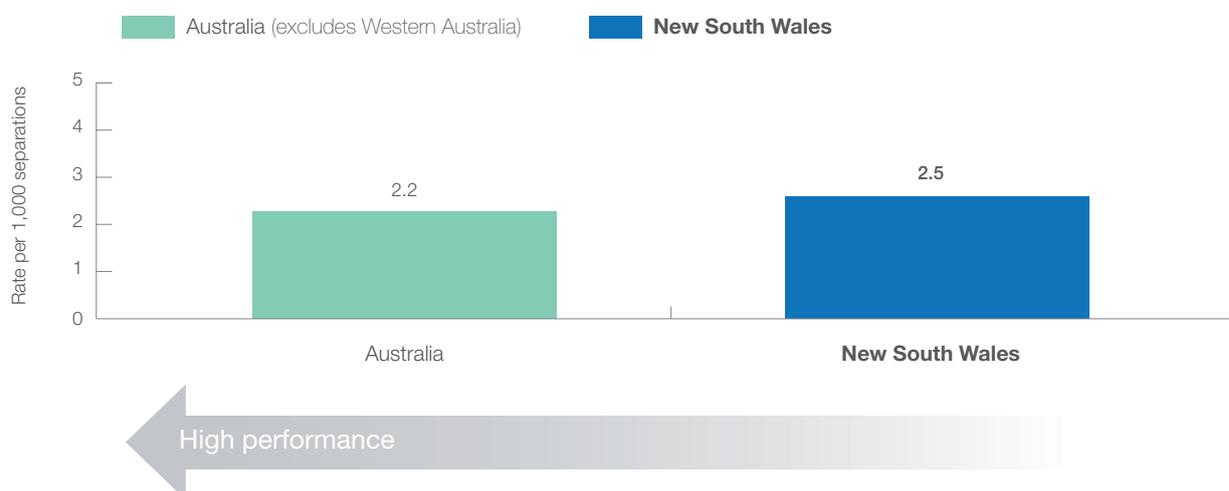


Figure 4.2: Survey 2010: In the past two years, was there a time you thought a medical mistake was made in your treatment or care?*

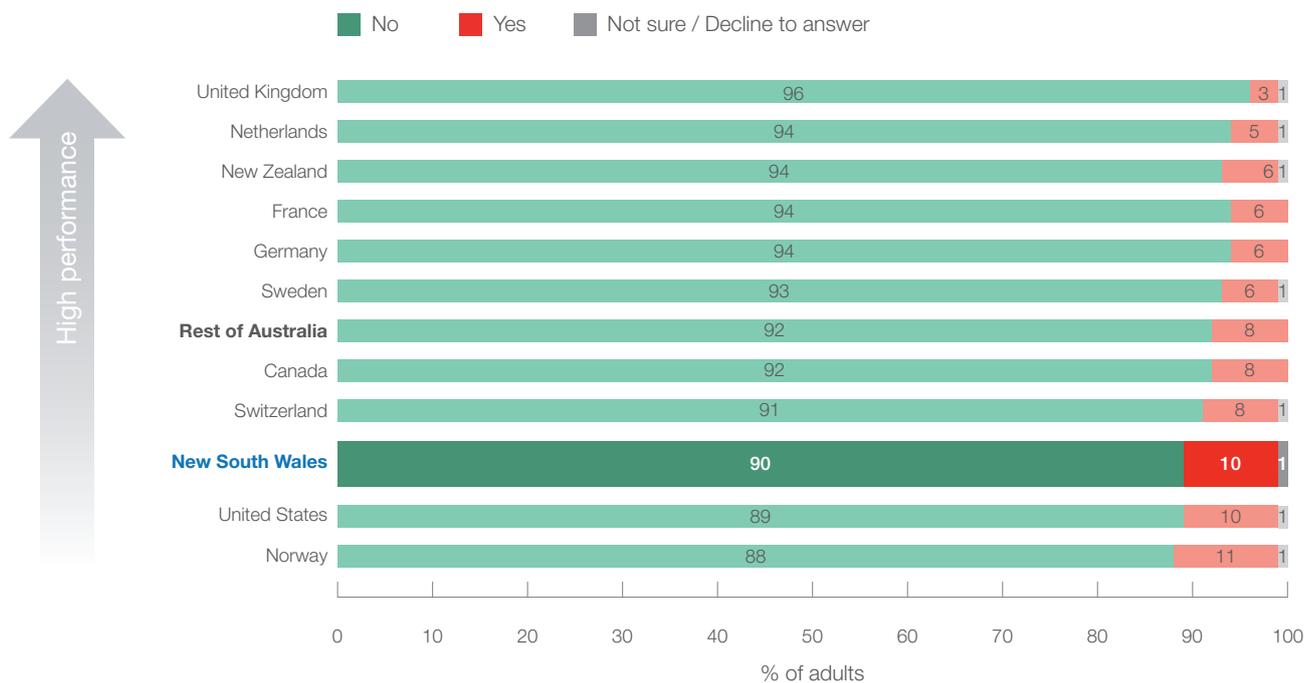
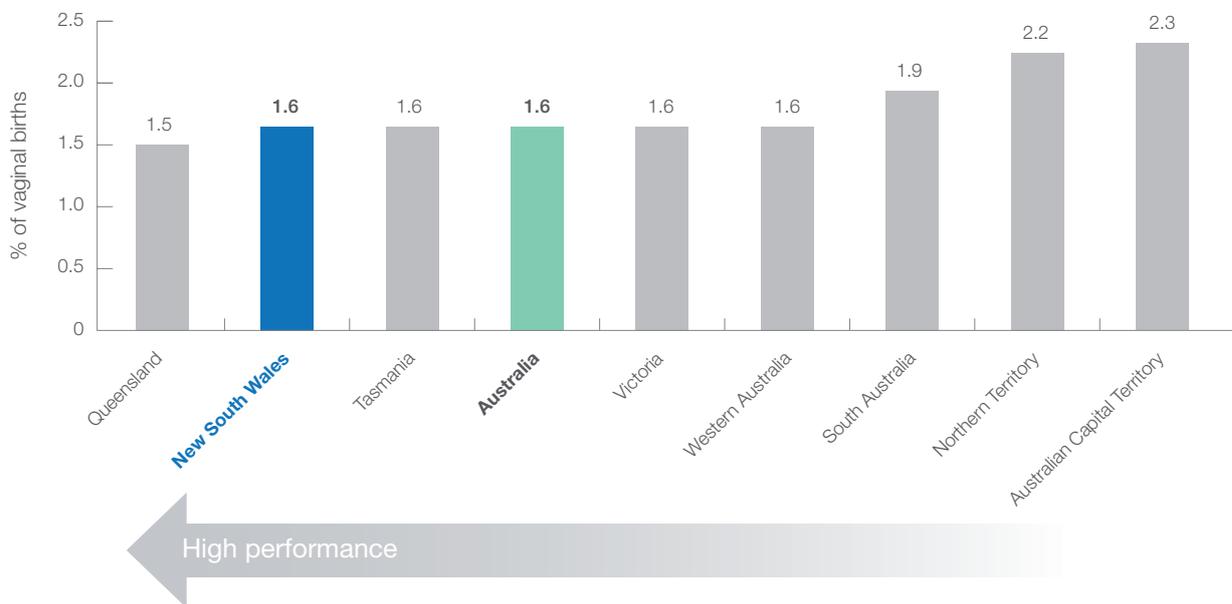


Figure 4.3: Third and fourth degree perineal lacerations following vaginal birth, 2008#



Safety

(μ) COAG Report NHA 43.1, citing Admitted Patient Care National Minimum Dataset (Notes: Rates are not age or casemix standardised which affects interpretability, as falls are more common among older people and people with certain health conditions, such as those affecting balance or strength; around 25% of records did not specify the place of occurrence).
 (*) 2010 Commonwealth Fund International Health Policy Survey (Notes: Percentages may not add up to 100 due to rounding; NSW estimate is 10% with 95% confidence interval from 8 to 11%; confidence intervals for other countries are available in the *Technical supplement* at www.bhi.nsw.gov.au).
 (#) AIHW Australia's Mothers and Babies 2008.

Managing for safety: processes

About seven in 10 patients are given written instructions about what to do when they leave hospital

Combining verbal and written health information for patients delivers consistent messages and has been shown to improve their knowledge and satisfaction. Providing written instructions for patients leaving hospital is particularly important.⁸

In 2010, most NSW adults hospitalised in the previous two years received written information on what to do when they returned home and symptoms to watch out for (69%). About a third (30%) weren't given this information. NSW adults ranked in the middle of the countries surveyed in terms of receiving written instructions on leaving hospital (Figure 4.4).

Information gaps can occur when test results are not properly communicated. Problems in systems of reporting test results contribute to diagnostic delays and can result in significant consequences for patients.

Most NSW adults (94%) who had a medical test in the previous two years did not experience a delay in being notified of abnormal results (Figure 4.5). Three per cent of adults in NSW who had a medical test in the previous two years said they had been given an incorrect result for a diagnostic or laboratory test – a percentage similar to that reported in other countries (Figure 4.6).

Figure 4.4: Survey 2010: When you left the hospital, did you receive written information on what to do when you returned home and what symptoms to watch for?*

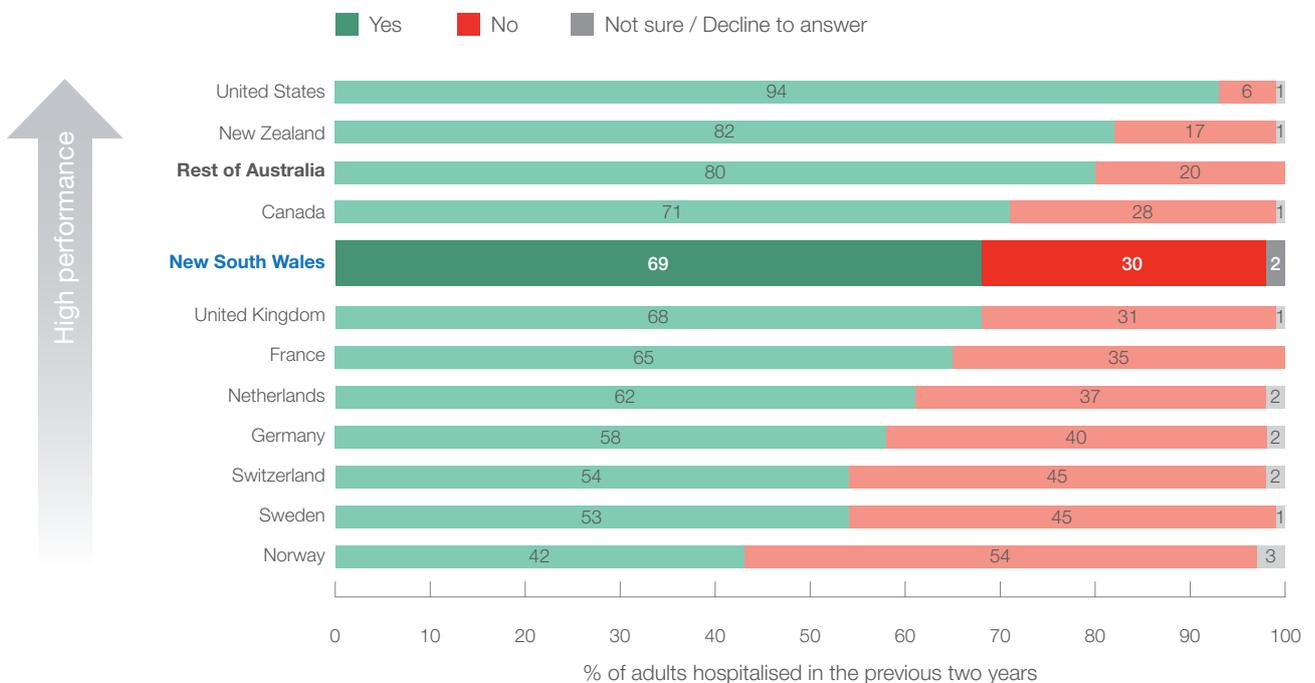


Figure 4.5: Survey 2010: In the past two years, have you experienced delays in being notified about abnormal test results?*

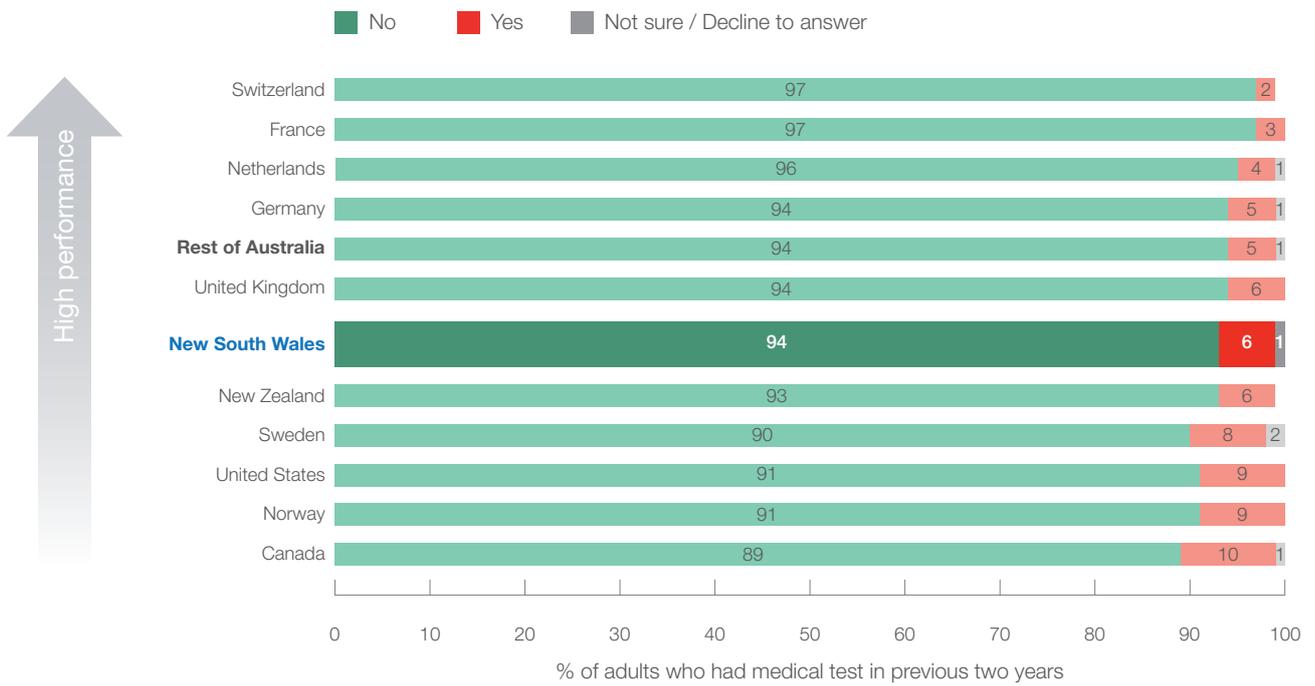
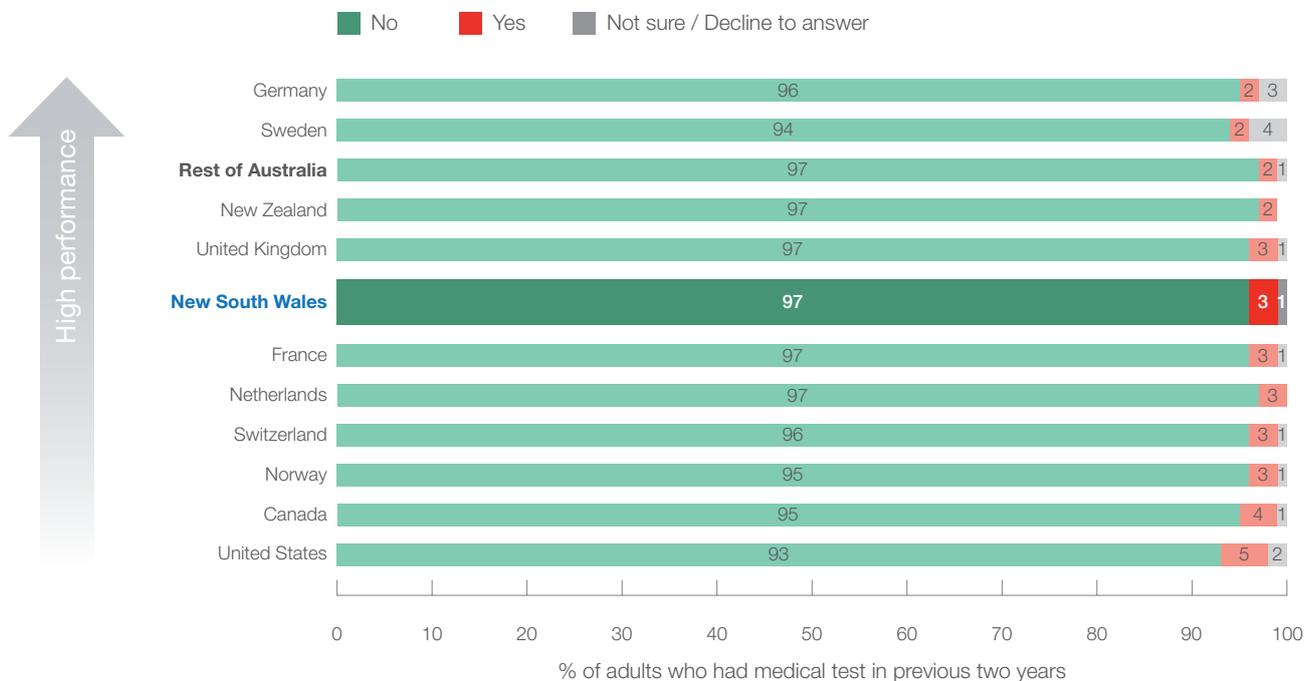


Figure 4.6: Survey 2010: In the past 2 years, have you been given incorrect results for a diagnostic or lab test?*



(*) 2010 Commonwealth Fund International Health Policy Survey (Notes: Percentages may not add up to 100 due to rounding; Figure 4.4, interpret German data with care due to small underlying base 73 responses; Figure 4.5, NSW estimate is 6% with 95% confidence interval from 4 to 7%; Figure 4.6, NSW estimate is 3% with 95% confidence interval from 2 to 4%; confidence intervals for other countries are available in the *Technical supplement* at www.bhi.nsw.gov.au).

Medication safety

More than seven in 10 adults receive information regarding appropriate use of medications

Medicines are the most common healthcare treatment and are associated with a higher incidence of errors and adverse events than other interventions. Many of these events are costly and potentially avoidable.

One in 20 NSW adults (5%) reported in 2010 that they had been given the wrong medication or wrong dose by a doctor, nurse, hospital or pharmacist in the previous two years (Figure 4.7).

People who take one or more prescription medicines should be provided with information about appropriate use and potential side effects. Medication reviews can reduce the occurrence of inappropriate use.

In 2010, most NSW adults with a regular GP or general practice who take at least one prescription medication reported that in the previous year, their GP or staff at their general practice reviewed their medications (78%) and explained potential side effects (76%). Fewer than half (48%) were given a complete written list of their prescribed medications in the previous year. On the international stage, NSW performs well relative to other countries in terms of communication regarding appropriate use of medications (Figure 4.8).

Figure 4.7: Survey 2010: In the past two years, have you ever been given the wrong medication or wrong dose by a doctor, nurse, hospital or pharmacist?*

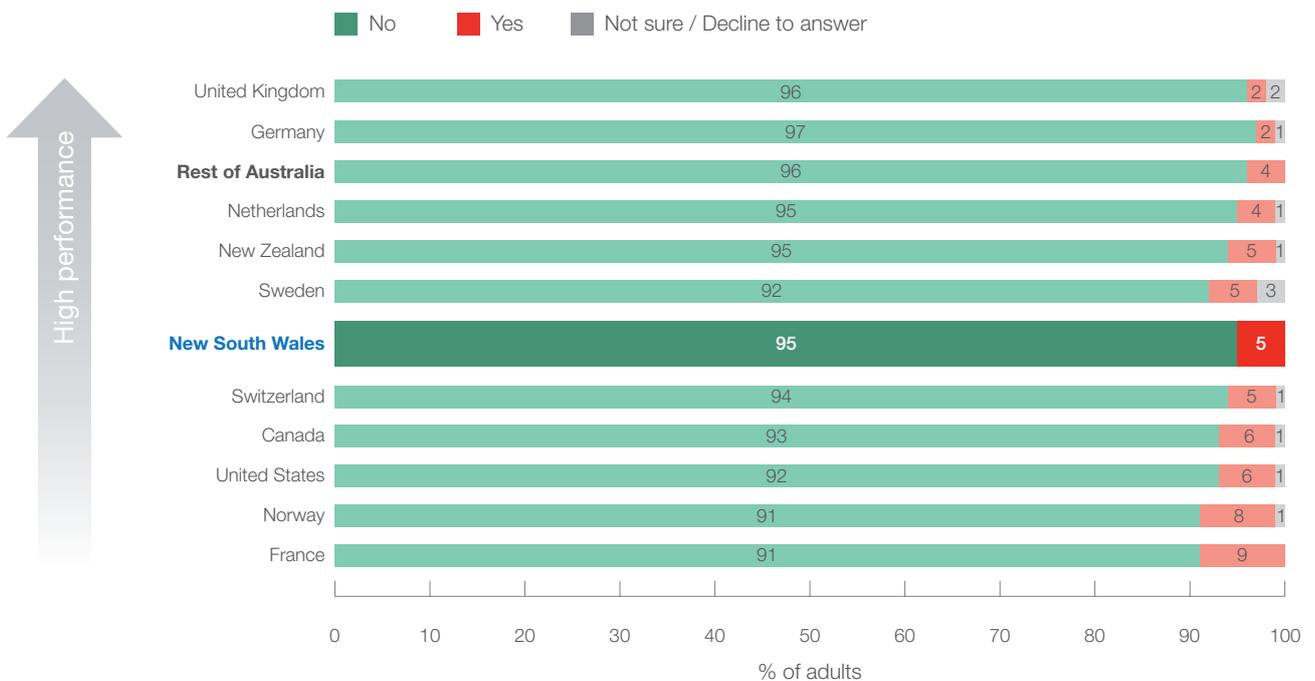
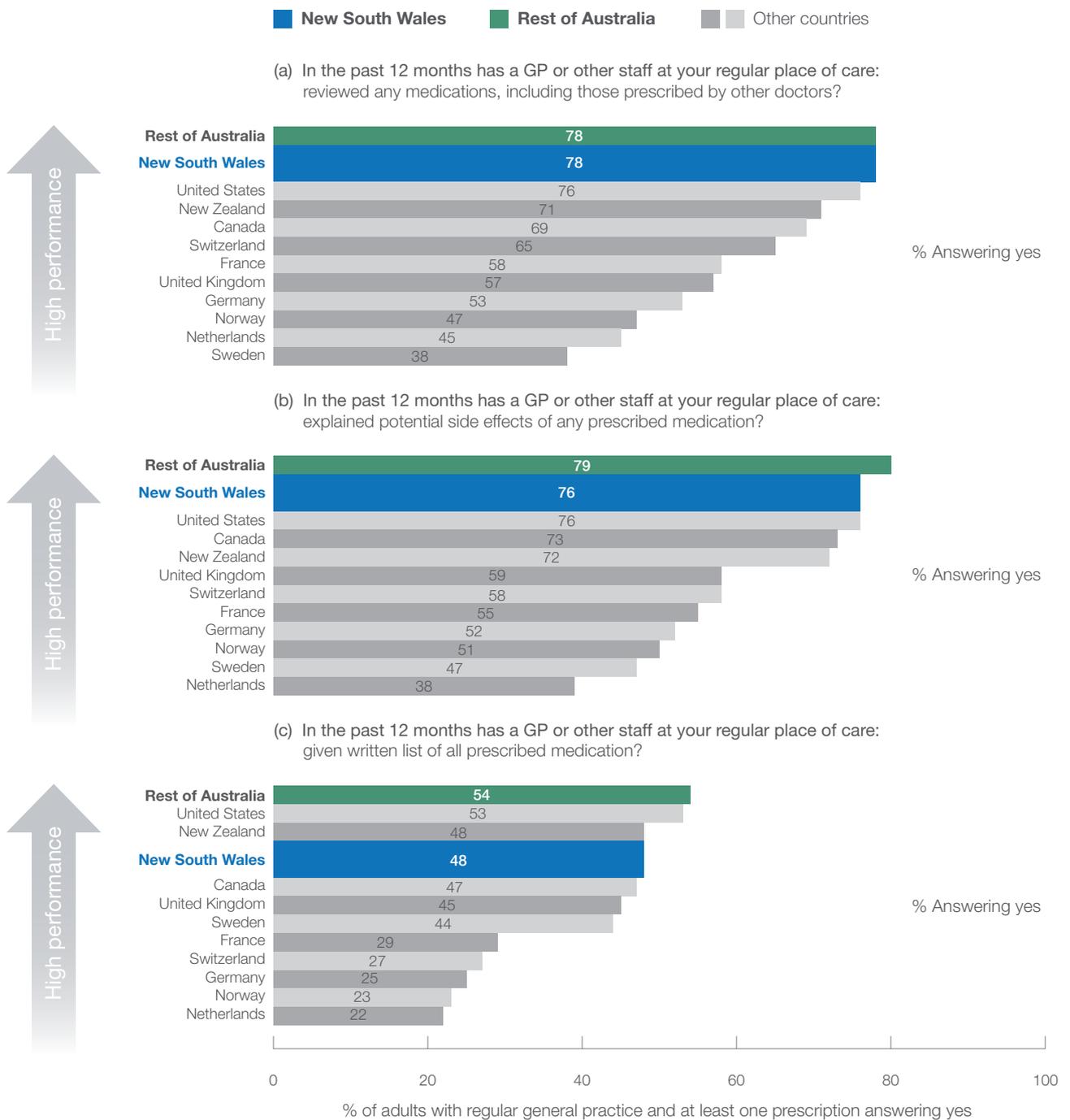


Figure 4.8: Survey 2010: In the past 12 months has a GP or other staff at your regular place of care: (a) reviewed with you any medications you take, including those by other doctors; (b) explained the potential side effects of any medication that was prescribed; (c) given you a written list of all your prescribed medications?*



Safety

(*) 2010 Commonwealth Fund International Health Policy Survey (Notes: Percentages may not add up to 100 due to rounding; Figure 4.7 NSW estimate is 5% with 95% confidence interval from 4 to 6%; confidence intervals for other countries are available in the *Technical supplement* at www.bhi.nsw.gov.au).

Person centredness

Putting people and patients at the heart of healthcare

Person centredness means that the community actively participates in the journey towards achieving a high-performing healthcare system.

At a broad level, people can be positively involved in efforts to improve the healthcare system's performance. For example, they can offer their views on the system and help set priorities to make sure healthcare policy, management and practice respond to the needs, concerns and expectations of the community.

At a day to day level, person centredness places patients at the heart of their medical treatment and is about effective relationships between patients, their families and healthcare professionals.

These relationships are *“grounded in strong communication and trust, highlighted by clinicians and patients engaging in a two-way dialogue, sharing information, exploring patients' values and preferences, and helping patients and families make clinical decisions”*.¹

Person centredness therefore depends on informed and involved patients, receptive and responsive health professionals, and a supportive healthcare environment.

Evidence shows that person centredness enhances care experiences and improves outcomes, safety, costs and appropriateness of care.²

This chapter covers:

- Peoples' views on the performance of their healthcare system
- Patients' views on communication, including how information is shared and the quality of relationships with healthcare professionals
- Patients' views on how engaged they are in discussions and decision-making about their care
- Patients' views and observations on the co-ordination of their care
- Patients' views on whether continuity of their healthcare was achieved.

What we learnt about NSW

How does NSW compare internationally?

	Higher ranking	Middle ranking	Lower ranking
Most adults rate overall medical care from their GP or GP practice as excellent (42%) or very good (35%)	■		
Most adults are either very confident (19%) or confident (56%) they will receive the most effective treatment if they become seriously ill			■
Almost a quarter (24%) of adults say the Australian healthcare system works pretty well. A similar proportion (25%) say the system has so much wrong with it that it requires a complete rebuild			■
Most adults with a regular GP or GP practice report that the GP or medical staff they see always (79%) or often (14%) explain things in a way that is easy to understand	■		
The majority of adults say their regular GP: <ul style="list-style-type: none"> • <i>always</i> knows important information about their medical history (78%) • <i>always</i> spends enough time with them (74%) • <i>always</i> involves them as much as they want to be in decisions about their care and treatment (77%) 	■		
Six in 10 (61%) adults say someone in their GP practice co-ordinates their care	■		
Most adults with a regular GP or general practice have maintained the relationship for five or more years (64%) or three to five years (14%) .		■	

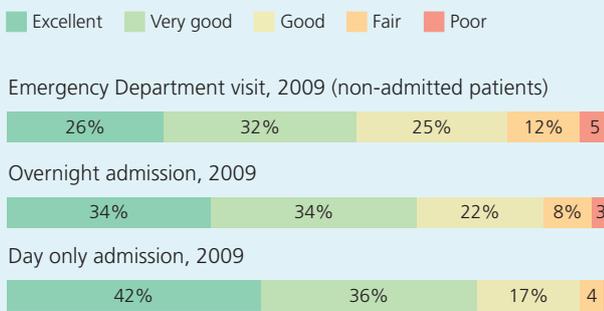
Person
centredness

People's views on healthcare system performance

People are generally confident of receiving effective treatment but the people of NSW suggest major, rather than minor, reform

Regular monitoring of patient experiences and public perceptions can be a vehicle to measure healthcare quality. It can guide improvement and increase responsiveness of the whole system and within individual healthcare organisations.³

Bureau reports^{4,5} have examined NSW Health Patient Survey data for ED patients and those admitted for a day, or one or more nights in public hospitals. Overall ratings of care were:



In 2010, most NSW adults rated overall medical care from their GP or GP practice as excellent (42%) or very good (35%), a higher percentage than other countries (Figure 5.1).

Most adults in NSW were either very confident (19%) or confident (56%) they would receive the most effective treatment (including pharmaceuticals and diagnostic tests) if they became seriously ill (Figure 5.2).

Almost a quarter (24%) said Australia's healthcare system worked pretty well, while a similar proportion (25%) said the system required a complete rebuild and just over half (51%) said there were some good things about the system but it needed fundamental changes to work better (Figure 5.3). Among Australians, these views have remained stable since 2001.⁶

Figure 5.1: Survey 2010: Overall, how do you rate the medical care that you have received in the past 12 months from your GP's practice or clinic?*

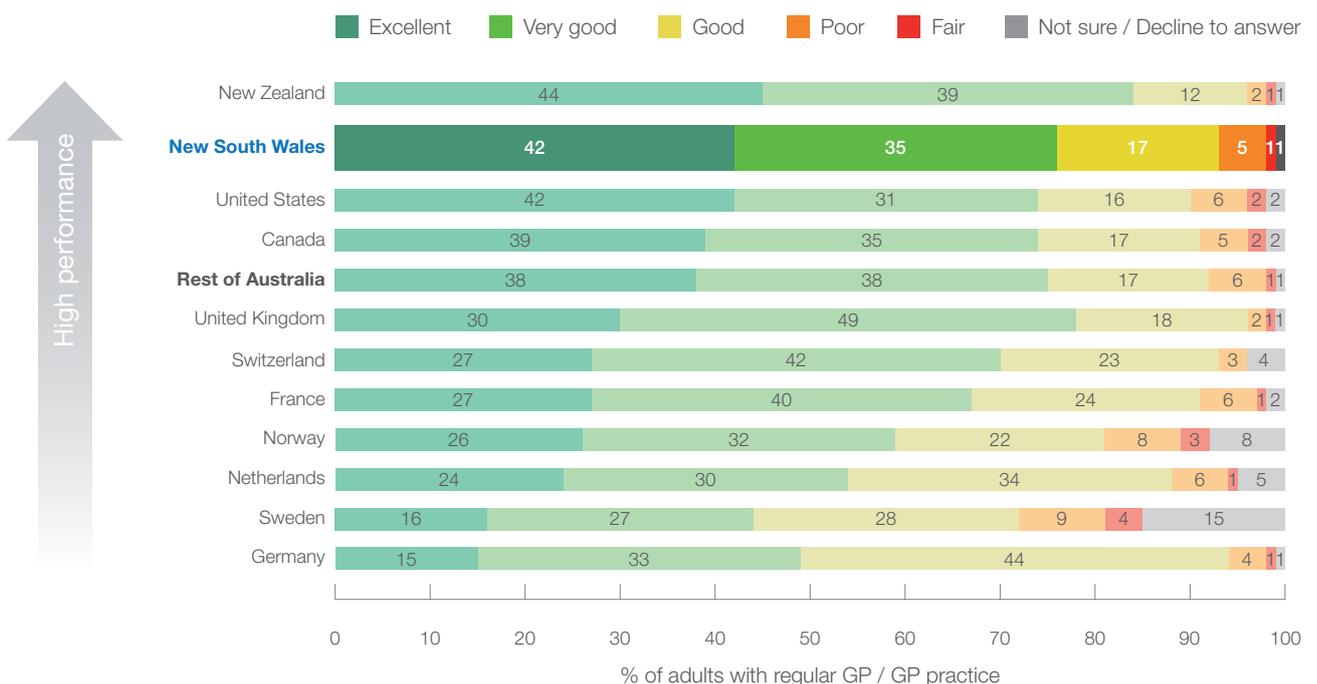


Figure 5.2: Survey 2010: How confident are you that if you became seriously ill, you will receive the most effective treatment, including drugs and diagnostic tests?*

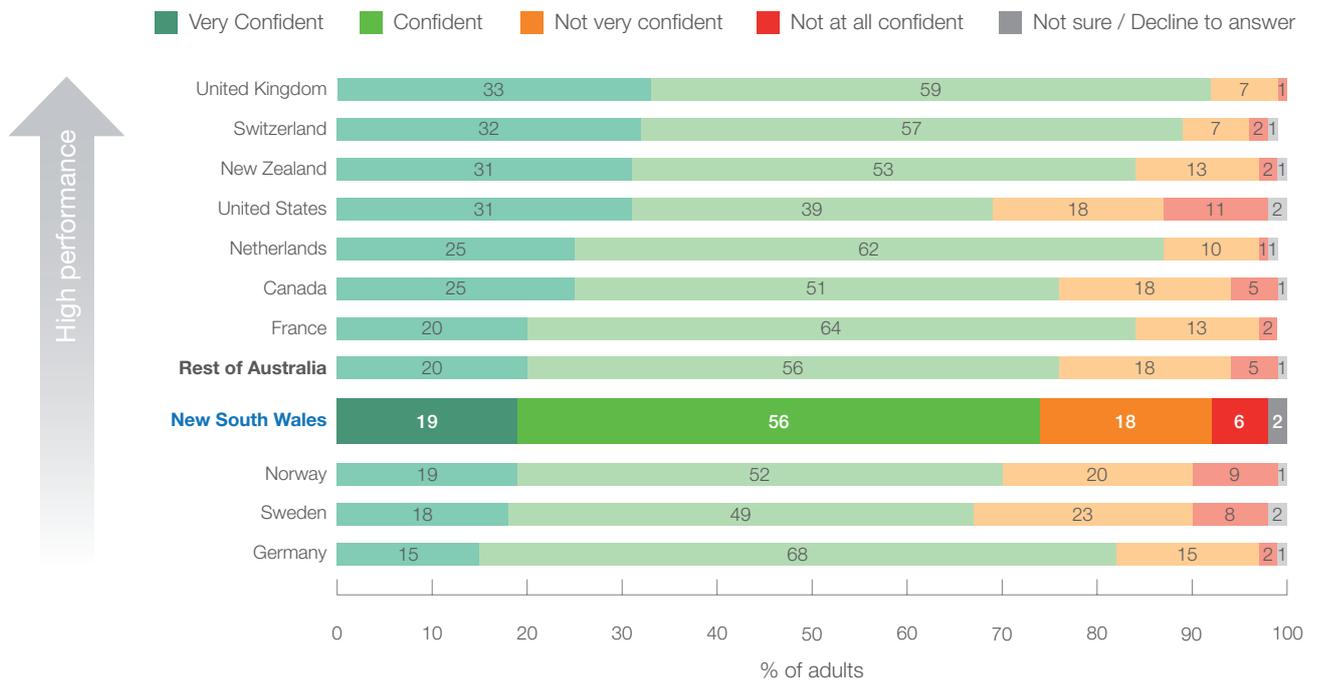
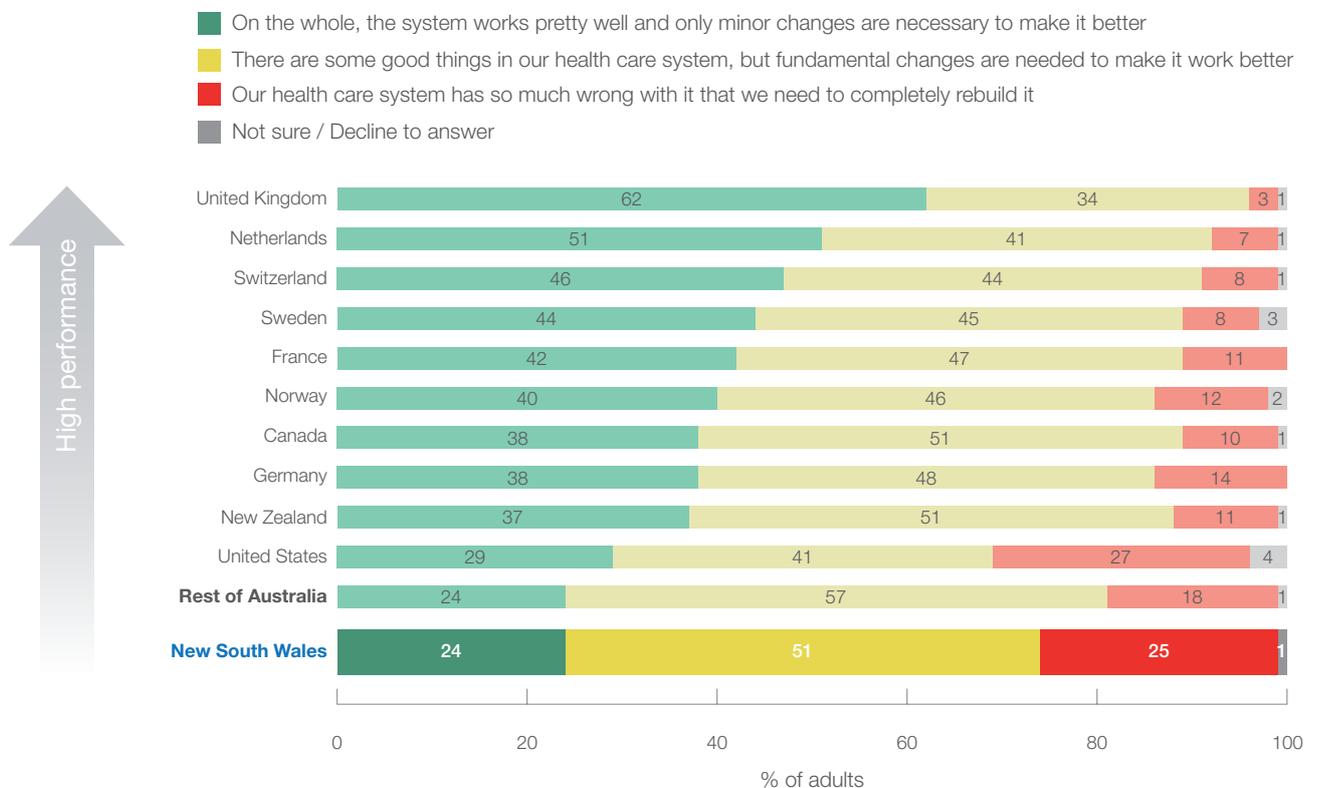


Figure 5.3: Survey 2010: Which of the following statements comes closest to expressing your overall view of the healthcare system in this country?*



(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding).

Communicating with patients

Communications between patients and healthcare professionals are generally seen as positive

Clear and active communication between patients and healthcare professionals has a positive effect on health and wellbeing. Patients are more satisfied with their care when information about illness and treatment is adequately discussed. They want to engage with healthcare professionals who have clinical knowledge and skills and are good communicators.²

In 2010, most NSW adults with a regular GP or GP practice reported that the GP or medical staff member they saw *always* (79%) or *often* (14%) explained things in a way that was easy to understand. This compares favourably on the international stage, with NSW adults offering among the most positive ratings on whether their regular GP or general practice staff explained things appropriately (Figure 5.4).

One in five NSW adults (20%) reported that there was a time in the previous two years they had received conflicting information from different doctors or healthcare professionals (Figure 5.5).

Respect, empathy and courtesy are central to good communication. The Bureau's analysis of the 2009 NSW Health Patient Survey found most day-only patients rated the courtesy of nurses as excellent (44%) or very good (34%) and overnight inpatients rated courtesy of nurses as excellent (35%) or very good (35%).⁴ Non-admitted ED patients rated the courtesy of ED staff as excellent (30%) or very good (32%) (Figure 5.6).⁵ Importantly, the Bureau found that views on courtesy were closely associated with patients' ratings of overall care.

Figure 5.4: Survey 2010: When you need care or treatment, how often does your regular GP or medical staff you see explain things in a way that is easy to understand?*

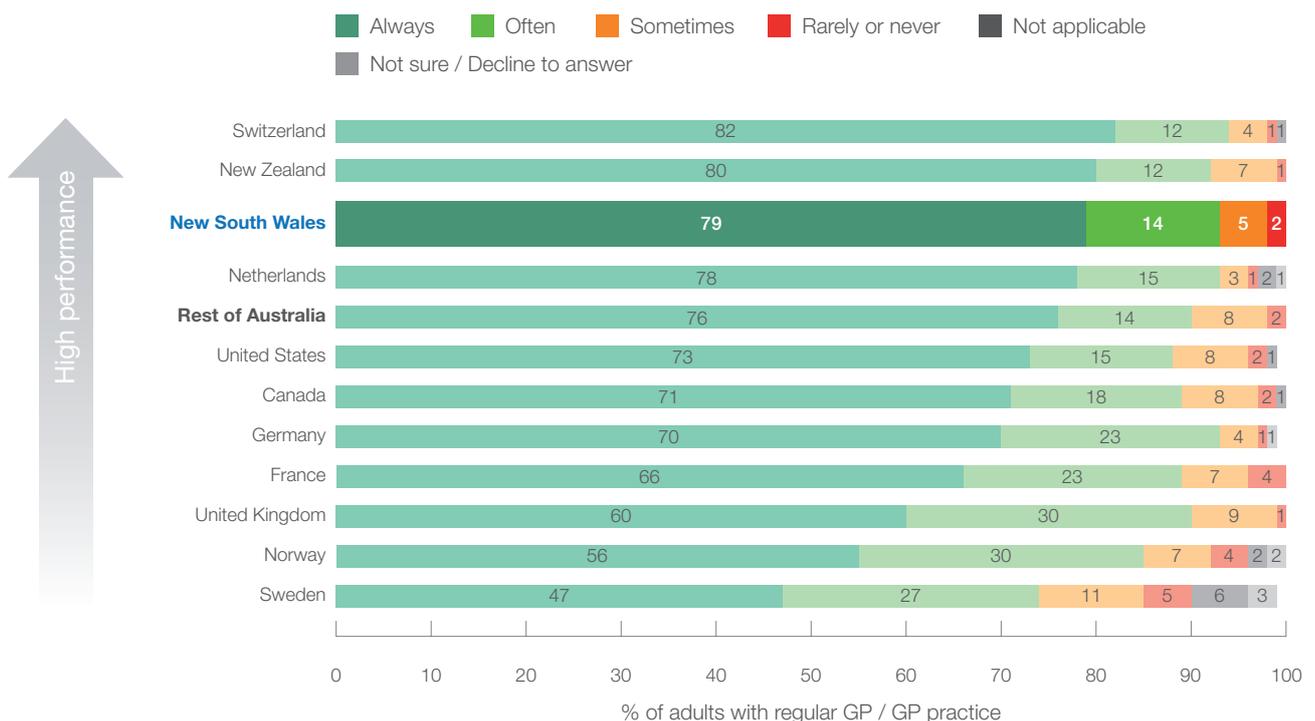


Figure 5.5: Survey 2010: Now thinking about the past two years, when receiving care for a medical problem, was there EVER a time when you received conflicting advice from different doctors or healthcare professionals?*

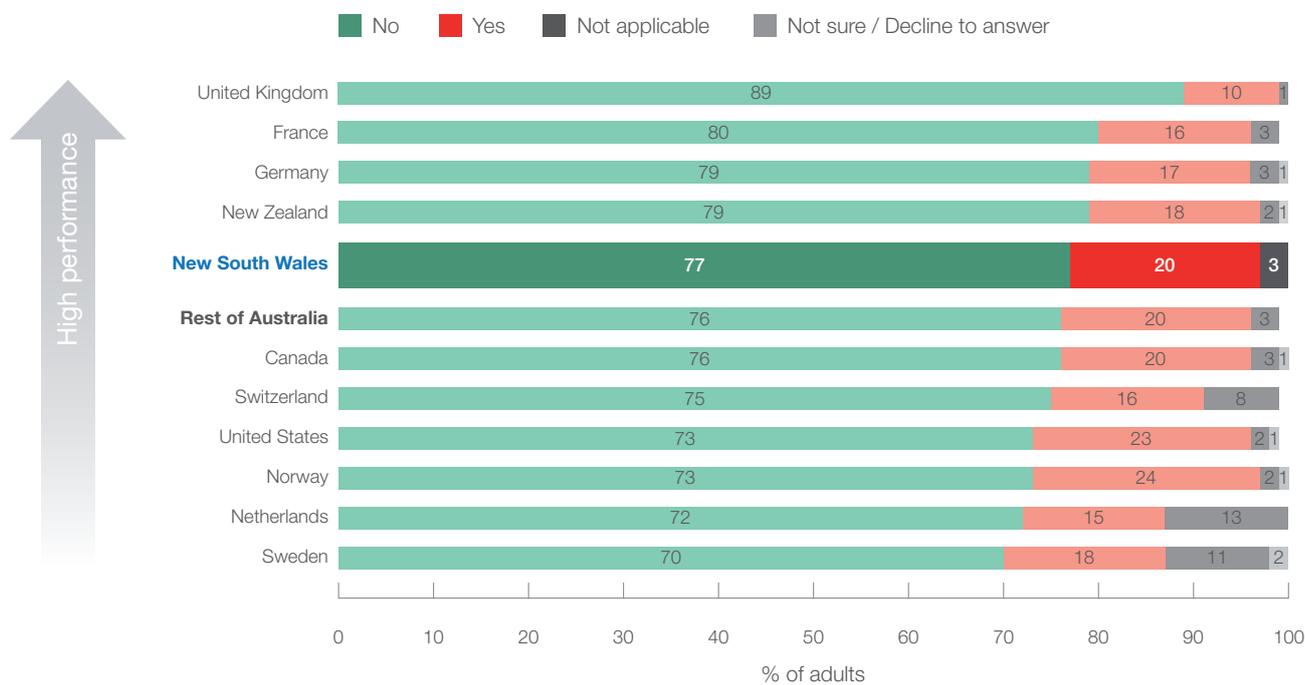
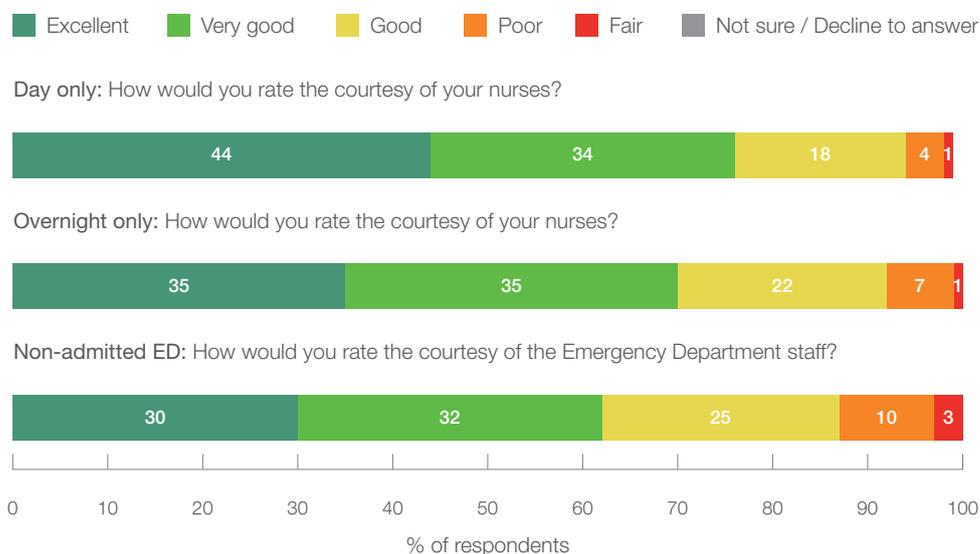


Figure 5.6: Survey 2009: How would you rate the courtesy of your nurses / the ED staff?[Ⓜ]



Person centredness

(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding).
 (Ⓜ) NSW Health Patient Survey, 2009 (Note: Percentages may not add up to 100 due to rounding).

Patients' views on engagement in their care

NSW patients are positive about their engagement in care

Most patients expect to be given information about their health and treatment options and for clinicians to take account of their preferences. Some wish to be an active participant in the decision-making process. They also want healthcare workers to know them well, give them enough time and attention, and provide advice.⁷

Further, the majority of NSW respondents said their regular GP: *always* knew important information about their medical history (78%); *always* spent enough time with them (74%); and *always* involved them as much as they wanted to be in decisions about their care and treatment (77%) (Figure 5.8).

In 2010, NSW adults with a regular GP or GP practice reported that when they needed care or treatment, their GP always (78%), often (12%), sometimes (5%), or rarely or never (4%) gave them an opportunity to ask questions about recommended treatment (Figure 5.7).

In terms of international comparisons, NSW adults offer among the highest ratings for engagement in care relative to adults from other countries.

Figure 5.7: Survey 2010: When you need care or treatment, how often does your regular GP or medical staff you see give you an opportunity to ask questions about recommended treatment?*

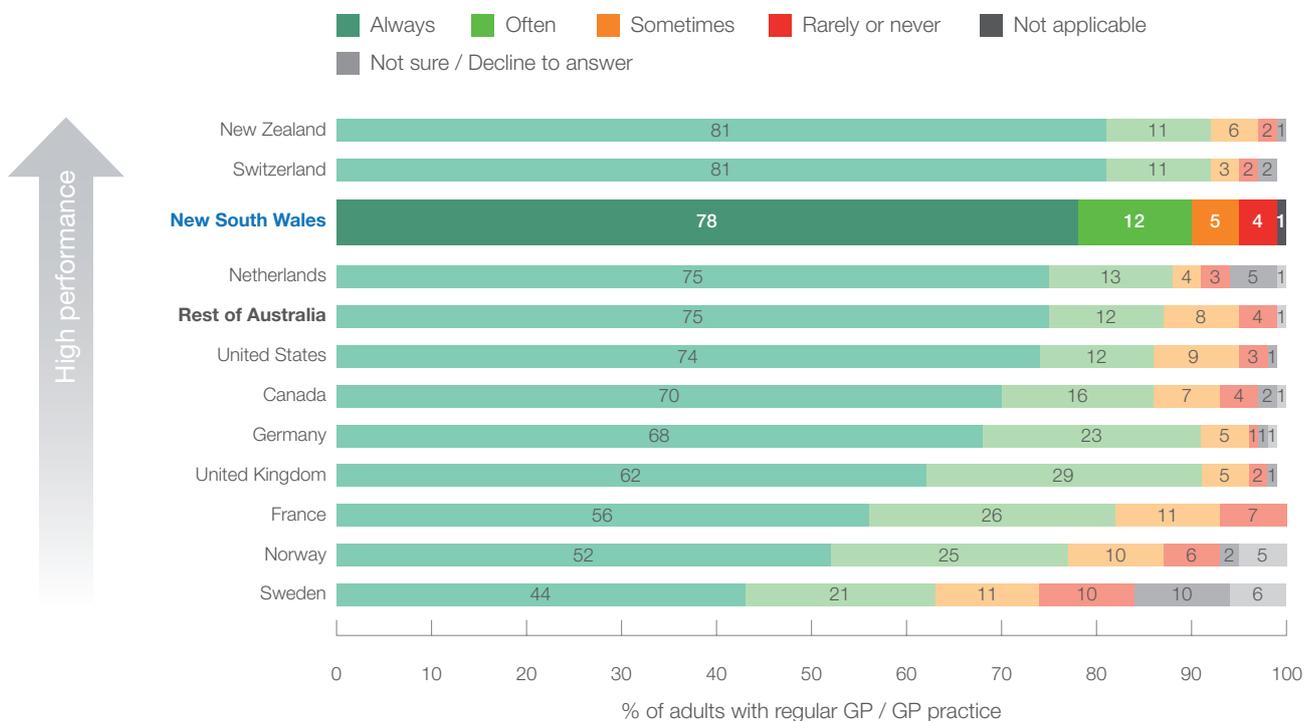
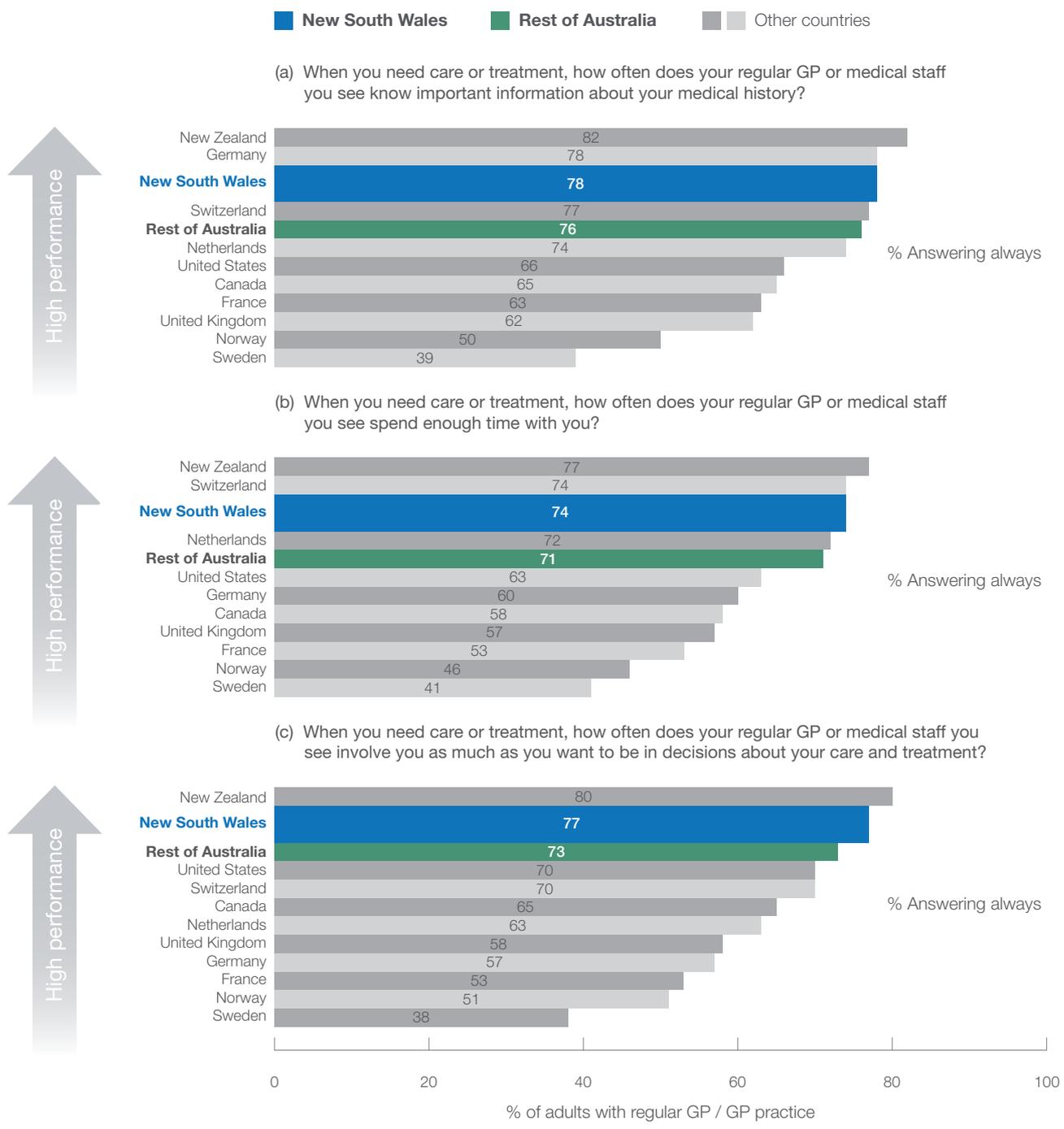


Figure 5.8: Survey 2010: When you need care or treatment, how often does your GP or medical staff you see: (a) know important information about your medical history; (b) spend enough time with you; (c) involve you as much as you want to be in decisions about your care and treatment?*



(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding).

Patients' perspectives on care co-ordination

Patients have observed some co-ordination problems in getting their information to GPs following hospitalisation or ED visits

Patients want healthcare professionals to work together in a co-ordinated way.⁴ Co-ordination can include helping patients get appointments, following-up to ensure they get recommended care, and making sure important information is given to other professionals involved in their healthcare.

In 2010, 61% of adults in NSW said someone in their GP practice co-ordinated their care – more than almost all other countries surveyed (Figure 5.9).

Delayed communication or inaccurate information being transferred from one healthcare professional to another can have substantial implications. For example, care continuity and patient safety can be adversely affected.

The majority of NSW adults perceived no problems in the flow of information to GPs in the following instances: after a specialist or consultant appointment (80% of referred adults); after hospitalisation (72% of hospitalised adults); and after ED visits (59% of adult ED patients) (Figure 5.10). A sizeable minority did notice disruptions to information flow to GPs after a visit to the ED (32%) or after hospitalisation (22%).

Figure 5.9: Survey 2010: How often does your regular GP or someone in your GP's practice help co-ordinate or arrange the care you receive from other doctors and places?*

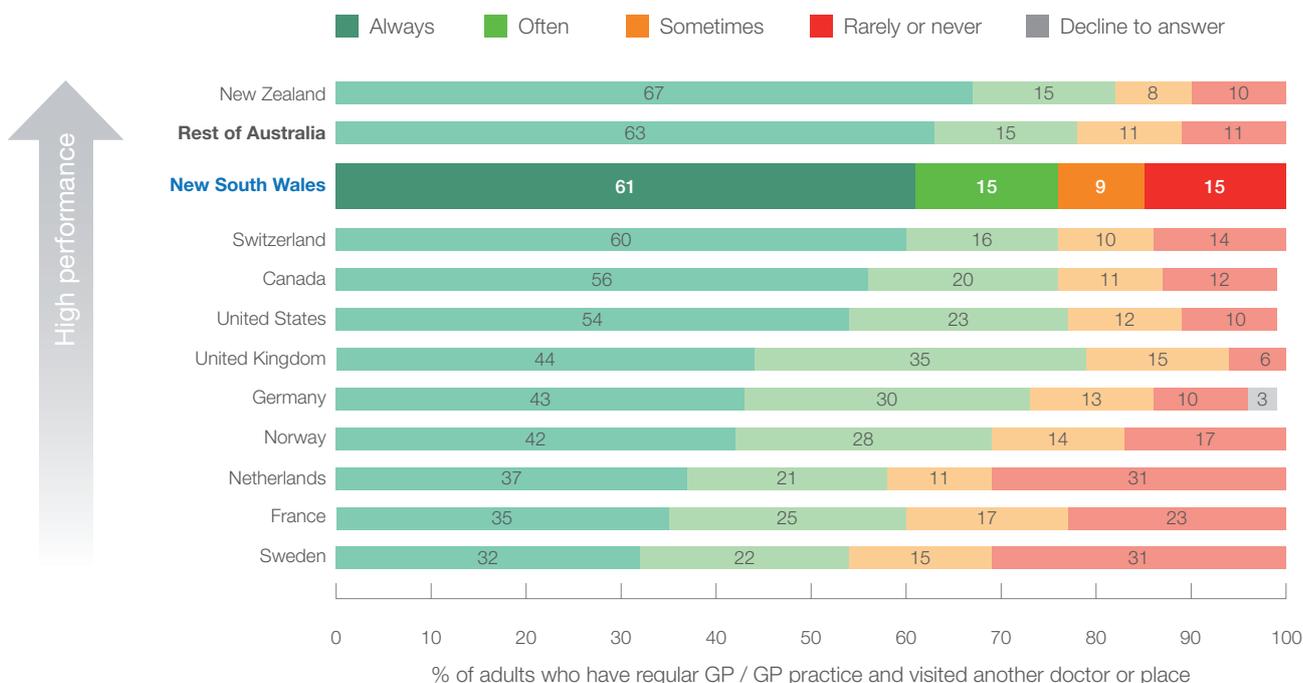
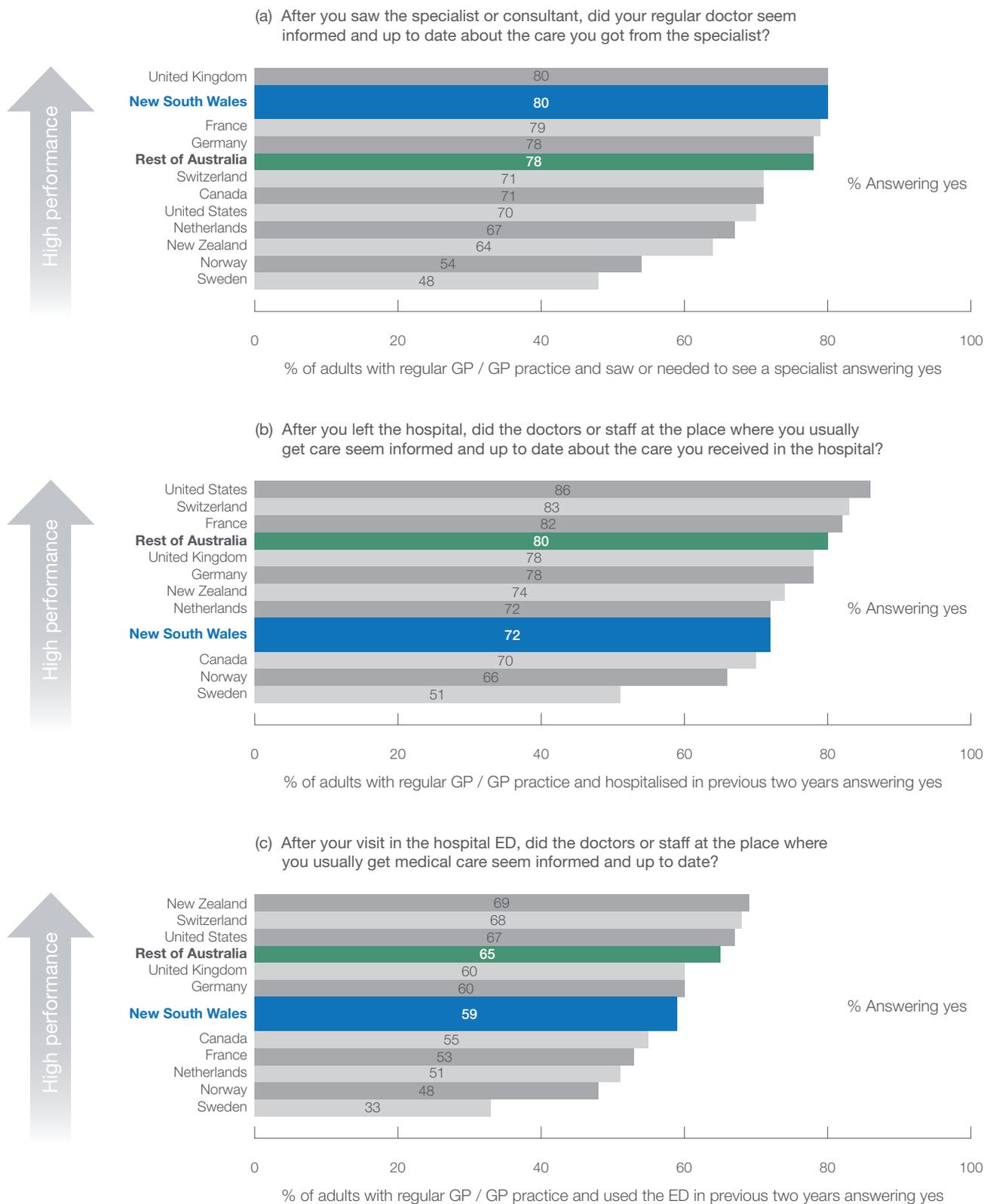


Figure 5.10: Survey 2010: Three questions concerning patient information flow processes between primary care, specialists, hospitals and EDs*



Person centredness

(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding).

Patients' views on continuity of care

Patients hold positive views on continuity of care provided by GPs

The depth of knowledge and personal relationship that develops between a patient and doctor over time can benefit the patient's healthcare experience.

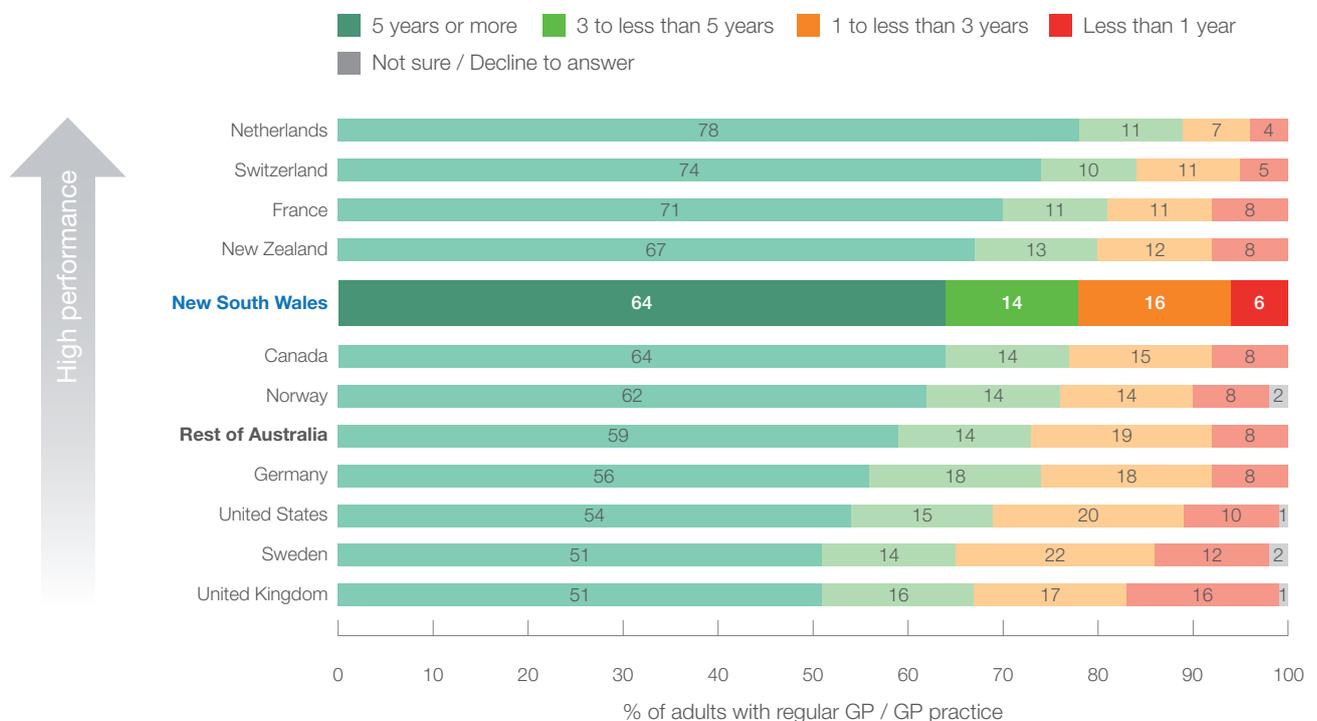
Continuity of care – seeing the same health care professional over an extended period of time – is an established feature of good primary care. It is often ranked by patients as a high priority.

Continuity of care has been linked with improved adherence to prescribed medications, uptake of preventive care and immunisations, reduced rates of hospital admissions and emergency department visits, and lower costs.⁷

Patients who have continuity are more satisfied with their care, are more likely to keep follow-up appointments, and communicate better with their doctor.⁷

In 2010, 92% of NSW adults reported they had a regular place providing most of their medical care. Most of these adults had maintained this relationship with their GP or general practice for five or more years (64%) or three to five years (14%) (Figure 5.11).

Figure 5.11: Survey 2010: How long have you been seeing this GP / going to this GP practice for your medical care?*



(*) 2010 Commonwealth Fund International Health Policy Survey (Note: Percentages may not add up to 100 due to rounding).

Equity

Healthcare for all patients regardless of circumstance

Equity means that healthcare should be provided:

- On the basis of clinical need, regardless of personal characteristics such as age, gender, race, ethnicity, income, socioeconomic status or geographical location
- To reduce differences or disparities in health status across various sections of the population.

Equity in health and healthcare has been described as:

“... grounded in the principle of distributive justice. [It] reflects a concern to reduce unequal opportunities to be healthy associated with membership in less privileged social groups, such as poor people; disenfranchised racial, ethnic or religious groups; women and rural residents.”¹

Treating patients equitably and on the basis of clinical need for healthcare remains a fundamental goal of the NSW public healthcare system.

This chapter covers:

- Data on three population groups within NSW according to rurality, Aboriginality, and socioeconomic status (SES). For each of these groups, we report differences in life expectancy and then present two supplementary indicators of disease burden, care delivery or outcomes

- International comparisons of the impact of income on self-reported health status and confidence of receiving the most effective treatment.

Several charts in this chapter separate the population into five bands (quintiles) according to the level of disadvantage ranging from the most deprived (poorest) to the least deprived (richest). Due to data limitations people are classified into socioeconomic status based on the average characteristics of their local area or postcode, rather than their individual circumstances.

We use the term Aboriginal, rather than Aboriginal and Torres Strait Islander in line with NSW Health usage, which recognises that Aboriginal people are the original inhabitants of NSW. Where we have drawn data from national sources (ABS), we have retained the terminology of the source material.

What we learnt about NSW

How does NSW compare internationally?

Higher ranking Middle ranking Lower ranking

<p>People living in rural NSW generally have a lower life expectancy and self-reported health status than their metropolitan counterparts</p>	No comparative international data available		
<p>Compared to those living in urban areas, people in rural NSW have higher rates of potentially preventable hospitalisations</p>	No comparative international data available		
<p>Life expectancy at birth is significantly lower for Indigenous people compared to non-Indigenous people</p>	No comparative international data available		
<p>Compared to non-Aboriginal mothers, Aboriginal mothers are more likely to have low birth weight or preterm babies</p>	No comparative international data available		
<p>Aboriginal people are more likely to be hospitalised for a range of medical conditions than non-Aboriginal people</p>	No comparative international data available		
<p>People living in more socioeconomically disadvantaged areas have more health problems but do not always receive more healthcare</p>	No comparative international data available		
<p>In terms of how people report their health status and confidence in getting effective care, there are significant gaps between those on above average and those on below average income</p>		■	

Rurality and health disparities

People living in rural NSW generally have a lower life expectancy than those in cities

Across Australia, people living in rural and remote areas generally have worse health than their city counterparts. Many factors contribute to this disparity, including for example: socioeconomic disadvantage; higher rates of smoking and alcohol abuse; difficulties accessing healthcare services; and greater occupational risks from farming or mining work. In addition, there is poorer health among Aboriginal people, who comprise a significant proportion of the population in rural and remote areas.²

For 2002-2006, life expectancy at birth showed a clear relationship with rurality, decreasing as levels of remoteness increased (Figure 6.1).

The 2009 NSW Population Health Survey found that people living in rural NSW reported higher levels of chronic illness and health risk factors than those in urban areas. Despite this, there was no significant difference between the two groups

in the percentage of people visiting the GP in the preceding two weeks. Those in rural areas were more likely to have accessed community health care services and visited the ED in the previous year. Importantly, people in rural NSW were more likely to report experiencing difficulties accessing healthcare when they needed it (Figure 6.2).

People living in rural NSW have higher rates of 'potentially preventable hospitalisations' (PPHs). Typically, these conditions (asthma, congestive heart failure, angina, chronic obstructive pulmonary disease and diabetes) can be treated effectively to avoid hospitalisation. In 2008-09, the rate of PPHs among residents of very remote areas was 2.3 times higher than the rate for residents of major cities (Figure 6.3).

Areas with higher levels of ill-health should receive higher rates of service provision and higher rural hospitalisation rates may reflect this.

Figure 6.1: Life expectancy at birth, by rurality, NSW, 2002-2006⁹

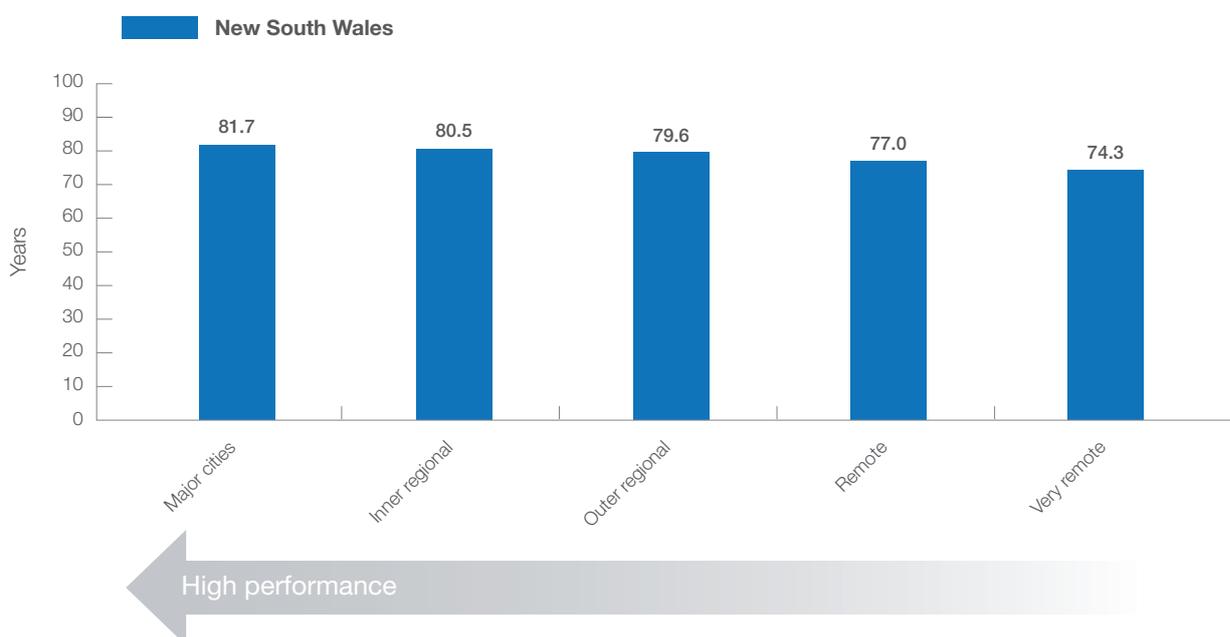


Figure 6.2: Self-reported health status, use of services and difficulties accessing care, NSW, 2009^Ω

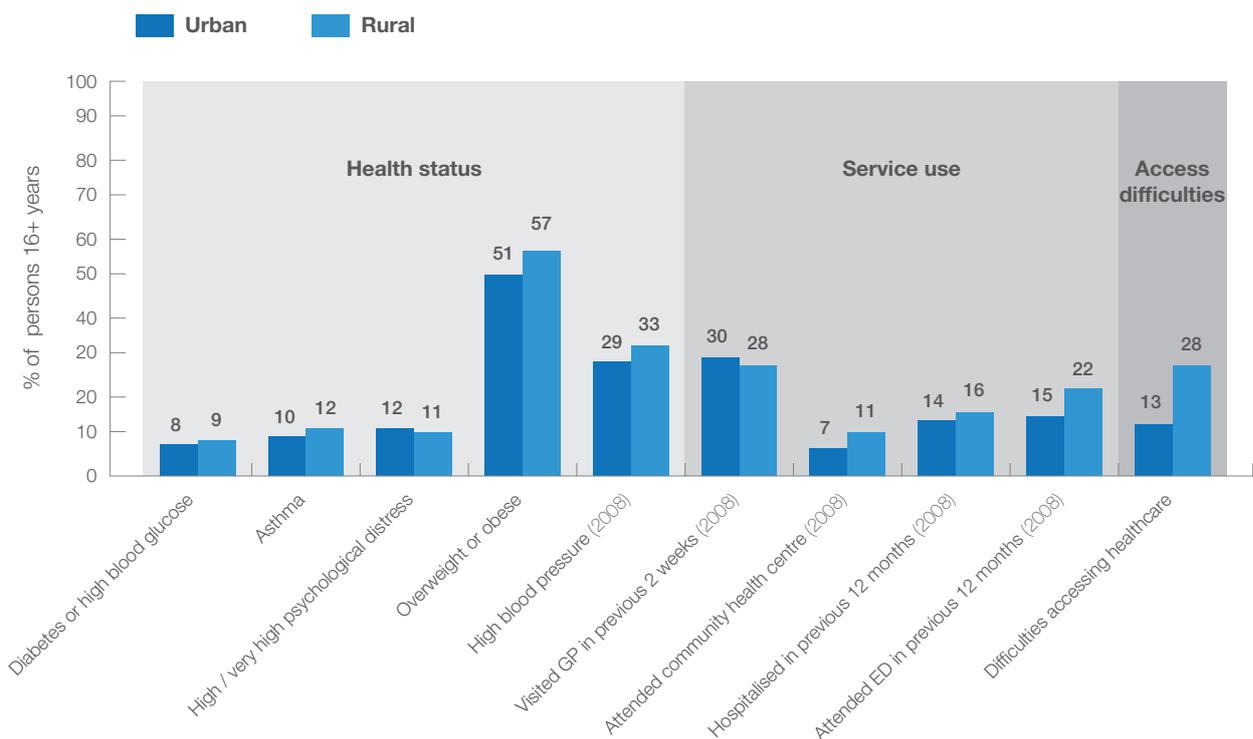
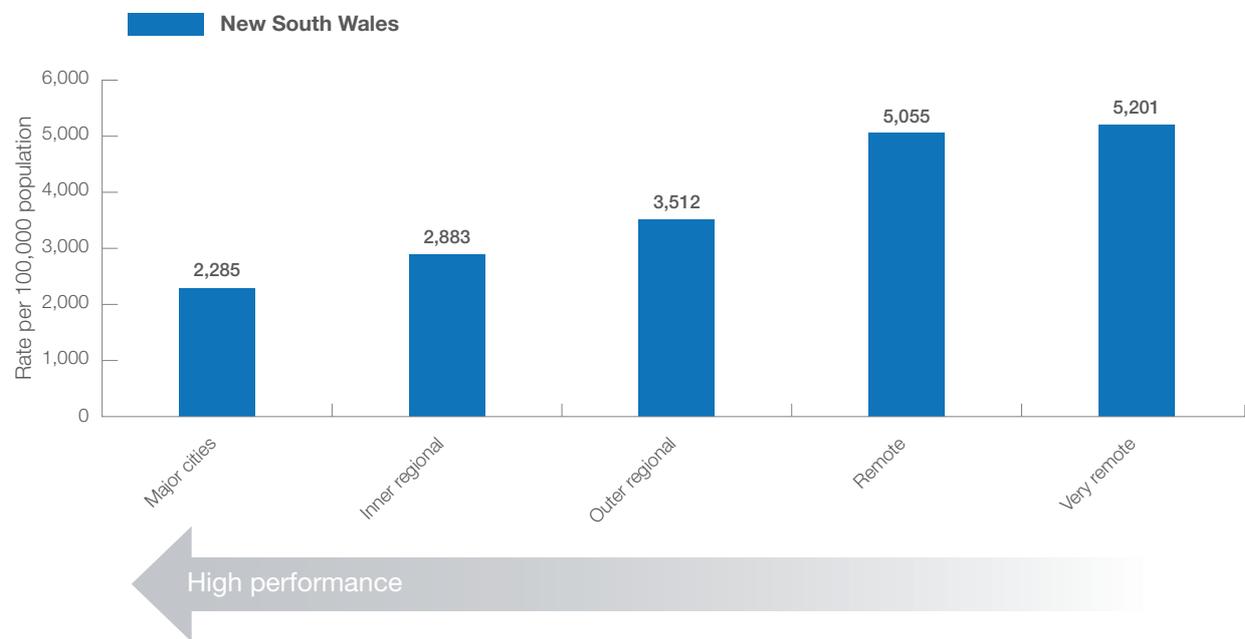


Figure 6.3: Potentially preventable hospitalisations, NSW, by rurality, 2008-09^Ω



(∅) Australian Bureau of Statistics mortality data and population estimates; (HOIST) Centre for Epidemiology and Research, NSW Department of Health.
 (Ω) NSW Population Health Survey, Centre for Epidemiology and Research, NSW Department of Health.
 (∅) (Ω) ARIA+ classifies areas as major cities, inner regional, outer regional, remote and very remote on the basis of their remoteness from access to goods and services.

Equity

Aboriginal people and health disparities

Aboriginal people have poorer health than non-Aboriginal people

Around 160,000 Aboriginal people live in NSW, making up 2.3% of the total population and around a third of the total Australian Aboriginal population. Around 5% of Aboriginal people in NSW live in remote or very remote areas.³

A range of data show that Aboriginal people are significantly disadvantaged compared to non-Aboriginal people in terms of health and health risk factors such as socioeconomic status, smoking, alcohol misuse and low physical activity.²

In maternal and infant health, when compared to the rest of the NSW population, Aboriginal women are less likely to receive antenatal care in the first 14 weeks of their pregnancy. They are more likely to smoke during pregnancy and more likely to have low birth weight and premature babies (Figure 6.4).

Life expectancy at birth is significantly lower for Aboriginal people compared to the non-Aboriginal population. The difference between the populations in NSW is smaller than in Australia as a whole (Figure 6.5).

Aboriginal people are more likely than the total population to be hospitalised. In 2006-07 age adjusted hospitalisation rates for Aboriginal people were around 1.6 times the rates for the non-Aboriginal population. Figure 6.6 shows sizeable disparities in hospitalisation rates across the two groups for common medical conditions.

High levels of health service use by Aboriginal people reflect differences in health status between Aboriginal and non-Aboriginal populations.

Figure 6.4: Maternal health measures, Aboriginal and non-Aboriginal population, 2006 and 2008^A

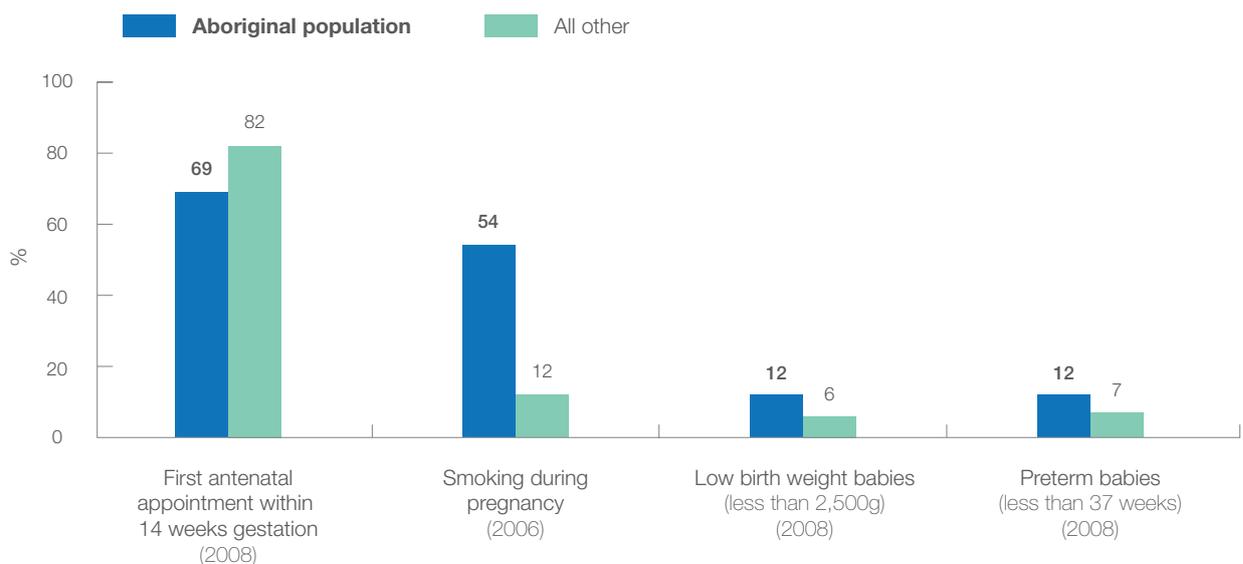
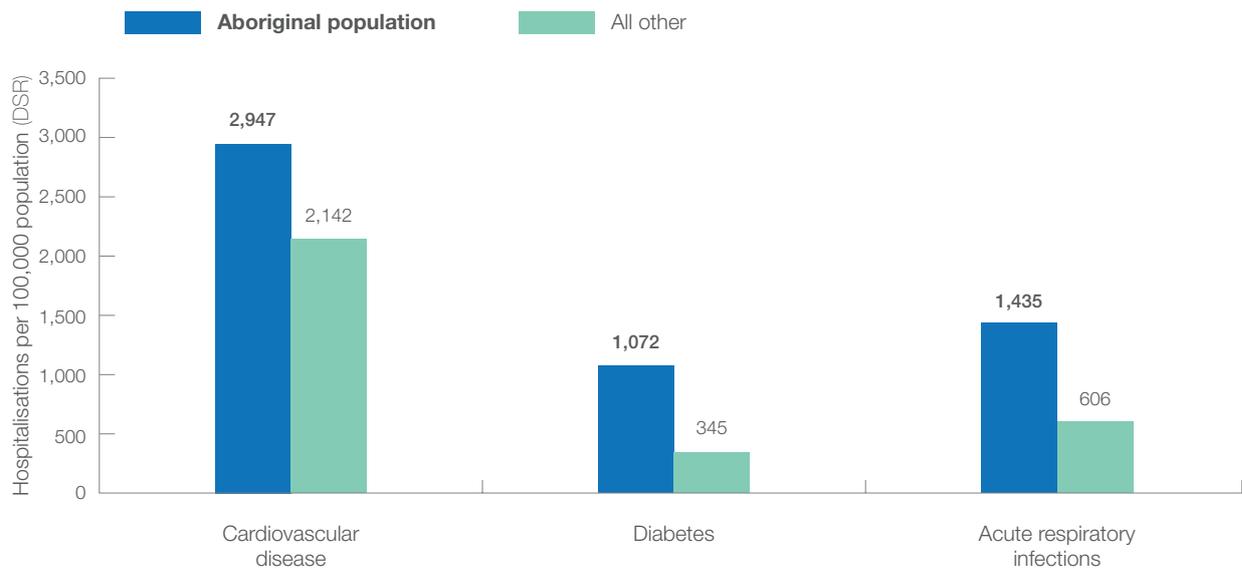


Figure 6.5: Life expectancy at birth by Indigenous status, NSW and Australia, 2005-2007^(A)



Figure 6.6: Hospitalisation rates, Aboriginal and non-Aboriginal population, NSW, 2006-07^(B)



(A) Centre for Epidemiology and Research: The Health of the people of NSW-report of the Chief Health Officer. Summary report, 2010; NSW Health. Mothers and babies 2006.

(B) Australian Bureau of Statistics: The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples.

(C) Centre for Epidemiology and Research: The Health of the people of NSW-report of the Chief Health Officer. Summary report, 2010. (Note: DSR is directly standardised rate).

Note: We use the term Aboriginal, rather than Aboriginal and Torres Strait Islander in line with NSW Health usage, which recognises that Aboriginal people are the original inhabitants of NSW. However where we have drawn data from national sources (ABS), we have retained the terminology of the source material.

Socioeconomic disparities

People in disadvantaged areas have more health problems but do not always receive more care

Although the overall level of health and wellbeing of NSW people is high compared to other countries, there are considerable disparities in the health status of different socioeconomic groups across the state.

The life expectancy for a person born in NSW in 2006 is 81.8 years.⁴ While life expectancy increased for all socioeconomic groups in NSW between 1995 and 2006, the 'gap' in life expectancy between the lowest and highest socioeconomic groups increased. For people who were born in 1995, those in the least disadvantaged socioeconomic group are expected to live 2.6 years longer than those born in the most disadvantaged socioeconomic group. For those born in 2006, this gap increased to 3.7 years (Figure 6.7).

While people in lower socioeconomic groups are more likely to have long-term health conditions, this increased need is not always matched by increased use of healthcare services or treatment rates. For example, people living in the lowest socioeconomic communities were almost twice as likely to report they had been diagnosed with heart disease or other circulatory diseases (Figure 6.8). Yet procedure rates for cardiac interventions such as coronary artery bypass grafts (CABG) or coronary angioplasty do not reflect this higher prevalence (Figure 6.9).

Figure 6.7: Life expectancy at birth, by socioeconomic status, NSW, 1995 and 2006⁵

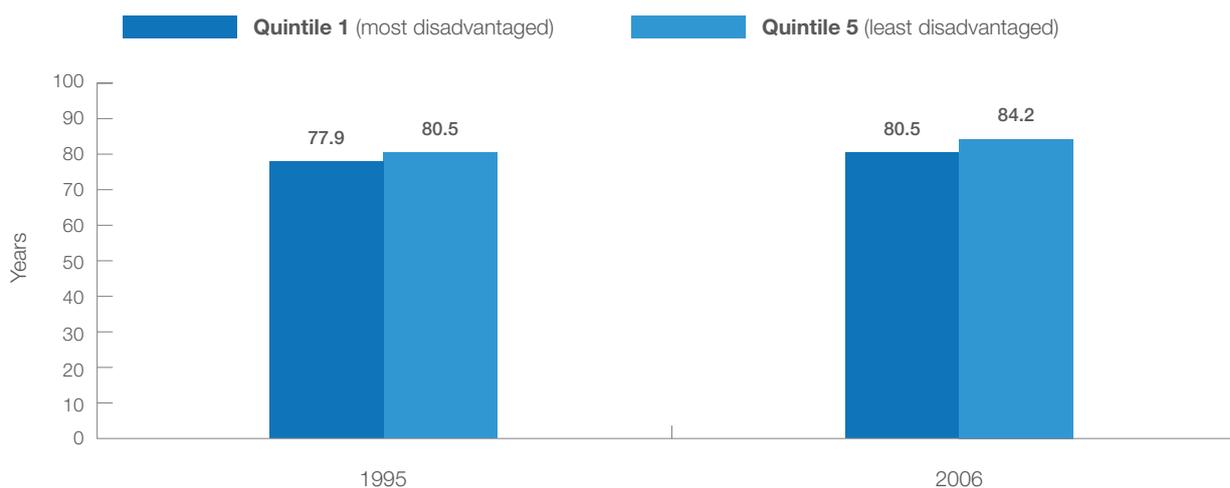


Figure 6.8: Self-reported morbidity, by socioeconomic status, NSW, 2007-2008^δ

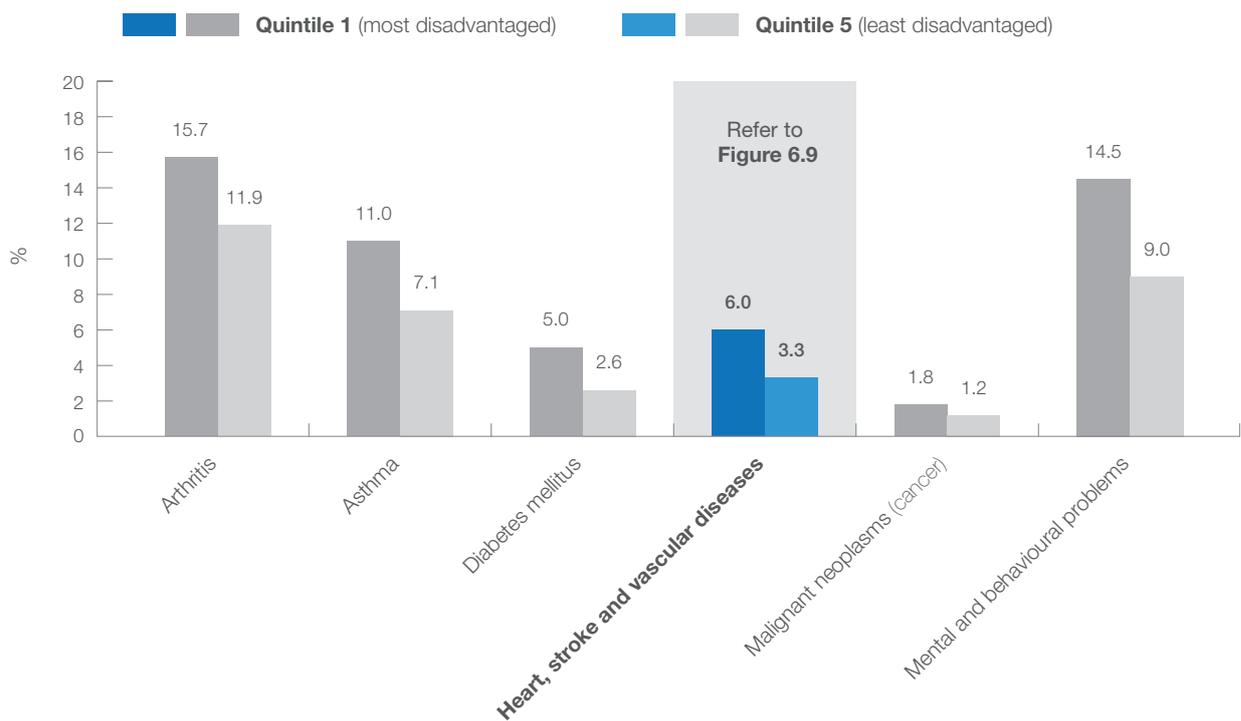
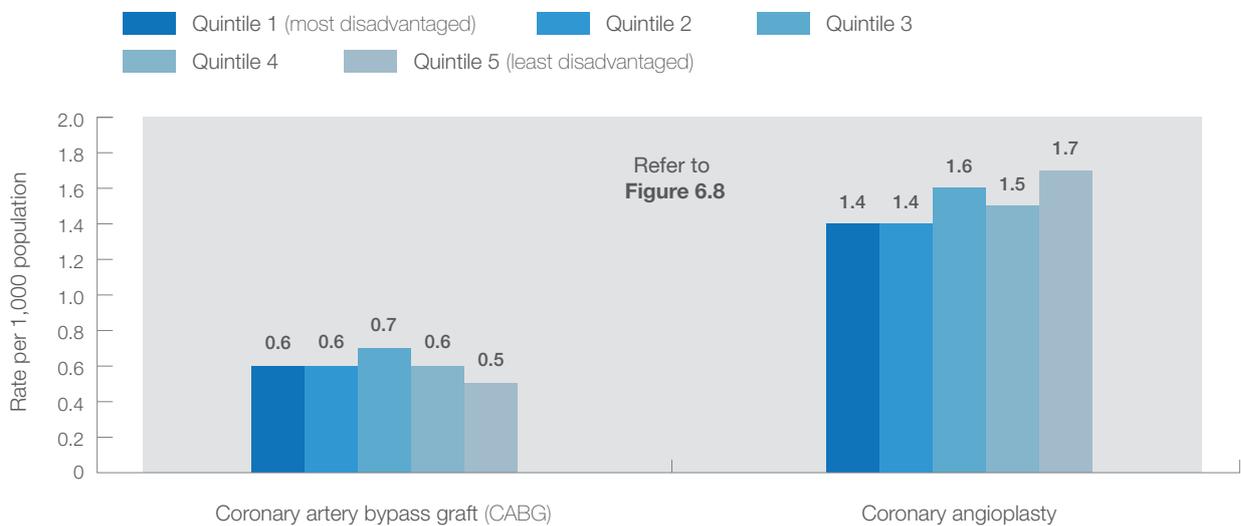


Figure 6.9: Cardiac procedures, by socioeconomic status, NSW, 2007-08^μ



Equity

(δ) Australian Bureau of Statistics mortality data and population estimates; (HOIST) Centre for Epidemiology and Research, NSW Department of Health.
 (δ) Australian Bureau of Statistics National Health Survey, 2007-2008.
 (μ) COAG NHA Table 48.2 citing National Hospital Morbidity Database (Note: Includes public and private use of hospitals).

Income gaps: international context

Income affects health status and confidence in receiving care

Indicators of equity usually focus on disparities within the population served by a healthcare system. International surveys provide an opportunity to place any differences in context – allowing comparisons of the ‘gap’ between subgroups within different populations.

The graphs on these pages illustrate international data on the ‘income-associated gap’, which depicts differences between adults reporting above average and below average income.

So, for example, on the question of self-reported health status, 68% of NSW adults with above average income said their health was excellent or very good, compared to 45% of those with below

average income. The ‘income-associated gap’ is the difference – or 23%. Internationally, the smallest gap in self-reported health status was recorded in New Zealand (14%) and the largest in the United States (33%) (Figure 6.10).

In terms of whether adults are confident they will receive the most effective treatment should they become seriously ill, NSW had a 9% income-associated gap. The United States had the biggest gap at 26% (Figure 6.11).

The differences in NSW suggest that people’s views on health and confidence in receiving care are related to their income.

Figure 6.10: Survey 2010: Self-reported health status; excellent or very good, above average and below average income*

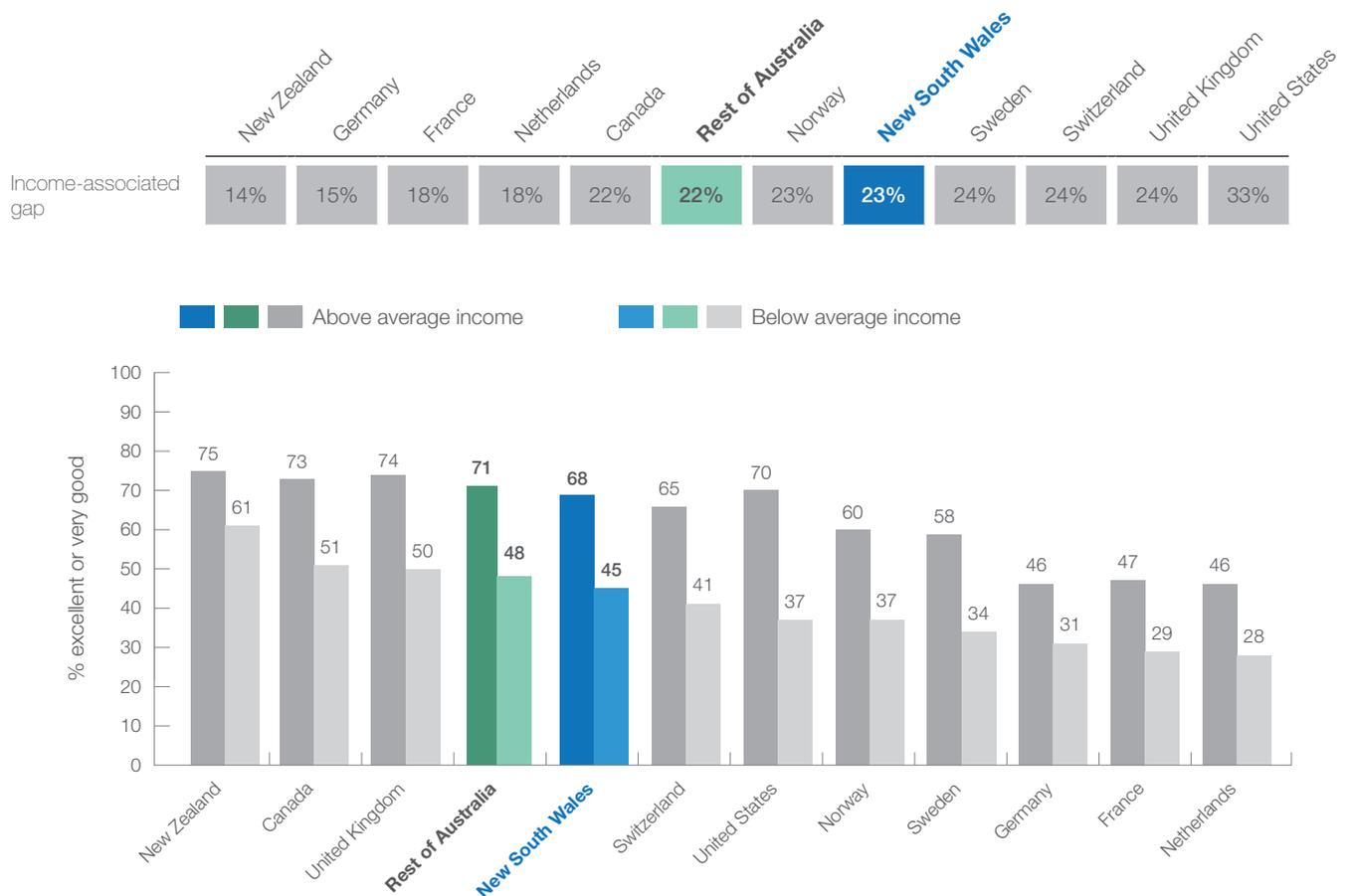
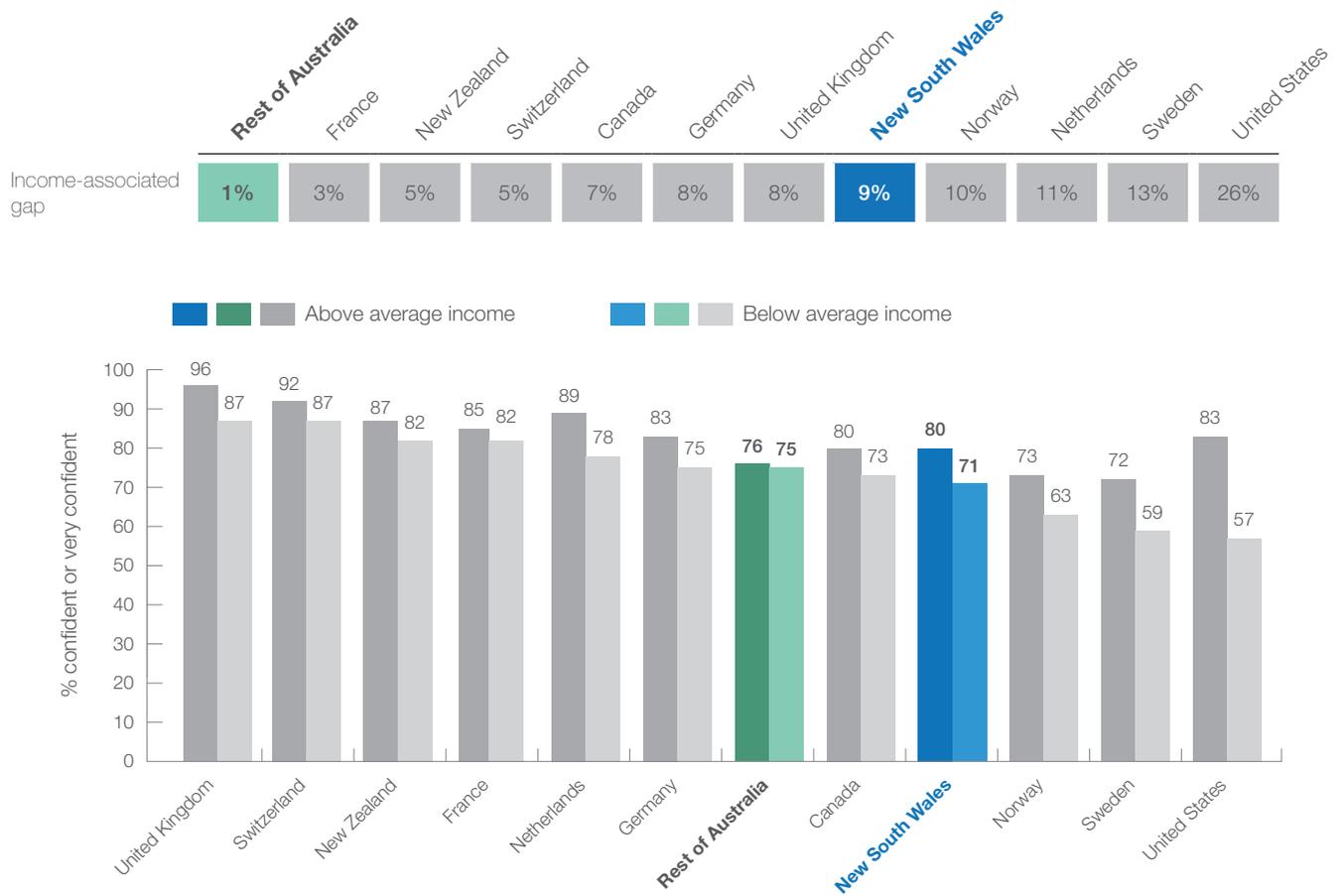


Figure 6.11: Survey 2010: How confident are you that if you become seriously ill you will receive the most effective treatment, including drugs and diagnostic tests? very confident / confident responses, above and below average income*



(*) 2010 Commonwealth Fund International Health Policy Survey (Notes: Percentages may not add up to 100 due to rounding; income gaps derived from rounded data; for bar graphs, countries are sorted by below average income).

Resources, activity and sustainability

Powering the healthcare system

A significant proportion of NSW wealth is spent on healthcare. In 2007, total public and private health expenditure was \$33 billion — 9% of gross state product.¹

Efficient use of resources is a defining characteristic of high-performing healthcare systems. Worldwide, pressures of an ageing population, increased salaries, technological developments and increasing patient expectations are focusing attention on affordability, value for money, efficiency and sustainability.

The people of NSW expect their healthcare system to have sufficient resources to provide high-quality, safe care to people who need it. They also expect value for money and efficient use of resources to ensure the system is affordable and sustainable.

From an economic perspective, the healthcare system can be viewed as having a ‘production function’ — where inputs (such as staff, capital, pharmaceuticals) are used to perform activities (such as surgical procedures or treatments) with the ultimate aim of influencing outcomes, such as improved health and length of life. All of this occurs within a framework of needing to be sustainable into the future (Figure 7.1).

Previous chapters have examined outcomes in terms of health status, mortality and patient experience. Therefore, the focus of this chapter is:

- What resources are used?
- What activities / outputs do those resources produce?
- Are resources used sustainably?

Figure 7.1: Production function in health



Notes about this chapter:

It is difficult to interpret appropriate levels of resources across healthcare systems. While under-resourcing can impede the delivery of high-quality, safe care, higher levels of resourcing do not always and directly correspond to higher performance. Therefore, in the text and comparison table, we note relative numbers, counts and volumes without identifying higher or lower performance.

This chapter draws on the latest available data on resources and activity — primarily for 2007 / 08. This contrasts with the rest of the report where data are generally for 2009 or 2010.

What we learnt about NSW

How does NSW compare internationally?

Note: More resources do not always and directly correspond to higher performance

	Higher number	Middle range	Lower number
In 2007, total public and private health expenditure was \$33 billion . This equates to \$4,727 for each person in the state and represents 9% of gross state product.		■ [±]	
In 2008, there were 3.8 beds per 1,000 population		■	
In 2008 the number of professionally active doctors was 3.1 per 1,000 population		■	
In 2008, the number of professionally active nurses was 11 per 1,000 population	■		
In 2008, the number of GPs was 1.4 per 1,000 population	■		
In a population of 5.5 million people aged 15+ years in 2009: 4.6 million visited the GP; 737,700 people visited the ED; and 698,800 people were admitted to hospital; at least once in the previous year	No comparative international data available		

(±) Mid-range relative to 20 similar countries, including those featured in our report as well as founding European Union members.

Input: investment

Many other countries spend more per person on healthcare than NSW and Australia

Total public and private health expenditure in NSW was \$33 billion in 2007. This equates to \$4,727 for each person in the state and represents 9% of gross state product.¹

Health expenditure across countries has been increasing for decades. In NSW between 1997-98 and 2007-08, total public and private health spending increased by an average of 3.5% per year. The rate of growth and the per person spending over this time period was similar across all states of Australia except the Northern Territory (Figure 7.2).

Comparing expenditure internationally reveals much more variation, with NSW spending less per person than many other countries surveyed (Figure 7.3).

After accounting for differences in currency, this ranks mid-range relative to 20 similar countries, including those featured in our report as well as founding European Union members.

When interpreting these data, it is important to note that evidence has shown more spending does not always and directly correspond to higher performance.^{2,3,4}

The \$33 billion spent on NSW healthcare in 2007 was allocated to various types of care. Over two-thirds (68%) of total health expenditure funded inpatient and outpatient services (which here includes primary care). Only 2% was directly allocated to dedicated prevention and health promotion activities (Figure 7.4).

Figure 7.2: Average health expenditure (recurrent) per person, public and private, (\$AU 2007-08 prices), 1997-98 to 2007-08[∞]

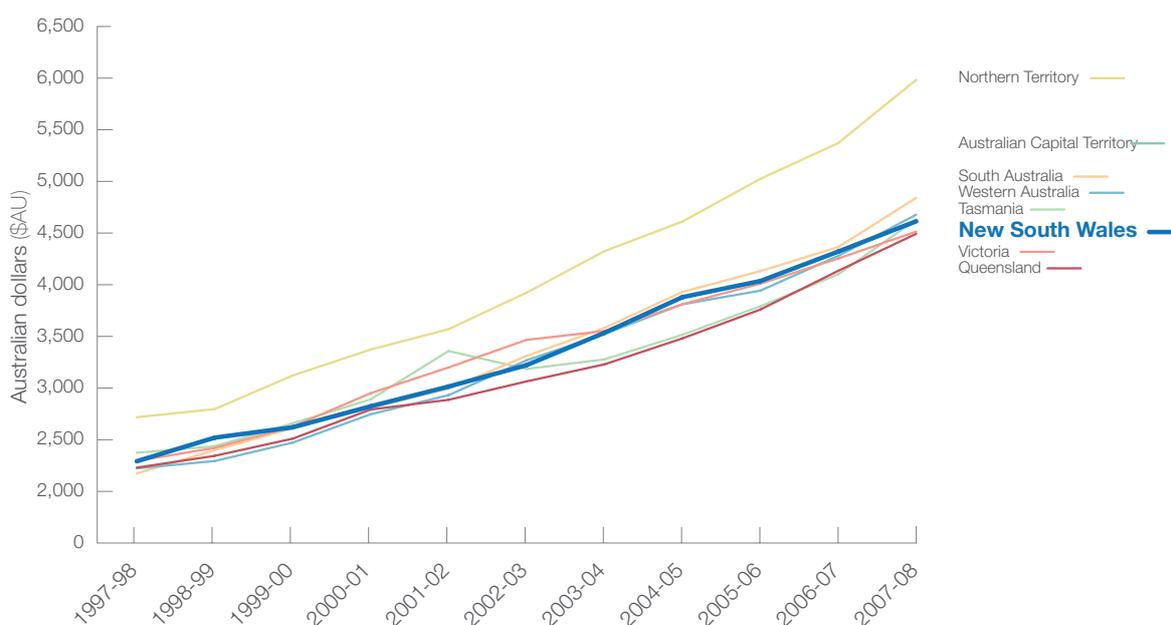


Figure 7.3: Total health expenditure (public and private) per person in Australian dollars (purchase price parity), 2007^(π)

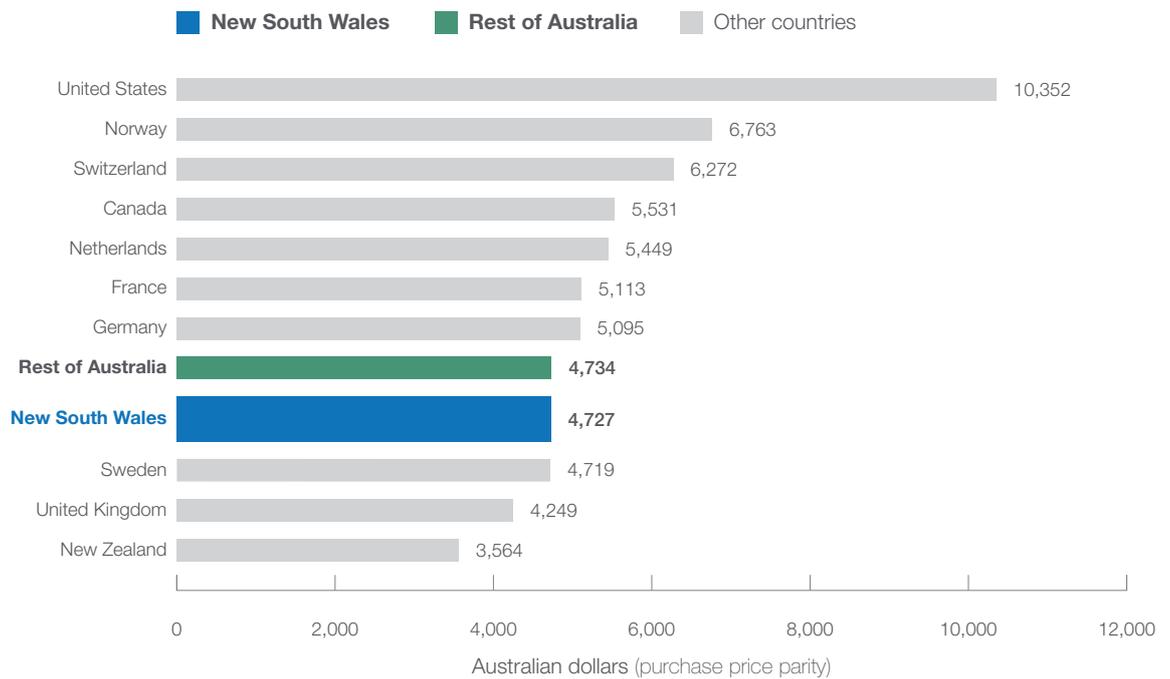
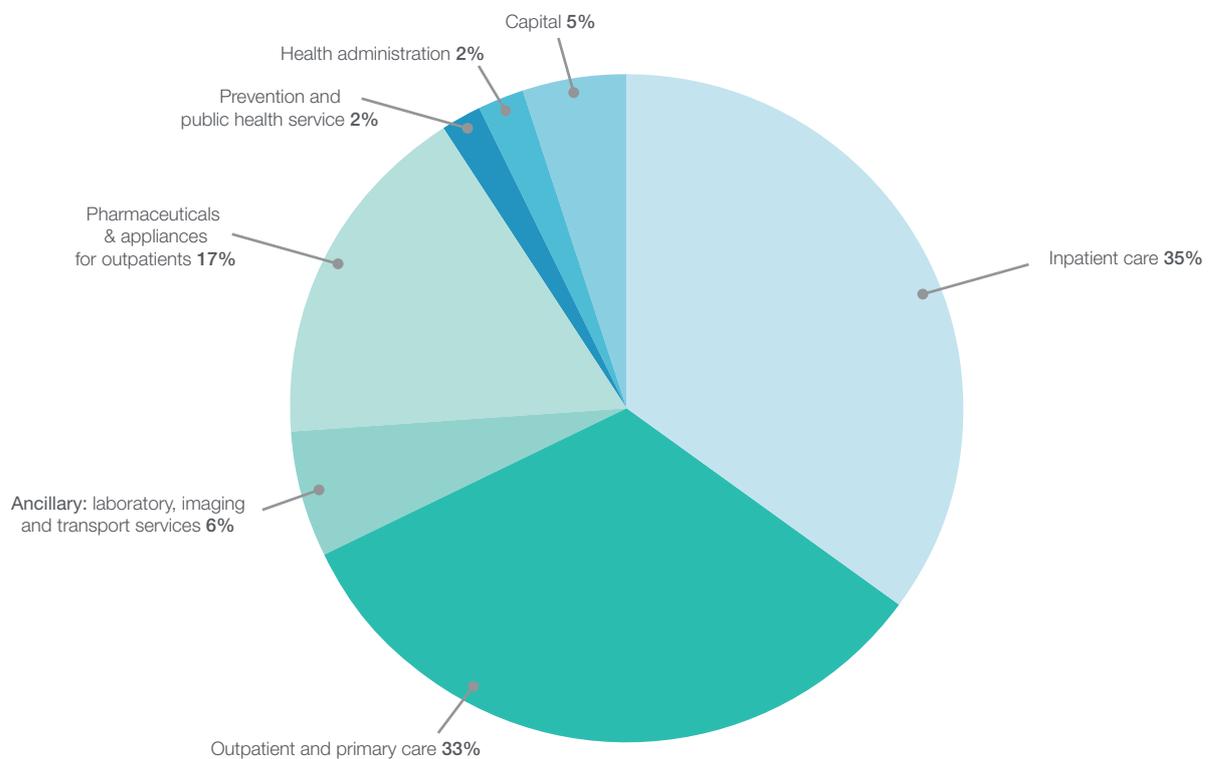


Figure 7.4: Total health expenditure (public and private), NSW, 2007^(π)



(∞) AIHW Health expenditure Australia 2007-08, citing health expenditure database.

(π) AIHW Health expenditure database unpublished data, analysis using OECD System of Health Accounts, commissioned by Bureau of Health Information (Note: Percentages are rounded).

Resources: beds and workforce

The number of hospital beds, nurses and doctors in NSW is similar to other countries

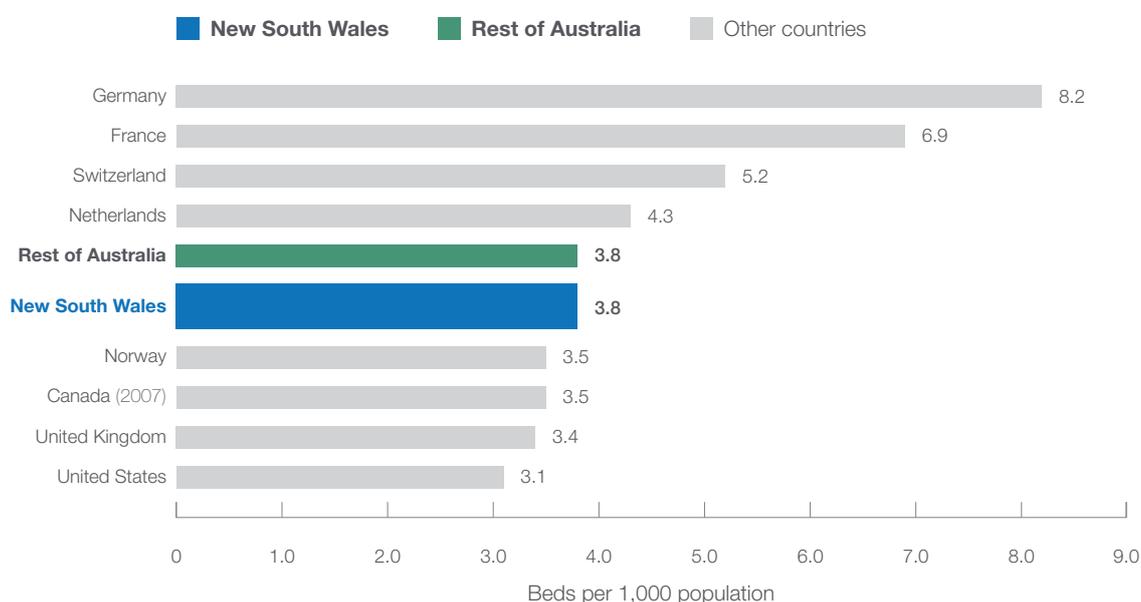
Across healthcare systems internationally, the number of hospital beds has been declining for decades. This is largely due to medical advances, shorter hospital stays, shifts to more day surgery, and the growth of ‘care in the community’ for older people and those with mental illness. In 2008, NSW had 3.8 beds per 1,000 population; placing it mid-range in the list of comparator countries (Figure 7.5).

The workforce of a healthcare system is one of its most valuable resources. In NSW, the hospital and community care system depends on the

commitment and skills of about 180,000 people who work within it to provide patient care.⁵

International comparisons show that in 2008 the state's number of professionally active doctors (3.07 per 1,000 population) placed it in the middle of the countries surveyed (Figure 7.6). In the same year, NSW had 11.2 nurses for every 1,000 people – more than in many other countries (Figure 7.7). There were 1.44 GPs per 1,000 population, more than most other countries except France (Figure 7.8).

Figure 7.5: Hospital beds (public and private) per 1,000 population, 2008 (or latest year)[†]



(†) OECD Health Data 2010 and AIHW Australian Hospital Statistics, 2008-09 (Notes: Figure 7.7: Australia and NSW data include those employed in nursing as clinical nurses, in clinical management and / or nurse / midwifery administration or management, as a lecturer, teacher or supervisor, researcher or other not elsewhere classified. It excludes those on extended leave or who are looking for work in nursing; Figure 7.8: General practitioners refers to primary care practitioners, i.e. practitioners engaged in general practice or in the primary care of patients. This category includes practitioners recognised by Medicare as VRGPs, RACGP Fellows, RACGP registrars and other medical practitioners whose main practice is unreferral patient attendances. Education required is 5-6 year degree plus a 1-year internship. Data include hospital non-specialists).

Figure 7.6: Professionally active doctors / physicians (head count) per 1,000 population, 2008†

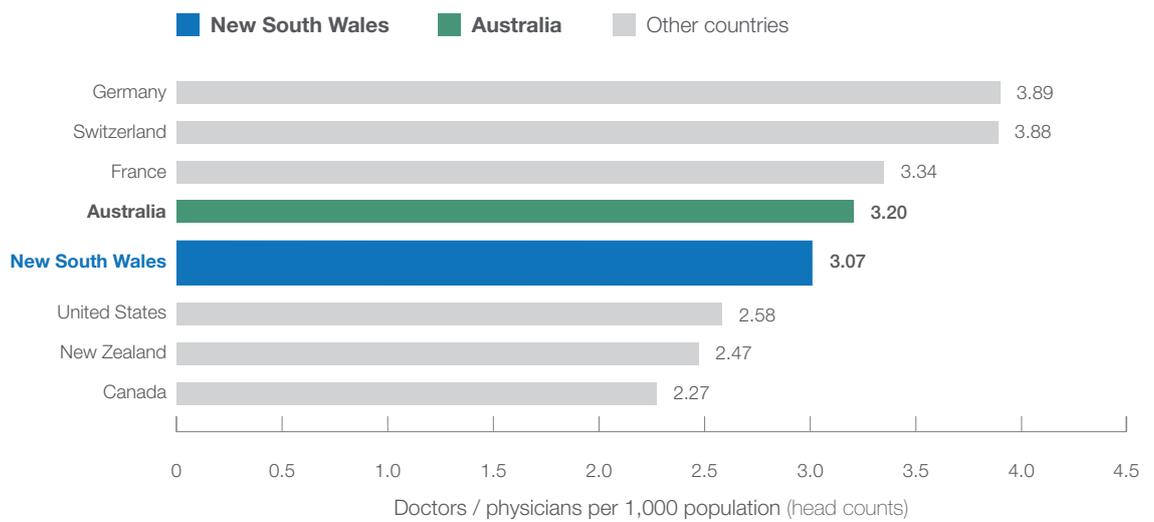


Figure 7.7: Professionally active nurses (head count) per 1,000 population, 2008†

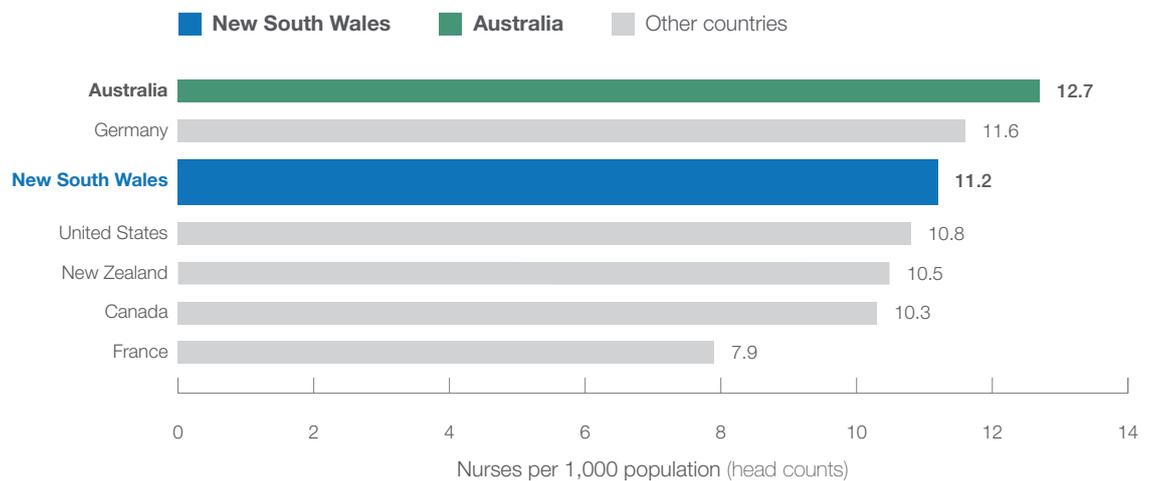
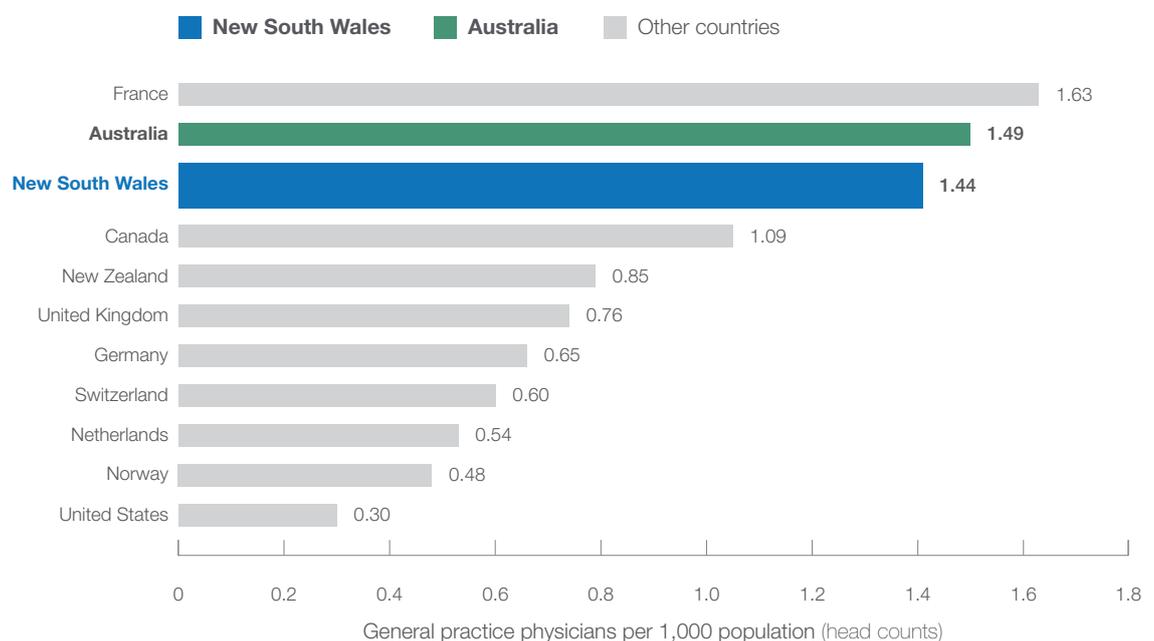


Figure 7.8: General practitioners (head count) per 1,000 population, 2008†



Outputs / activity

The NSW health system undertakes a large volume of activity

In the delivery of healthcare, money is used to purchase physical 'inputs' to the process of care in the form of staff, capital, pharmaceuticals, etc. These inputs are used to produce a range of activities and together, create physical 'outputs' in the form of episodes of patient care.

A pictorial representation of the number of NSW adults who reported using healthcare in 2009 is shown in [Figure 7.9](#). In 2009, 4.6 million people across the state aged 15+ years reported that they had visited the GP at least once in the past year; 737,700 people visited the ED; and 698,800 people were admitted to hospital.⁵

The relative volume of a range of hospitalisations in NSW public hospitals is shown in [Figure 7.10](#). While these data show the number of hospitalisations, they do not include information on the length of hospital stays within categories. The length of stay varies widely across diagnostic groups.

Figure 7.9: Use of NSW healthcare system by adults (15+ years), 2009^o

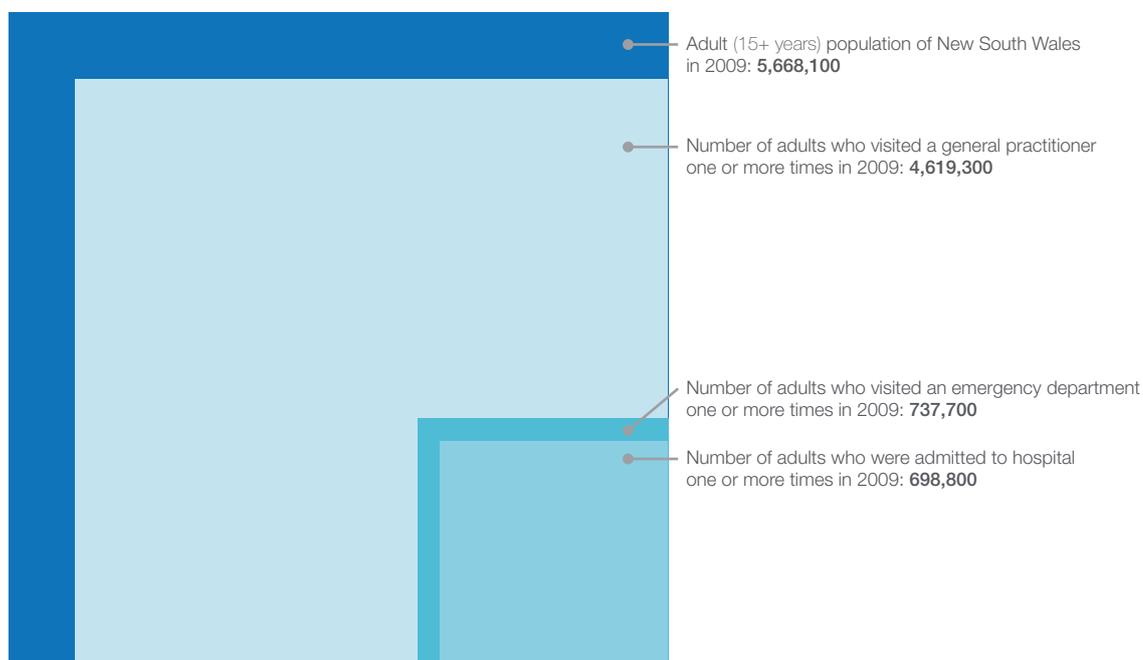
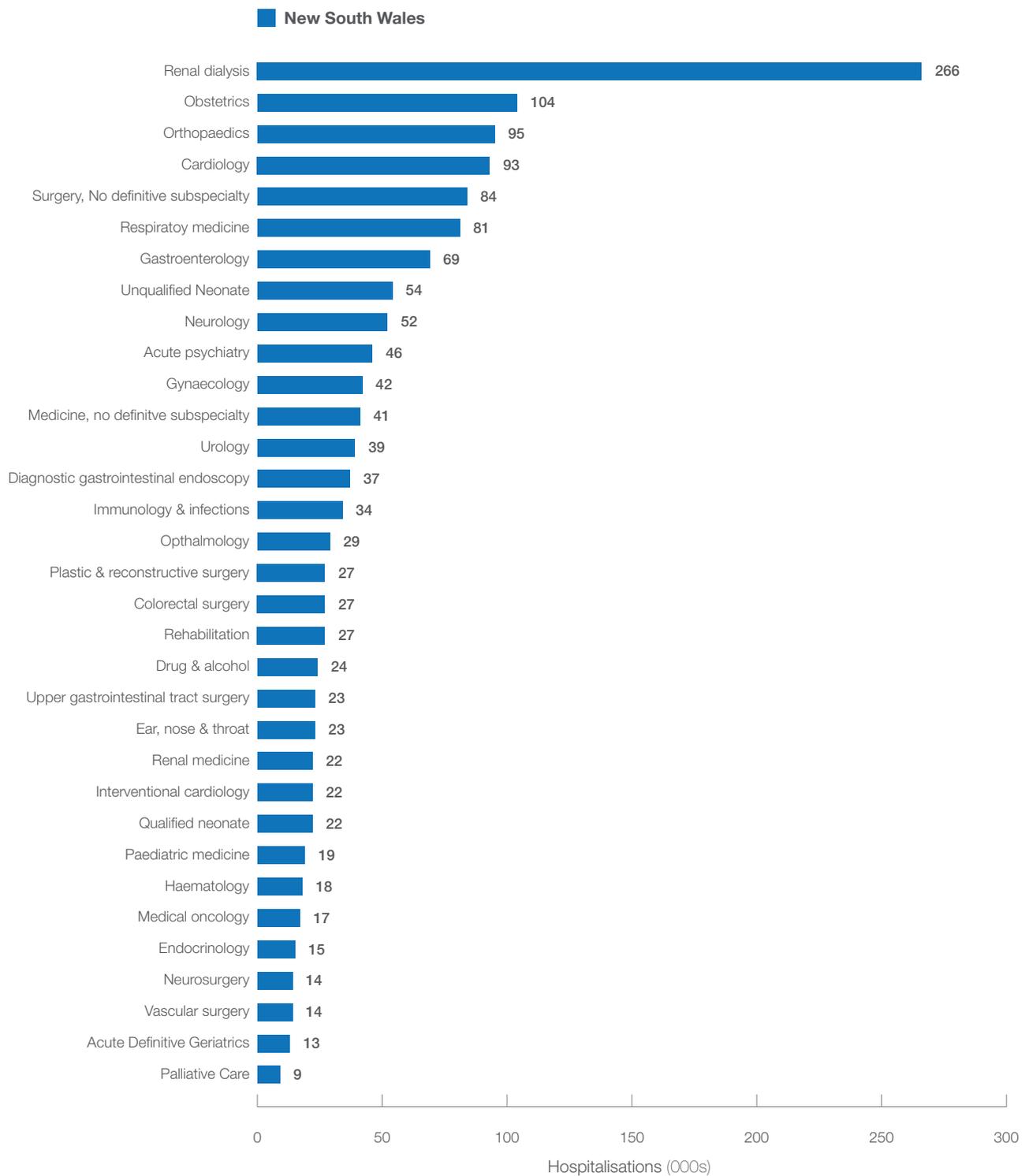


Figure 7.10: Hospitalisations (000s) by service related groups NSW public hospitals, 2008-09²



(1) ABS National Health Survey, 2009 (Note: Adults include those aged 15+ years).

(2) AIHW, Australian Hospital Statistics citing Australian National Morbidity Database (Notes: Based on AR-DRG version 5.2; excludes hospital borders and posthumous organ procurement).

Sustainability

Operational costs dwarf public health and research investment

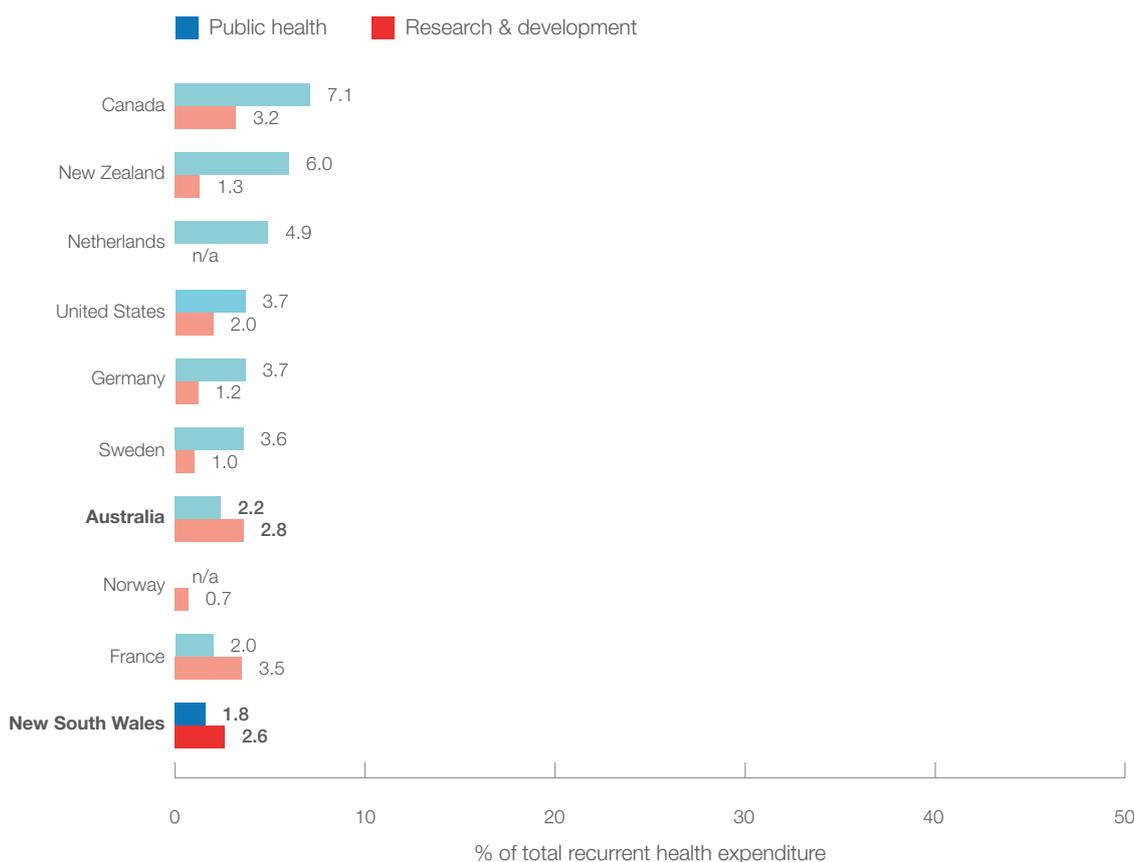
Healthcare spending continues to outpace the rate of growth in overall government spending. Steep increases in healthcare expenditure have meant that concerns about sustainability have arisen in healthcare systems internationally.

Many factors affect the long-term sustainability of a healthcare system: demographics; wider determinants of health and wellbeing; the burden of disease; innovation, effectiveness and

efficiencies in models of delivering care; community expectations; and the health workforce.

Indicators that gauge sustainability include measures of investment that either: reduce the burden of disease or achieve early disease detection (public health, prevention); or investigate ways to deliver better healthcare (research and development), and improve service efficiency (Figure 7.11).

Figure 7.11: Percentage of total health expenditure on research and development, and public health, 2007-08†



(†) OECD Health Data 2010 and COAG NHA Tables 66.1 and 68.1, citing AIHW health expenditure database (Notes: NSW and Australia data are reported for 2007-08; all international data are for 2008; for public health, Canada, Netherlands and Norway figures are estimates; for research and development expenditure, Canada figure is an estimate; for NSW, public health expenditure is derived from Figure 7.4 (AIHW); research and development expenditure for NSW includes all funding sources).

Relating inputs to outcomes

NSW does well in achieving health per dollar spent

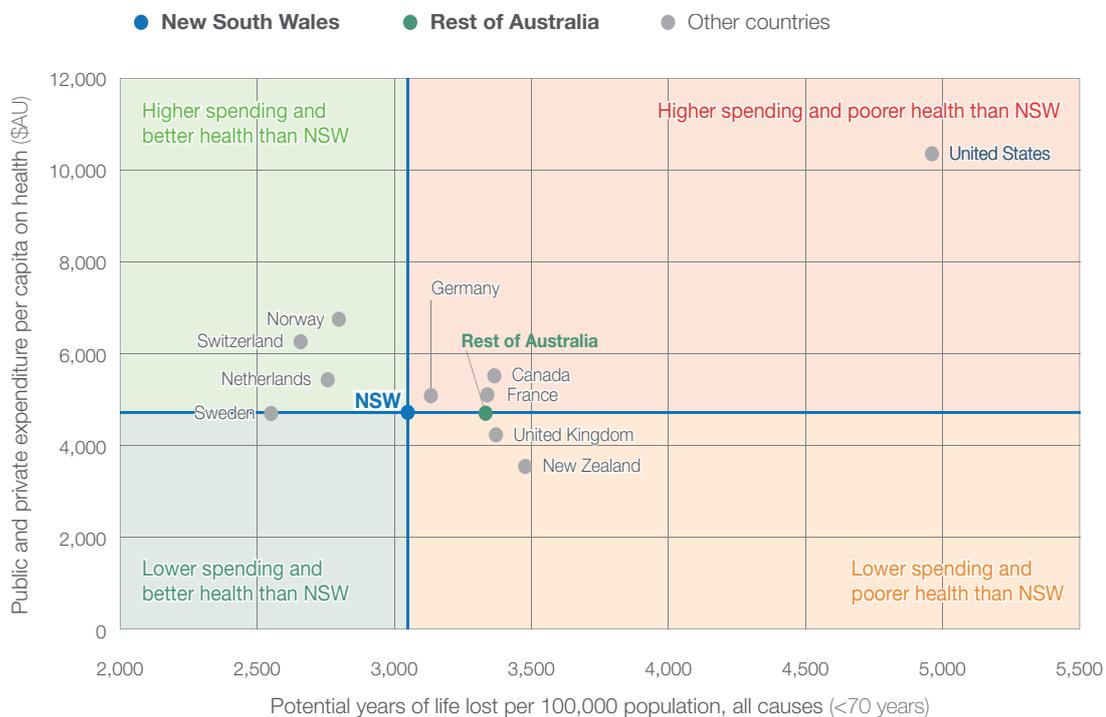
The inputs and activities shown on the previous pages are not the endpoint of the production process in healthcare.

They are an incremental step towards the ultimate outcome the healthcare system strives for: improvements in health and patient care experiences at affordable costs.

One way to compare different healthcare systems in terms of the relationship between inputs and outcomes is to graph spending per person to population outcomes, such as years of life lost.

Compared to other countries surveyed, NSW does well in achieving health per dollar spent. These findings are similar to work that compares Australia to other countries in achieving health per dollar spent.^{2,3,9,10} No country has lower spending *and* better health. Norway, Switzerland and Netherlands have higher spending and better health than NSW. Germany, France, Canada and the United States have higher spending and poorer health than NSW (Figure 7.12).

Figure 7.12: Per person health spending (\$AU) vs potential years of life lost (<70 years), 2007 (or latest year)[¥]



(¥) Bureau of Health Information analysis of OECD Health Data 2010 and AIHW expenditure data (Notes: Australian dollar 2007 (purchase price parity); years of life lost is a summary measure of premature mortality, calculated by totalling all deaths occurring at each age and multiplying this figure by the number of remaining years of life up to a selected age limit, here 70 years).

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Glossary

ABS – Australian Bureau of Statistics.

Age-standardisation – A method of adjusting data to allow for differences in population age structures so that disease and mortality rates can be compared fairly for different periods of time, different geographic areas and / or different population sub-groups.

AIHW – Australian Institute of Health and Welfare.

Angina – Chest pain due to an inadequate supply of oxygen to the heart muscle.

Appendicectomy – Surgical removal of the appendix, which is located in the right lower side of the abdomen. This operation is usually carried out on an emergency basis to treat appendicitis.

Appendicitis – Inflammation of the appendix. The appendix is a small pouch attached to the large intestine.

Asthma – An inflammatory disease of the airways, making them prone to narrowing and increased mucus production. It becomes difficult to move air in and out of the lungs. Symptoms include wheeze, shortness of breath, chest tightness and cough.

BMI (body mass index) – Calculated from height and weight information, using the formula: weight (kg) divided by the square of height (m). For this report, BMI values are grouped according to the table.

Body Mass Index (ADULT)

Underweight	Less than 18.5
Normal range	18.5 to less than 25.0
Overweight	25.0 to less than 30.0
Obese	30.0 and greater

Note: ABS definitions

Separate BMI classifications have been produced for children which take into account the age and sex of the child.

BP – Blood pressure.

Cardiology – The branch of medicine dealing with the heart and its diseases.

Cataract – A clouding of the natural lens of the eye, causing gradual loss of vision. Cataracts can be removed in a relatively routine operation under local anaesthetic.

Cellulitis – A spreading bacterial infection just below the skin surface characterised by redness, warmth, swelling and pain.

CHF (congestive heart failure - also called congestive cardiac failure or heart failure) – A condition in which the heart is unable to adequately pump blood throughout the body and / or unable to prevent blood from "backing up" into the lungs. In most cases, heart failure is a process that occurs over time, when an underlying condition damages the heart or makes it work too hard, weakening the organ. Heart failure is characterised by shortness of breath and abnormal fluid retention, which usually results in swelling of the feet and legs.

COAG (Council of Australian Governments) – An inter-governmental forum comprising the Prime Minister, State Ministers, Territory Chief Ministers and President of the Australian Local Government Association (ALGA).

Colorectal surgery – Surgery to the colon, rectum, anus.

COPD (chronic obstructive pulmonary disease) – Refers to chronic bronchitis and emphysema, which are diseases of the lungs in which the airways become narrowed. This narrowing leads to a limitation of the flow of air to and from the lungs causing shortness of breath. In clinical practice, COPD is defined by characteristically low airflow on lung function tests. In contrast to asthma, this limitation usually gets progressively worse over time.

Dehydration – Excessive loss of water from the body. Diseases of the gastrointestinal tract that cause vomiting or diarrhoea may, for example, lead to dehydration.

Diagnostic gastrointestinal endoscopy – A procedure in which a flexible fiberoptic endoscope is passed into the oesophagus, stomach, and upper small intestine to help doctors diagnose any abnormality.

DSR – Directly standardised rate – a method of age standardisation used for comparisons between study groups (e.g. between one year and the next and / or states and territories).

ED – Emergency department.

Elective surgery – Any form of surgery that a patient's doctor believes to be necessary but which can be delayed by at least 24 hours.

Endocrinology – The branch of medicine that deals with the system of glands that produce hormones. It includes the management and treatment of diabetes.

Epilepsy – A pattern of repeated seizures or 'fits' caused by nerve cells in the brain firing electrical impulses at a rate up to four times higher than normal.

FTE / WTE – Full time equivalent, also known as whole-time equivalent (WTE) is the ratio of an employee's average number of hours worked to the average number of hours of a full-time worker. A full-time person is counted as one FTE. A part-time worker counts as less than one FTE, for example someone employed for 20 hours a week where full-time work consists of 40 hours, is counted as 0.5 FTE.

Gangrene – Death of tissue in part of the body resulting from loss of blood supply. Underlying causes include injury or infection. Diabetes and long-term smoking increase the risk of suffering from gangrene.

Gastroenteritis – Gastroenteritis is an inflammation of the digestive tract, particularly the stomach, and large and small intestines. Viral and bacterial gastroenteritis are intestinal infections associated with symptoms of diarrhoea, abdominal cramps, nausea and vomiting.

Gastroenterology – The branch of medicine that studies the digestive tract (the tube that extends from the mouth to the anus) and its diseases.

GP – General practitioner.

Gynaecology – The branch of medicine that deals with diseases of women, particularly concerning sexual and reproductive function and diseases of the reproductive organs such as cancer and menorrhagia (heavy menstrual periods).

Haematology – The branch of medicine dealing with the blood, blood-forming organs and blood diseases.

HOIST (Health Outcomes Information and Statistical Toolkit) – The HOIST system refers to a data access, analysis and reporting facility established and operated by the Centre For Epidemiology and Research, Public Health Division, NSW Department of Health.

Hospitalisation – The act of placing a person into the care of a hospital. In this report, the number of hospitalisations is defined by the number of 'separations' (see separations).

Hypertension – Also called high blood pressure. A chronic condition in which the systemic arterial blood pressure is elevated. A risk factor for the development of circulatory disease and kidney disease.

Hysterectomy – The surgical removal of the womb (uterus), with or without the removal of the ovaries.

Immunology – The branch of medical science that studies the body's immune system, including blood transfusion and organ transplantation.

Incidence – The number of new cases of a condition, symptom, death, or injury that develop during a specific time period, such as a year. The number is often expressed as a rate of a population.

Interventional cardiology – The subspecialty of cardiology that uses catheter-based techniques to treat coronary artery, valvular, and congenital cardiac disease. Includes angioplasty where a catheter (tube) is fed along a blood vessel until it reaches a blockage (clot). A small balloon is then inflated, flattening any obstruction and restoring blood flow.

Iron deficiency anaemia – A condition in which blood lacks adequate healthy red blood cells.

Life expectancy – The average number of years that a person can be expected to live.

Median – The middle value. For a range of values, the median is found by arranging values in order and then selecting the one in the middle.

Metabolic syndrome – A group of risk factors (large waistline, high blood pressure, high fasting blood sugar, high triglyceride levels) that increases the risk of circulatory diseases.

Mortality – Death.

Neurology – The branch of medical science that deals with the nervous system.

Neurosurgery – Any surgery that involves the nervous system (brain, spinal cord or peripheral nerves).

NHA (National Healthcare Agreement) – A bilateral five-year agreement between the Australian Government and each state and territory.

NHMRC (National Health and Medical Research Council) – It funds / supports health and medical research, develops health advice, advises on ethical behaviour in healthcare and the conduct of health and medical research.

Obstetrics – The branch of medicine that deals with the care of women during pregnancy, childbirth, and the recuperative period following delivery.

OECD (Organisation for Economic Co-operation and Development) – An international organisation focused on economic and social issues.

Oncology – The branch of medicine that deals with cancer.

Ophthalmology – The branch of medicine that deals with the anatomy, functions, pathology, and treatment of the eye.

Orthopaedics – The branch of surgery broadly concerned with bones and the skeletal system.

Pelvic inflammatory disease – An infection of the uterus (womb), fallopian tubes (tubes that carry eggs from the ovaries to the uterus) and other female reproductive organs that causes symptoms such as lower abdominal pain. It is a complication of some sexually transmitted diseases (STDs), especially chlamydia and gonorrhoea.

Perforated / bleeding ulcer – Complications of a peptic ulcer caused by damage to the wall of the stomach (or other areas of the gastrointestinal tract), which allows digestive juices and food to leach into the abdominal cavity.

Peritonitis – An inflammation (irritation) of the peritoneum, the thin tissue that lines the inner wall of the abdomen and covers most of the abdominal organs. Can result from infection, injury or as a post surgery complication.

Plastic and reconstructive surgery – The repair, restoration or improvement of conditions or injuries to the skin and external features resulting from disease, injury or birth defects.

PPH – Potentially preventable hospitalisations.

Prevalence – The number of cases of a specific disease present in a given population at a certain time.

Prostatectomy – The surgical removal of all or part of the prostate gland, often for cancer.

Psychiatry – The branch of medicine that deals with the diagnosis, treatment, and prevention of mental and emotional disorders.

Pyelonephritis – Inflammation of the kidney and upper urinary tract that usually results from bacterial infection of the bladder (cystitis).

PYLL (Potential Years of Life Lost) – A summary measure of premature mortality calculated by totalling deaths occurring at each age and multiplying this figure by the number of remaining years of life up to a selected age limit.

Qualified neonate – Any newly born baby who is 9 days old or less and meets one or more of the following criteria:

- is the second or subsequent liveborn infant of a multiple birth, whose mother is currently an admitted patient
- is accommodated in a special care nursery
- remains in hospital without their mother.

RACGP – Royal Australian College of General Practitioners.

Rehabilitation – A branch of medicine which aims to enhance functional ability and quality of life to those with physical impairments or disabilities.

Relative survival – The percentage of patients with a disease that are alive five years after diagnosis divided by the percentage of the general population of corresponding sex and age that are alive after five years.

Renal dialysis – An artificial replacement for lost kidney function in people with renal failure. It involves a process of diffusing blood across a semipermeable membrane to remove substances that a normal kidney would eliminate, including normal body wastes, poisons, drugs, urea, uric acid, and creatinine. For chronic kidney disease, renal dialysis is required at regular intervals.

Renal medicine – The branch of medicine that deals with the kidneys, especially their functions or diseases.

Respiratory medicine – The branch of medicine dealing with diseases of the lungs and the respiratory tract (bronchi, trachea, larynx, etc).

Rheumatic heart disease – A serious complication of rheumatic fever, a disease in which infection of the upper respiratory tract by streptococcal bacteria leads to heart disease. The infection typically affects the heart valves, but it can also affect other heart structures.

Separation – The process by which an admitted patient completes an episode of care either by being discharged, dying, transferring to another hospital or changing the type of care (for example, changing from being recorded as an acute patient to a rehabilitation patient). A person can have multiple 'separations' within the same hospitalisation period.

SES – Socioeconomic status is a measure of economic and social circumstances relative to others, based on a range of factors such as income, education, and occupation.

Tonsillectomy and adenoidectomy – Tonsillectomy (removal of the tonsils) and adenoidectomy (removal of the adenoids) are two different operations often required at the same time. Usually performed in response to repeated occurrence of tonsillitis (infection of tonsils).

Unqualified neonate – The first born of a multiple birth or a single child who stays in hospital with their mother for less than 10 days and is not accommodated in a special care nursery.

Urology – The branch of medicine that deals with the diagnosis and treatment of disorders of the urinary tract or urogenital system (bladder, ureters, etc).

Vascular surgery – The branch of surgery that deals with arteries and veins.

WTE – Whole time equivalent, see FTE.

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About the Bureau

The Bureau of Health Information was established by the NSW Government in 2009 as an independent, board-governed organisation. The Bureau aims to be the leading source of information on the performance of the public health system in NSW.

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The Bureau's Mission

The Bureau provides the community, healthcare professionals and the NSW Parliament with timely, accurate and comparable information about the performance of the NSW public health system in ways that enhance the system's accountability and inform efforts to increase its beneficial impact on the health and wellbeing of people in NSW.

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