bureau of health information

Healthcare in Focus 2014

How does NSW compare?

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Overview of measures by chapter

Accessibility — Healthcare, when and where needed	
Coverage (primary care and financial) and out-of-pocket expenditure	• Have a regular GP, have a medical home • Percentage of healthcare expenditure funded by individuals out-of-pocket • Healthcare costs of $1,000 or more out-of-pocket
Cost-related barriers to care	• People who skipped a test, a GP consultation, or a medication prescription due to cost • People with chronic conditions who skipped care due to cost • People needing help due to activity limitations skipping care due to cost
Accessibility of primary care	• Timeliness of appointments • After-hours access • Care provider returned telephone call
Accessibility of care for people with chronic conditions	• Patients know who to contact for help with their condition • Healthcare professional contacts patients proactively between visits
Timely access to emergency department (ED) care	• Time to start treatment (states and territories) • Median time to start treatment, patients experiences of waiting times (NSW) • Time to leaving emergency department (states and territories) • Time to leaving emergency department by disposition (admitted/not admitted) (NSW)
Timely access to specialist care	• Unmet need to see a specialist, time to see a specialist • Hospital patient-reported time to see a specialist (NSW)
Timely reception of elective surgery	• Waiting times for elective surgical procedures • Median time, percentages: treated on time, and waiting over a year, by procedure (NSW)

Appropriateness — The right healthcare, the right way	
Preventive health services	• Healthcare professional discussed: diet, exercise, stress and smoking • Influenza vaccinations (aged 65 and over) • Breast cancer screening (women ages 50 to 69) (states and territories)
Patient engagement in chronic care	• Healthcare professional: discussed goals, gave instructions of what to watch for and when to seek care, provided a written plan
Safe medication use	• Professional : explained medication, reviewed side effects, gave a written list of medications • Medication information provision in hospital and ED (NSW)
Patient-reported medical mistakes	• Identification checks before surgery and tests, or before medication (NSW) • Patients experiencing a medical mistake in treatment or care
Communication and engagement	• Regular doctor: knew medical history, encouraged questions, explained things clearly • Patients involved in care by specialist • Communication and information provision for hospital and emergency patients (NSW)
Acute hospital care	• Upon discharge hospital patients: received written information, medications discussed, knew who to contact, and had follow-up arrangements made (NSW) • Hip fracture surgery initiated within 48 hours

Effectiveness — Making a difference for patients	
Overall views about healthcare	• Overall views of country's healthcare system • Patient views of overall care in public hospital and ED (NSW)
Chronic disease control	• Patient reporting needing to go to hospital or ED for asthma, diabetes or hypertension • Treatment plan helped control or manage chronic condition • Readmissions for complications related to a chronic condition (NSW)

Effectiveness — Making a difference for patients (continued)	
Hospitalisations for potentially avoidable conditions	• Potentially preventable hospitalisations (state and territory) • Diabetes-related lower extremity amputation, and short/long term complications hospitalisation rates • Asthma and chronic obstructive pulmonary disease (COPD) hospitalisation rates
Outcomes of care	• Mental health-related readmissions • Mortality following hospitalisation for stroke • Potential years of life lost due to stroke
Complications and adverse events	• Post-operative complications (sepsis, pulmonary embolism or deep vein thrombosis, wound dehiscence) • Obstetric trauma during vaginal delivery with and without instrument • Patient-reported complications following hospitalisation or ED visit (NSW)

Efficiency — Value for money	
Healthcare spending and health outcomes	• Cost per capita on healthcare expenditure by potential years of life lost • Cost per capita on hospital expenditure
Hospital costs	• Average cost per hospitalisation • Average cost for ED presentation (admitted and non-admitted) (states and territories)
Substitution of services	• ED use for conditions that could have been treated by GP • Bed days while waiting for residential aged care
Length of stay	• Average length of stay • Relative stay index (states and territories)
Coordination issues, duplication and waste	• Professionals not up-to-date on care received in other settings • Unnecessary tests; unavailable tests • Potential overuse of knee arthroscopy procedures (NSW)

Equity — Health for all, healthcare that's fair	
Disparities by income	• Accessibility measures – primary care, care for chronic conditions, affordability • Appropriateness measures – prevention and promotion, care for chronic conditions, medication information, primary care communication, hospital discharge • Effectiveness measures – overall views of healthcare system, hospitalisation for chronic conditions
Disparities by Aboriginality	• Accessibility measures – unmet needs, access to cataract surgery, waiting times for eletive surgery (states and territories) • Appropriateness measures – health checks, mental health follow-up, leaving against medical advice (states and territories) • Effectiveness measures – infant mortality, life expectancy (states and territories)

Sustainability — Caring for the future	
Adaptability	• Hospital in the Home use (NSW) • Telehealth use (NSW)
Workforce-related sustainability	• Sick leave (NSW) • Staff turnover (NSW)
Investment/disinvestment	• Investment in public health and research (NSW) • Choosing Wisely campaign summary

Foreword

Healthcare in Focus 2014 is the fifth edition of the Bureau of Health Information's annual report that examines healthcare performance in New South Wales, placing it in an international context. This edition builds on its predecessors; updating core indicators and establishing new measures. It uses BHI's performance assessment framework to bring together, in a structured way, some 120 performance measures.

The report uses a dual approach to reflect on performance. From the point of view of patients, it considers whether they receive care when and where needed; whether they are provided the right healthcare, in the right way; and how, in terms of outcomes, care makes a difference for them. From a broader system perspective, it considers issues of productivity and value for money; fairness in service provision and equal opportunities for health across population groups; and the capacity to provide healthcare services into the future. Together, these perspectives populate six essential dimensions of performance: accessibility, appropriateness, effectiveness, efficiency, equity and sustainability.

As in previous years, the report considers the healthcare that the people of NSW receive. That healthcare is funded, regulated, managed and delivered by a range of different organisations, with many aspects of performance occurring beyond patients' direct experiences. Focusing on how the complex healthcare system works as a whole for the population, some measures relate specifically to public hospitals while others include care received from private hospitals, the not-for-profit sector and Commonwealth-funded organisations and providers.

Healthcare is multifaceted, and capturing its complexity requires the use of multiple performance measures. For example, this 2014 edition shows that NSW performs particularly well in terms of preventive health services such as the provision of diet and exercise advice; and in patient engagement and supporting people with chronic diseases. Despite this, we found that compared with other jurisdictions, people with a chronic disease in NSW are more likely to be admitted to hospital or visit an emergency department because of their condition; and rates of potentially preventable hospitalisations are high when compared internationally.

With regards to effectiveness, performance is also mixed. While NSW has comparatively high rates of some post-operative complications such as deep vein thrombosis, pulmonary embolism and sepsis, it has comparatively low rates of another complication: wound dehiscence. Looking at efficiency, in broad terms NSW once again achieves good health relative to the money invested. However, new and more specific indicators show certain procedures may be overused.

To help make sense of this complexity, this year we introduce a section synthesising our findings. Pooling together indicators from international surveys, internationally comparable administrative datasets and national measures, this synthesis reconfirms the overall good performance of NSW, while at the same time inspiring and guiding efforts to improve.

Dr Jean-Frédéric Lévesque MD, PhD
Chief Executive, Bureau of Health Information

Summary

The people of NSW receive high-quality healthcare. International data show that in 2014, people in NSW were among the most positive about their healthcare system, with 54% saying that on the whole the healthcare system works well. Within large and complex systems such the NSW system, however, there are relative strengths and weaknesses and so any thorough assessment requires a range of indicators. *Healthcare in Focus 2014* includes over 120 measures organised into six dimensions of performance that reflect the accessibility, appropriateness, effectiveness, efficiency, equity and sustainability of healthcare. For many measures, comparisons are made with Australia and 10 other countries — placing NSW healthcare performance in an international context. For other measures, NSW performance is viewed in light of evidence-based guidelines; or more dynamically in changes over time.

Accessibility: Healthcare when and where needed

- Among NSW adults aged 55 years and over, 98% have a regular doctor or place to receive healthcare
- Almost all (97%) elective surgical procedures are performed within clinically recommended timeframes. However, median waiting times for some procedures — such as cataract extractions and hip and knee replacements — are substantially longer in NSW than in comparator countries
- In 2013–14, most people who visited a NSW emergency department (ED) received initial treatment within clinically recommended timeframes (81% of ED visits); and left the ED within four hours of arrival (74% of ED visits — an increase of 14 percentage points from 2011–12)
- A relatively high proportion of NSW adults with a chronic condition (74%) said there was a medical professional they could contact for advice about their condition; far fewer (29%) said that a healthcare professional contacted them to monitor their condition between appointments
- In NSW, almost $2 in every $10 spent on healthcare was paid directly by individuals 'out-of-pocket' (18%), a high proportion internationally
- One in 10 NSW adults aged 55 years and over (12%) said that cost concerns caused them to skip either a consultation, test or medication.

Appropriateness: The right healthcare, the right way

- NSW does well on many measures of preventive care: 71% of people aged 65 years and over were vaccinated against influenza; and over half of those aged 55 years and over said a health professional had discussed exercise (54%), and diet (52%) with them. A smaller percentage (32%) said worries or stress had been discussed, however this was a relatively high rate internationally. Less positively, national data for 2011–12 show that 51% of NSW women aged 50–69 years were screened for breast cancer — low levels of coverage relative to other Australian states and territories
- Medication safety processes are in use. Eight in 10 adults aged 55 years and over (79%) said a health professional reviewed their medications; while most hospital patients in NSW (91%) said they were given the right amount of information about their medication
- Regarding patient engagement, most adults with a chronic condition said a health professional discussed goals in caring for their condition (66%), and gave them clear instructions about symptoms to watch for (68%) — high rates internationally
- Among patients who needed emergency hip fracture surgery, only 70% were operated on within the recommended time of two days — a lower percentage than in most international comparator countries.

Effectiveness: making a difference for patients

- Between 2003 and 2013 in NSW, age-standardised 30-day mortality decreased by 24% for ischaemic stroke and by 14% for haemorrhagic stroke

- Complication rates following surgery are relatively high in NSW — in particular, deep vein thrombosis and pulmonary embolism. Conversely, rates of wound dehiscence (surgical wound break-down) were low
- Hospitalisations that are potentially avoidable, through the provision of preventive care and appropriate disease management, can be a marker of primary care effectiveness. One in 10 adults (13%) with diabetes, asthma or hypertension said their condition resulted in a recent hospital stay or ED visit — higher than most comparator countries. Similarly, rates of hospitalisation for asthma and chronic obstructive pulmonary disease (COPD) were high in NSW.

Efficiency: Value for money

- In very broad terms, healthcare in NSW provides good value. No country spent less per person and had lower rates of premature mortality than NSW
- The average length of stay for an overnight hospital admission was 5.0 days — low internationally
- There are some inefficiencies however. For example, one in 10 adults (9%) said they had received a duplicate or unnecessary test.

Equity: Health for all, healthcare that's fair

- Below-average income groups were more likely to skip care due to cost concerns than those with above-average income — a difference more pronounced in NSW than in other countries
- Aboriginal people were less likely than non-Aboriginal people to access care, and to receive appropriate care. Aboriginal people had lower rates of cataract surgery, despite high rates of eye disease; longer median waiting times for surgery; and lower rates of community follow-up following a mental health-related hospitalisation.

Sustainability: Caring for the future

- There was increased use of 'Hospital in the Home' and telehealth services in NSW
- Healthcare system non-casual staff turnover was 8% in 2013, compared with 12% in England
- Expenditure on research increased: between 2004–05 and 2012–13, the percentage of health spending dedicated to research increased from 2.0 to 3.6 percent of expenditure. However, expenditure dedicated to public health decreased slightly.

Where we stand and where to look

Within each performance dimension NSW has relative strengths and weaknesses. Patterns of performance across the dimensions are revealed through synthesising results from two main data sources.

The Commonwealth Fund International Health Policy Survey

- NSW had more favourable results than five or more countries on 15 of 42 measures. NSW was among the jurisdictions leading the way in appropriateness of care, particularly in terms of responsiveness to patients, recording strong relative performance in communication and information provision
- NSW had less favourable results than five or more countries on 12 measures. For questions focused on healthcare accessibility, such as primary care access and cost barriers to care, NSW was outperformed by most other jurisdictions.

Organisation for Economic Cooperation and Development Health Data

- NSW was among the jurisdictions leading the way on performance in potential years of life lost, and low rates of post-operative wound dehiscence
- For COPD hospitalisation rates, rates of post-operative deep vein thrombosis, pulmonary embolism, and sepsis; NSW performance has potential for improvement.

Setting the scene

Introduction

To know where NSW stands; and guide where to look

Healthcare in Focus is an annual publication that reports on the performance of the healthcare system in NSW. It draws on a range of data sources to build a broad picture of performance, placing it in both an Australian and international context.

The report contributes to two important functions of the Bureau of Health Information (BHI).

First, it informs the people of NSW about the performance of their healthcare system. It helps answer the question *where does NSW stand?* — contextualising performance by providing information about how other healthcare systems perform, relative to NSW. Second, it informs the system about its performance and helps answer the question *where to look?* — identifying and highlighting areas for potential improvement. Here, international comparisons help quantify the scope for stronger performance by NSW. Which system performs best on particular measures? And how far is there to go for NSW to match the best?

The report also examines, for some measures, the extent of variation within NSW across hospitals or regions. Here too, it can inform improvement — identifying areas where there is significant variation across the state, and potential for future improvements in performance.

But what is performance?

Performance in healthcare is a relative, dynamic concept that encapsulates whether the right care is provided, in the right amount, in the right way and at the right cost. [1,2,3,4]

Performance therefore is multifaceted — covering a range of different quality, safety and economic considerations. Enacting performance involves a diverse range of organisations, professionals and patients undertaking various tasks. Together, these functions both provide healthcare and improve health.

In light of such complexity, systematic measurement of performance requires a balanced approach: one that includes sufficient measures to reflect the diversity of the system, yet does not have so many measures that it overwhelms assessment efforts. Assessing healthcare performance is best guided by a clear framework: one structured around key dimensions of performance. [1,2,3,4]

BHI's Integrated Healthcare Performance Assessment Framework

The BHI framework (Figure 1) guided the collation, presentation and interpretation of data and information in *Healthcare in Focus 2014*. Informed by current approaches to measurement and reporting in use nationally and internationally, the framework identifies key elements of healthcare performance and organises them into a logical structure.[5]

The framework is based on descriptive counts of inputs, outputs and outcomes of healthcare. These descriptive counts are clustered into four categories: patient needs and expectations; services delivered; resources, structures and organisation of the system; and the health and wellbeing of the population.

Meaningful performance assessment relates these descriptive counts to each other. Insights emerge from analyses of, for example, concordance between the healthcare provided and the needs of the population, or the results achieved (outcomes) in relation to the resources invested and services provided (inputs and outputs).

Real performance — achieving goals, adding value, balancing priorities and responding to context — is captured in constructs that link inputs, outputs and outcomes and allow for the assessment of trade-offs and unintended consequences. These constructs, or dimensions, of performance — accessibility, appropriateness, effectiveness, efficiency, equity and sustainability — are the focus for the main chapters of this report.

Measures included in the report are drawn from international performance reports, national performance assessment frameworks, and state-level information. The selection of measures included in the report was based on four key criteria:

- Relevance: Is the measure clinically meaningful, focused on issues important to patient experience, or instrumental in shaping quality of care?
- Scientific rigour: Does the measure have credence and validity? Is the data available of sufficient strength to fairly reflect performance?
- Balance: Does the measure contribute to a multifaceted picture of performance?
- Timeliness: Does the measure provide an up-to-date reflection of performance?

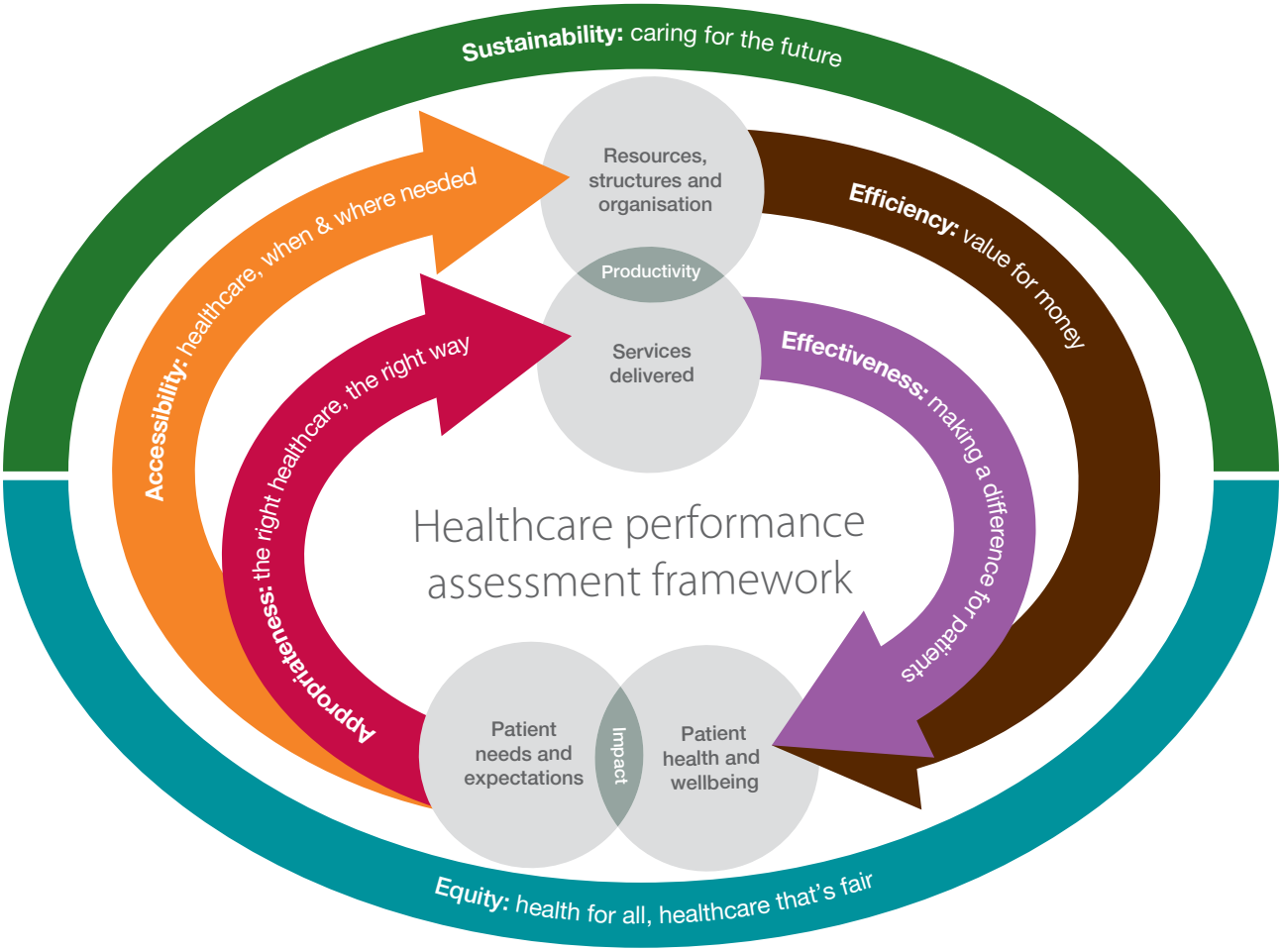
Structure of the report

Healthcare in Focus is divided into two sections.

Section 1 contains data and information structured by six chapters, each focused on a key dimension of performance: accessibility, appropriateness, effectiveness, efficiency, equity and sustainability. Section 2 provides a synthesis of results, summarising at a glancewhere NSW stands and where to look to improve.

The report is complemented by a brief supplement that provides important background contextual information about the NSW healthcare system, such as total health expenditure, number of hospitalisations and key health statistics (see *Healthcare in NSW: In context* at www.bhi.nsw.gov.au).

Figure 1 BHI's Integrated Healthcare Performance Assessment Framework



Data sources and methods

Healthcare in Focus 2014 draws on a range of data sources

The 2014 Commonwealth Fund International Health Policy Survey

This survey reflected the experiences of 25,530 adults aged 55 years and over in 11 countries: Australia, Canada, Germany, France, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States. The response rate was 31% for Australia. In NSW, 2,800 adults were surveyed between March and May 2014. The NSW results were weighted to represent the age, sex, education level, and regional distribution of the state.

Logistic regression was used to compare the performance of NSW with 10 countries (and the rest of Australia). Results for the 2014 survey were also compared to the 2013 survey results for all adults aged 18 and over. Values were similar, suggesting the 2014 survey of an older population provides a good basis of overall comparison (Appendix A).

The Organisation for Economic Cooperation and Development (OECD)

The OECD Health database provided indicator definitions and international data for mortality, hospitalisation, procedure and expenditure indicators for the same 11 countries as the international survey.

Australian Institute for Health and Welfare (AIHW)

AIHW provided a customised report on healthcare expenditures in NSW and Australia, using definitions that allow fair comparisons with other OECD countries. AIHW reports were also the source for Australian emergency department, elective surgery and hospital statistics.

Australian Bureau of Statistics (ABS)

ABS provided a customised report on NSW results from the 2013–14 Patient Experience Survey. The sample of 27,327 people aged 15 years and over is weighted to represent the estimated population of people aged 15 years and over in each state and territory. ABS also provided a customised report on the causes of death among the NSW population for 2012.

NSW Ministry of Health

Four key data sources were drawn on for healthcare utilisation and waiting time data: the NSW Admitted Patient Data Collection (APDC) (a count of all admitted patient services provided by public and private hospitals in the state); the Emergency Department Data Collection (EDDC) (a count of all emergency department services provided by public hospitals with electronic data collection); and the Waiting List Collection On-line System (WLCOS) (a count of patients waiting for planned treatment that covers public patients, either at public hospitals or contracted to private hospitals); and the NSW Adult Population Health Survey (in place since 1997; sample sizes range from 8,000–16,000).

NSW Patient Survey Program

Adult Admitted Patient Survey results are based on responses from 35,000 patients admitted to larger public hospitals between January and December 2013 (response rate 49%). Emergency Department Patient Survey results are based on responses from 26,000 patients of all ages who visited a NSW public hospital emergency department between April 2013 and March 2014 (response rate 30%).

Statistical Reporting

Differences are generally only discussed when they are statistically significant (i.e. 95% or greater confidence that differences are not due to chance). In graphical representations, statistically significant differences are denoted with an asterisk (*). Results are rounded to the nearest whole number, except where rounding would mask meaningful differences. For survey data, results based on fewer than 30 observations were suppressed.

Data coverage and limitations

There are differences across jurisdictions in data timeliness, availability, coverage and collection protocols. For international survey data, there are differences in response rates and sampling (see the Technical Supplement for further detail). As with any statistics, caution is needed in interpretation. When based on standardised data definitions and statistical adjustments for patient- and population-level differences (such as age and sex distributions), inter-jurisdictional performance measurement allows for meaningful comparisons. [3,5]

In reporting on the performance of a healthcare system, there is a balance to be struck between breadth and focus. For breadth, any report must contain sufficient measures to capture the diversity and complexity of healthcare performance.
For focus, restraint in measure selection is important to avoid overwhelming or masking key elements of performance.

Breadth is affected by data availability. Some dimensions of performance — most notably efficiency and sustainability — are sparsely populated, with a limited number of metrics that have internationally comparable data which meet the inclusion criteria of relevance, rigour, balance and timeliness. In contrast, other elements of performance are so well covered by different metrics that there is growing concern that the burgeoning number of measures — even those that provide valuable information — can be distracting rather than informative. [6]

Therefore, the *Healthcare in Focus* series selects different sets of measures from year to year. This provides an opportunity to cover different sub-populations, clinical conditions and topics. However, this approach means that in any one year, a particular group or topic may appear to be under-represented. For example, this year's report has capitalised on the availability of international survey data comparing the views and experiences of people aged 55 years and over. As a consequence the report is more muted about other important groups — including maternal and child healthcare, mental health and cancer. Other reports in the BHI suite of products planned for release in the future will aim to cover these important groups.

Note on contextual considerations

To make meaningful inter-jurisdictional comparisons, it is necessary to consider the full spectrum of services provided within a health system, regardless of the local arrangements for funding or delivery. The healthcare system in NSW is a mixed one, with different funders (public, private and not-for-profit); different policy and regulatory responsibilities (Commonwealth, state and local); different sectors (community, primary, secondary and tertiary); and different providers and specialisations across preventive, curative, palliative, mental and physical healthcare domains.

To place NSW performance in an international context, *Healthcare in Focus 2014* includes a range of different measures across sectors and responsibilities based on the most recent data available. To help interpret the results, each graph is annotated with icons which signify the primary responsibility for care:

Whole-of-system

General practice/primary care

Specialist care

Public hospital care

Private hospital care

Healthcare performance

How does NSW compare?

Healthcare performance is about adding value, balancing priorities and responding to context. It is best captured by constructs that link actions and allow for the assessment of trade-offs and unintended consequences.

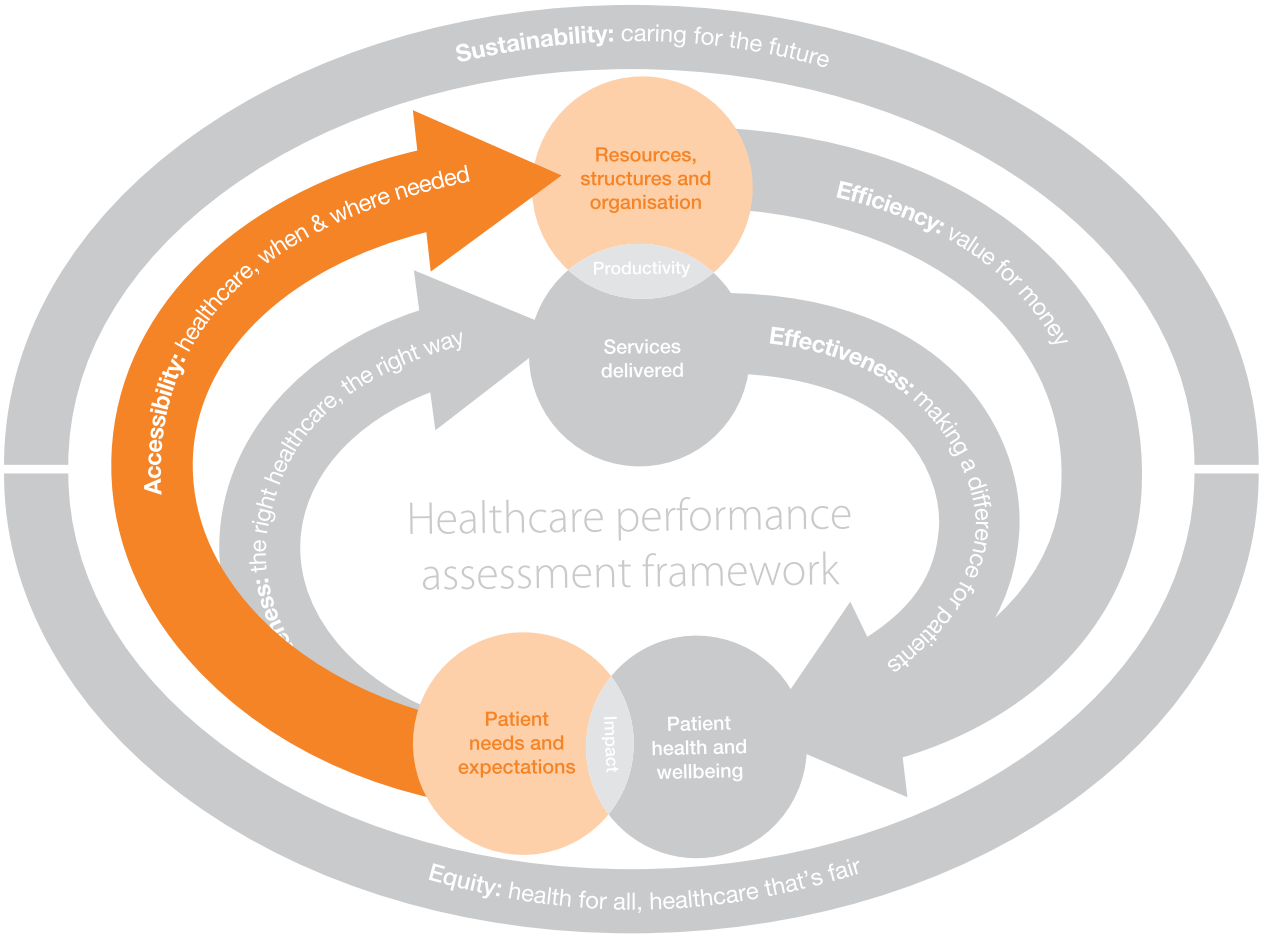
Those constructs are *accessibility, appropriateness, effectiveness, efficiency, equity and sustainability.*

Each dimension addresses key questions as shown in the table below.

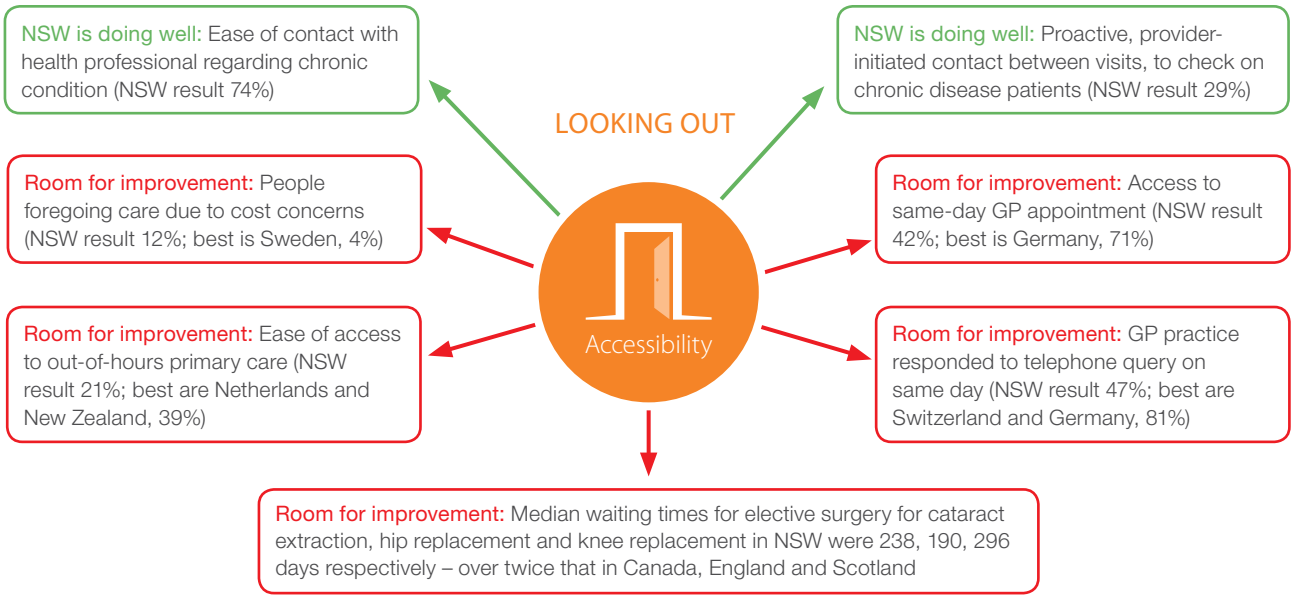
Accessibility	**Healthcare, when and where needed** Are patients' and populations' needs met; how easy is it to obtain healthcare?
Appropriateness	**The right healthcare, the right way** Are evidence-based and guideline-compliant services provided in a technically proficient way? Are the services provided responsive to patients' expectations and needs?
Effectiveness	**Making a difference for patients** Are healthcare services addressing patients' problems and improving their health?
Efficiency	**Value for money** Are healthcare services providing good value for the resources invested? Are there areas of duplication or waste?
Equity	**Health for all, healthcare that's fair** Is healthcare provided without discrimination on the basis of gender, age, race or other demographic factors? Is healthcare distributed fairly? Does everyone have the opportunity to reach their full health potential?
Sustainability	**Caring for the future** Is the system adapting to changing needs and expectations of patients, and to changing circumstances?

Accessibility

Healthcare, when and where needed



Accessibility in an international context



Accessibility refers to the degree to which patients can obtain healthcare services where and when they need them.

Accessibility reflects the availability and approachability of healthcare services, and also considers whether costs to patients in terms of time, effort or money are onerous or unreasonable.[1]

Various barriers to accessibility can affect whether patients seek and receive healthcare. They include: a lack of knowledge on the part of patients about what services are available; low levels of acceptability of options on offer; a lack of availability in terms of restrictions in the time and location where care can be obtained; and costs of care — both direct and indirect.

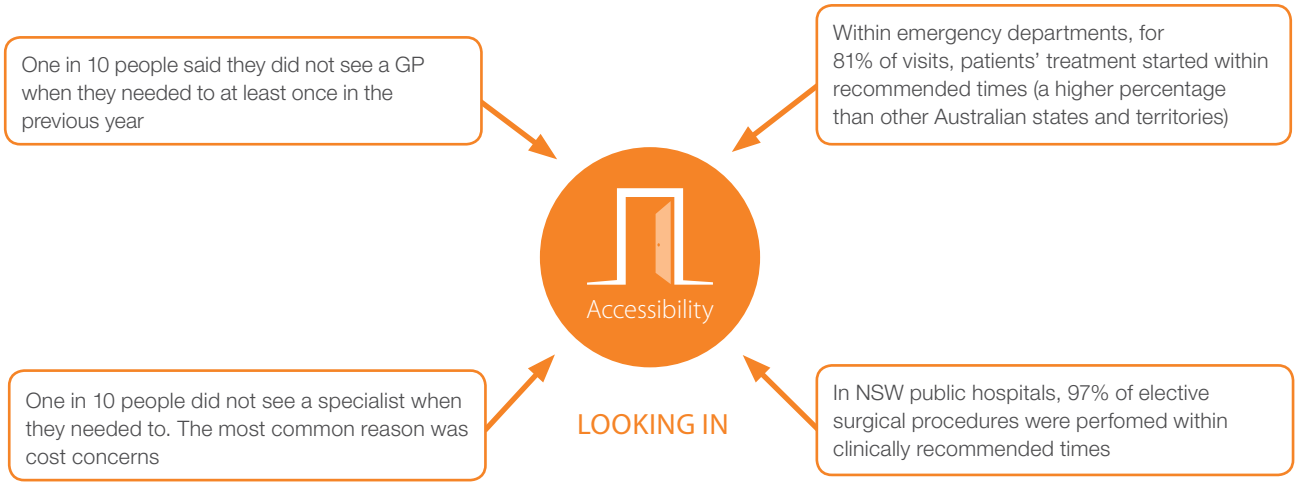
Accessibility can be measured using relative utilisation rates of healthcare services and rates of referral to specialised care; variations in waiting times or travelling distances or times; different levels of spending on care; and by the estimates of unmet needs and care foregone due to geographic, organisational or economic barriers.

This edition of *Healthcare in Focus* presents various measures that help assess accessibility of healthcare in NSW. Most measures place NSW results in an international context — using clearly defined and consistently applied performance measures to compare NSW with 11 OECD countries that have similarly developed health systems.

The measures of accessibility contained in this report encompass:

- Accessibility of primary care (having a usual source of care, access to same-day appointments, access to care out-of-hours, provision of a contact for chronic care support)
- Timeliness in emergency department (ED) care (timely start of treatment following arrival, total time spent in the ED)
- Timeliness in specialist care (waiting times to see a specialist, waiting times for receipt of elective surgery procedures)
- Foregone care or skipped treatments due to cost.

Accessibility in NSW



Primary care coverage and medical home

Almost all people aged 55 years and over have a regular GP; fewer have a medical home

Coverage, the potential for people to access services should they be needed, is a key element of accessibility and wider health system performance. Affiliation with a primary care provider is an important measure of coverage. Primary care offers front line services for a wide range of acute and chronic problems, provides preventive care and acts as an entry point into, and coordination hub for, the wider healthcare system.[2]

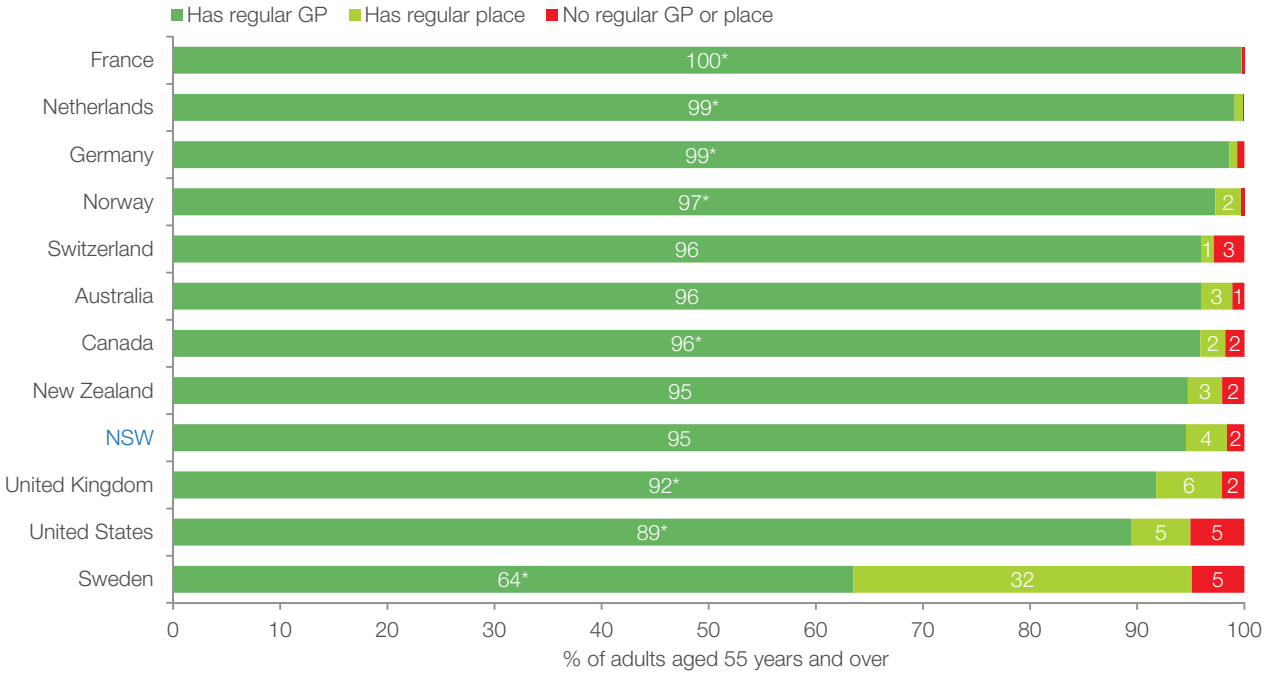
In 2014, nearly all NSW adults aged 55 years and over (98%) had primary care coverage in terms of a regular GP or place of care — similar to levels in most comparator countries (Figure 1.1)

While affiliation with a regular doctor or place of care is important, primary care provision can vary in terms of quality. When GP practices or clinics are easily accessible they are better able to respond to patient needs and provide continuity and coordination of care. These are the characteristics of a 'medical home'.[i]

Among NSW adults aged 55 years and over, only six in 10 (63%) had a medical home, although this is a higher percentage than in Sweden (51%), Norway (57%) and Canada (58%) (Figure 1.2).

Levels of affiliation with a medical home varied across different subgroups within NSW. Those with private health insurance, aged over 65 years, Aboriginal people and people who said their income was about average were more likely to have a medical home (Figure 1.3).

Figure 1.1 GP Percentage of adults aged 55 years and over with a regular GP or place of care, NSW and comparator countries, 2014



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

Figure 1.2 GP Percentage of adults aged 55 years and over with a medical home, NSW and comparator countries, 2014

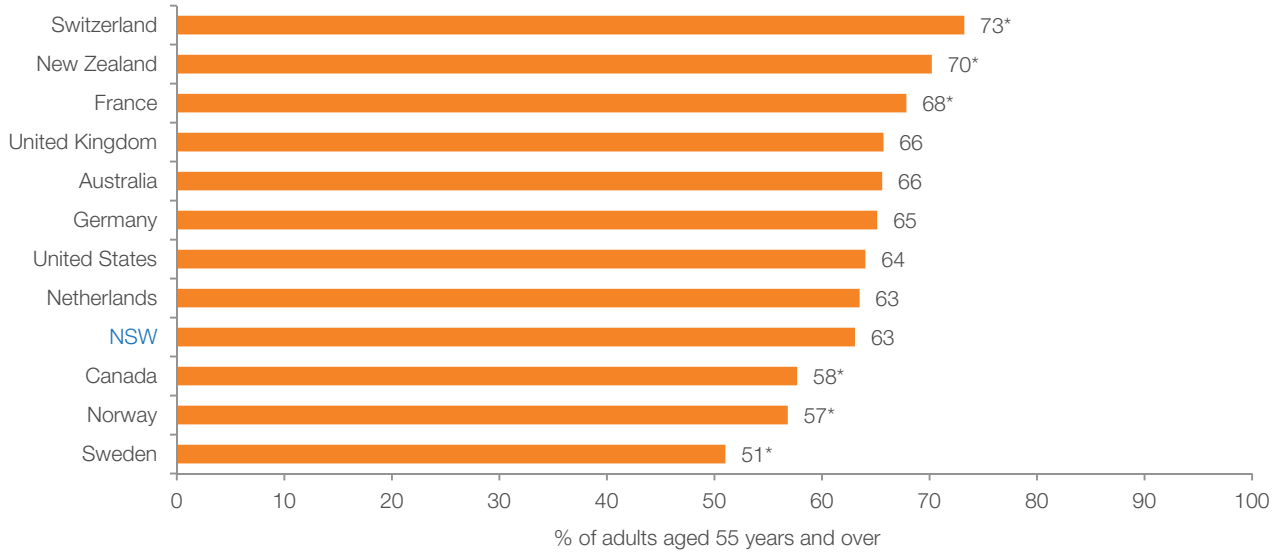
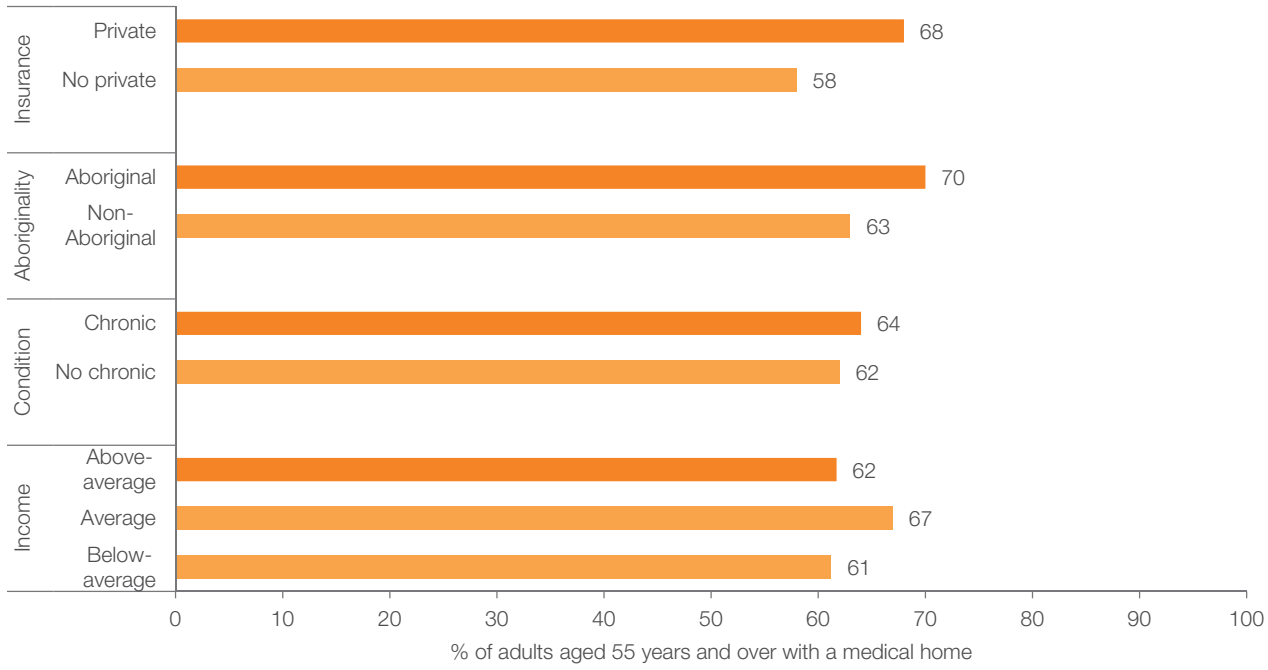


Figure 1.3 GP Percentage of adults aged 55 years and over with a medical home, by population group, NSW, 2014



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

* estimate is statistically significantly different than value for NSW. Note: Values may not add up to 100% due to rounding.

i Respondents have a 'medical home' if: they have a regular doctor or GP clinic; AND their regular doctor always or often knows about their medical history; AND they are able to get an appointment on the same or next-day OR the GP clinic or gives a same-day response to telephone calls regarding medical questions; AND their GP clinic always or often helps coordinate care received from other doctors or places.

Out-of-pocket expenditure: Gaps in financial coverage

$2 in every $10 spent on healthcare was paid by individuals out-of-pocket

NSW has a mixed healthcare system and responsibilities for funding, planning, management, regulation and provision are distributed across different layers of government and shared between public, private and not-for-profit sectors, and between community, primary care, secondary, and tertiary healthcare organisations and individuals.[3]

Total current expenditure on healthcare services in NSW during financial year 2012-13 was $47 billion.[i] These funds were largely drawn from governments, both state (24%) and Commonwealth (44%). Private sources, including private insurers and individuals, made up the remaining 32%.

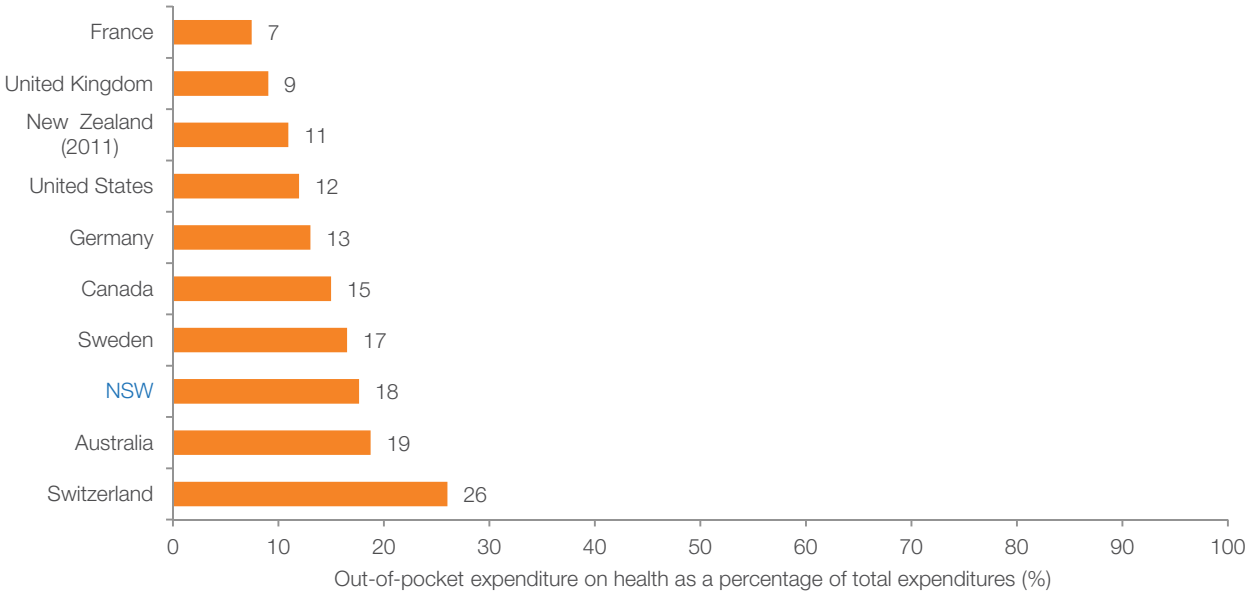
Healthcare costs borne by individuals are generally referred to as out-of-pocket expenditure. They include direct payments for healthcare services as well as co-payments and gap payments that meet charges not fully covered by Medicare or private insurance. Out-of-pocket expenditure can be an indicator of gaps in coverage and high levels can create barriers to access and reduce healthcare use among those in highest need.[4]

When viewed alongside comparator countries, NSW has a relatively high level of out-of-pocket costs. In 2012-13, $2 in every $10 spent on healthcare in NSW was paid by individuals (18% of all health spending) (Figure 1.4).

Across households in 2014, one in four NSW adults aged 55 years or over (25%) said their household out-of-pocket healthcare expenditure was $1,000 or more. Only the United States (39%) and Switzerland (38%) had statistically significantly higher percentages (Figure 1.5).

Compared to those without, adults with a chronic condition were generally more likely to say they had out-of-pocket costs of $1,000 or more. For NSW and Australia the difference between those with and without a chronic condition was more pronouced (Figure 1.6).

Figure 1.4 Out-of-pocket expenditure on health as a percentage of total expenditures, NSW and comparator countries, 2012 or nearest year



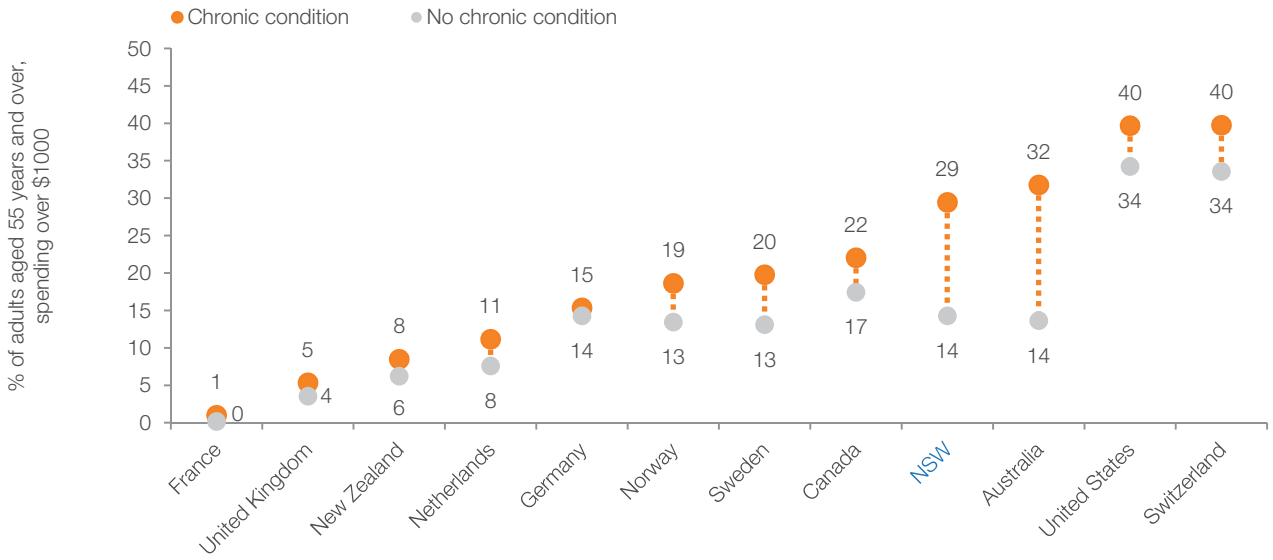
urces: OECD Health Data 2014; Health expenditure and financing database. AIHW health exepnditures (customised request).

i Total expenditure of $47 billion for NSW is based on Australian state and territory totals. Total expenditure for health in NSW based on system of health accounts methodology used by the OECD and comparable with international calculations is 45.4 billion. The international definition excludes expenditure on some health-related functions such as; environmental health, food hygiene and drinking water control. For more information on healthcare expenditures in NSW see, the complementary product *Healthcare in NSW.*

Figure 1.5 Percentage of adults aged 55 years and over reporting out-of-pocket costs for healthcare, by amount spent, NSW and comparator countries, 2014

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

Figure 1.6 Percentage of adults aged 55 years and over reporting out-of-pocket costs over $1,000 for healthcare, by presence of a chronic condition, NSW and comparator countries, 2014



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

* Estimate is statistically significantly different than value for NSW. Note: Values may not add up to 100% due to rounding.
Note: Out-of-pocket costs are reflected in Australian dollars but not adjusted for differences in cost of living.

Cost-related barriers to healthcare

One in 10 say cost is a barrier to accessing healthcare when needed

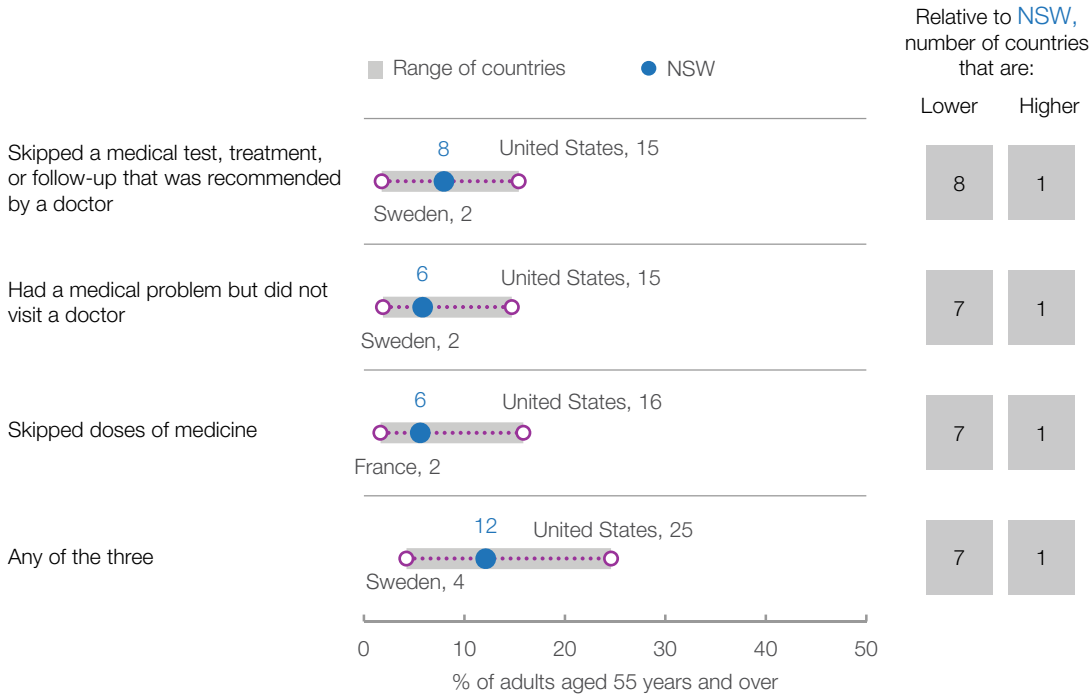
Gaps in financial coverage for healthcare can have important consequences for accessibility. In Australia, financial coverage for healthcare is provided by a mix of publicly funded Medicare, and private health insurance. Gaps can be bridged by out-of-pocket spending by individuals.

In 2014, one in 10 NSW adults aged 55 years and over (12%) said that due to cost concerns, they either skipped care; skipped treatment; or skipped medication in the previous 12 months. The proportion of people reporting access barriers due to cost was higher in NSW than in seven comparator countries. Only the United States had more people reporting cost barriers (Figure 1.7).

Groups with greater healthcare needs, such as those with chronic conditions or activity limitations, are particularly vulnerable to cost-related barriers. In NSW, and in all comparator countries, people aged 55 years and over with chronic conditions were more likely to report cost as a barrier to accessing healthcare (Figure 1.8).

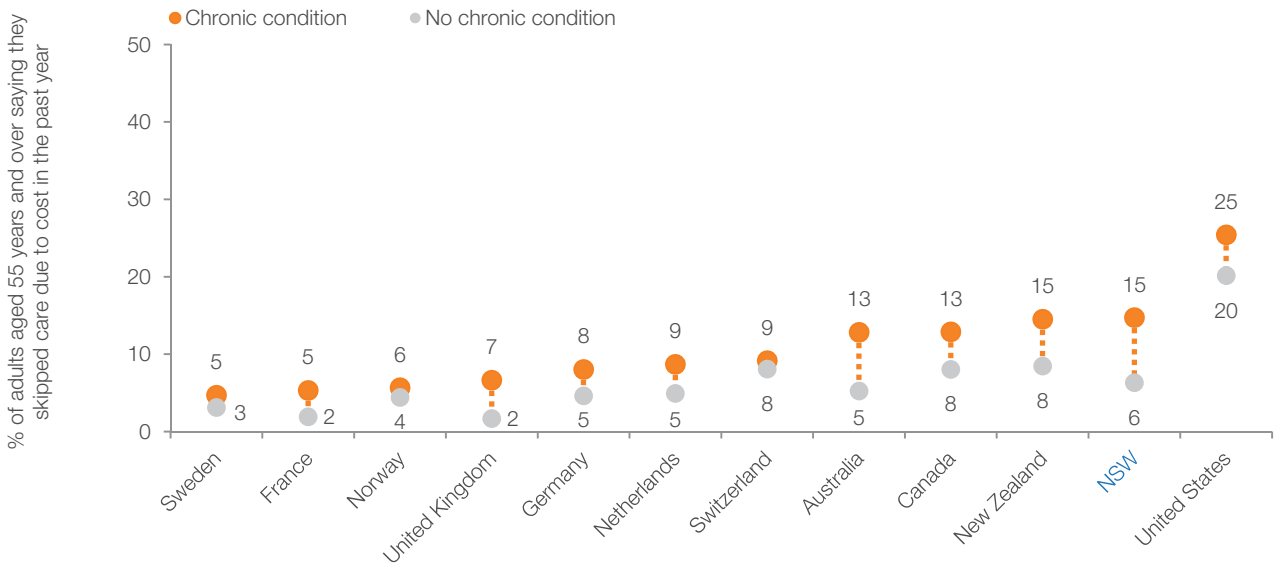
Older adults in need of help with daily activities also reported barriers due to cost. Among adults aged 65 years and over in NSW, 15% reported being somewhat or severely limited in activity. Of this group, three in 10 (34%) said that they did not receive help they needed because of cost – the highest percentage among comparator countries (Figure 1.9).

Figure 1.7 Percentage of adults aged 55 years and over who skipped consulting a doctor, or treatments, or medication due to cost in the past year, NSW and comparator countries, 2014



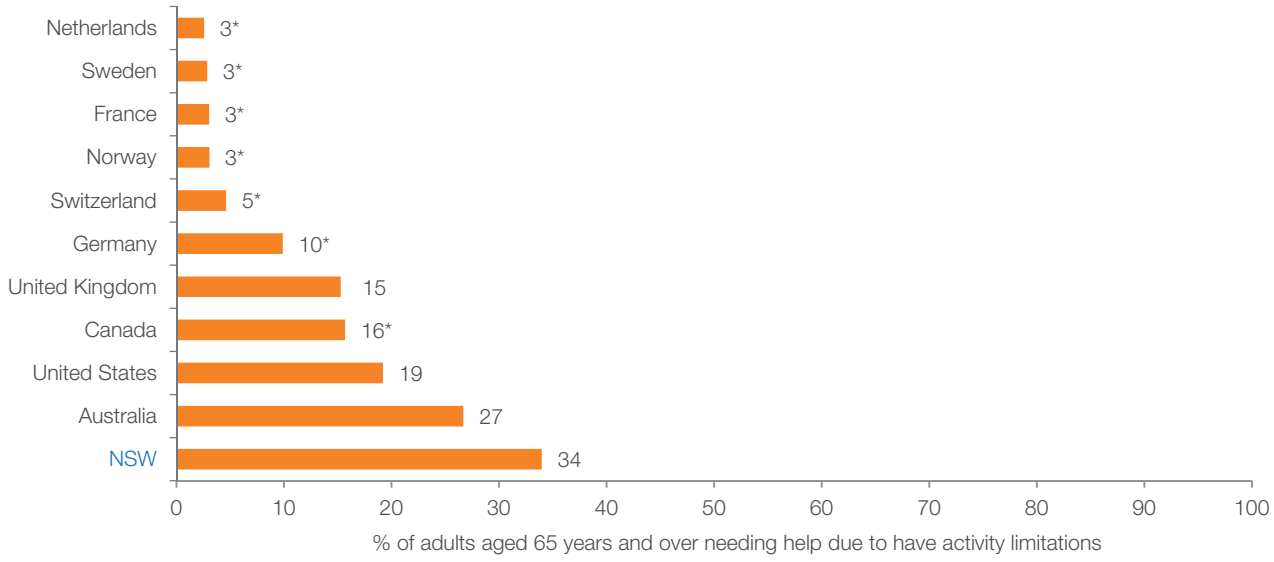
Source : Commonwealth Fund, International Health Policy Survey of Older Adults 2014

Figure 1.8 Percentage of adults aged 55 years and over who skipped consulting a doctor, or treatments, or medication due to cost in the past year, by presence of a chronic condition, NSW and comparator countries, 2014



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

Figure 1.9 Percentage of adults aged 65 years and over needing help due to activity limitations who did not get help because of cost, NSW and comparator countries, 2014



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

* Estimate statistically significantly different than NSW.

Accessibility of primary care

Primary care is not always available nor convenient

Accessibility of primary care encompasses the availability of timely and responsive services and the ease and convenience for patients seeking to receive this type of healthcare.

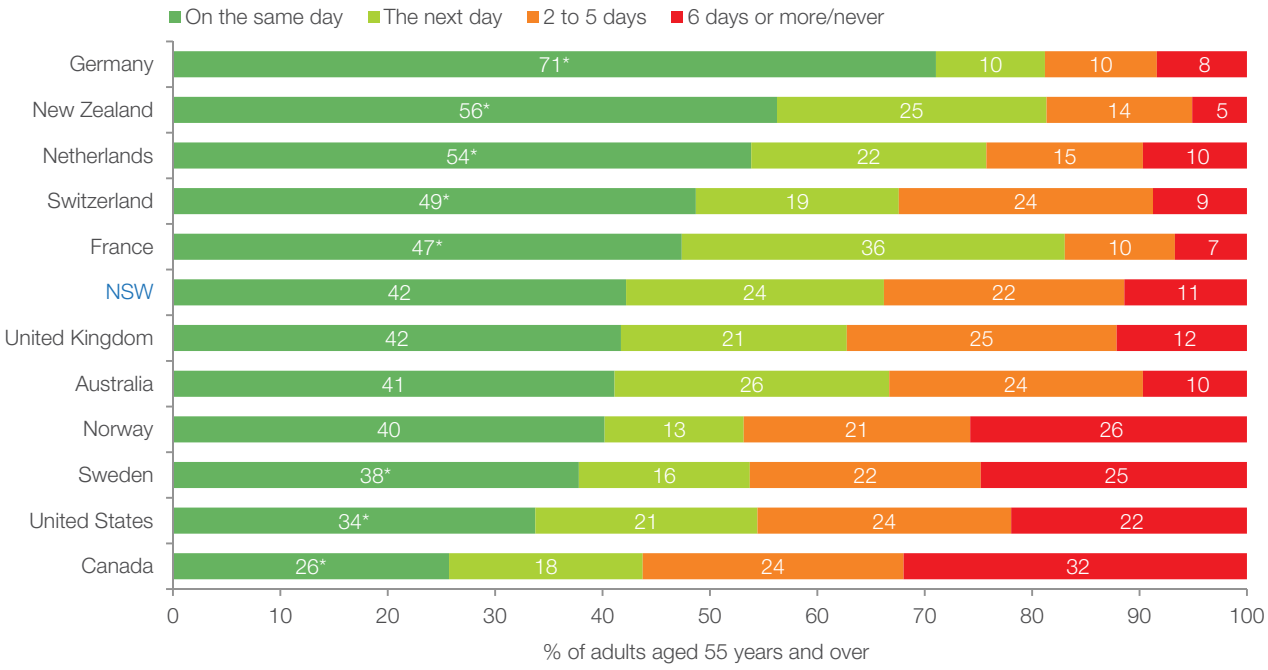
In 2014, four in 10 NSW adults aged 55 years and over (42%) reported obtaining a same-day appointment when needed — fewer than in Germany, New Zealand, the Netherlands, Switzerland and France but more than in Sweden, the United States and Canada (Figure 1.10).

Only two in 10 (21%) in NSW said it was very easy to get out-of-hours care when needed, although internationally rates were generally low, ranging from 6% to 39% (Figure 1.11).

Among those who contacted their regular care provider during normal clinic hours, fewer than half (47%) in NSW said they received a response on the same day — a lower percentage than in eight of the 11 comparator systems (Figure 1.12).

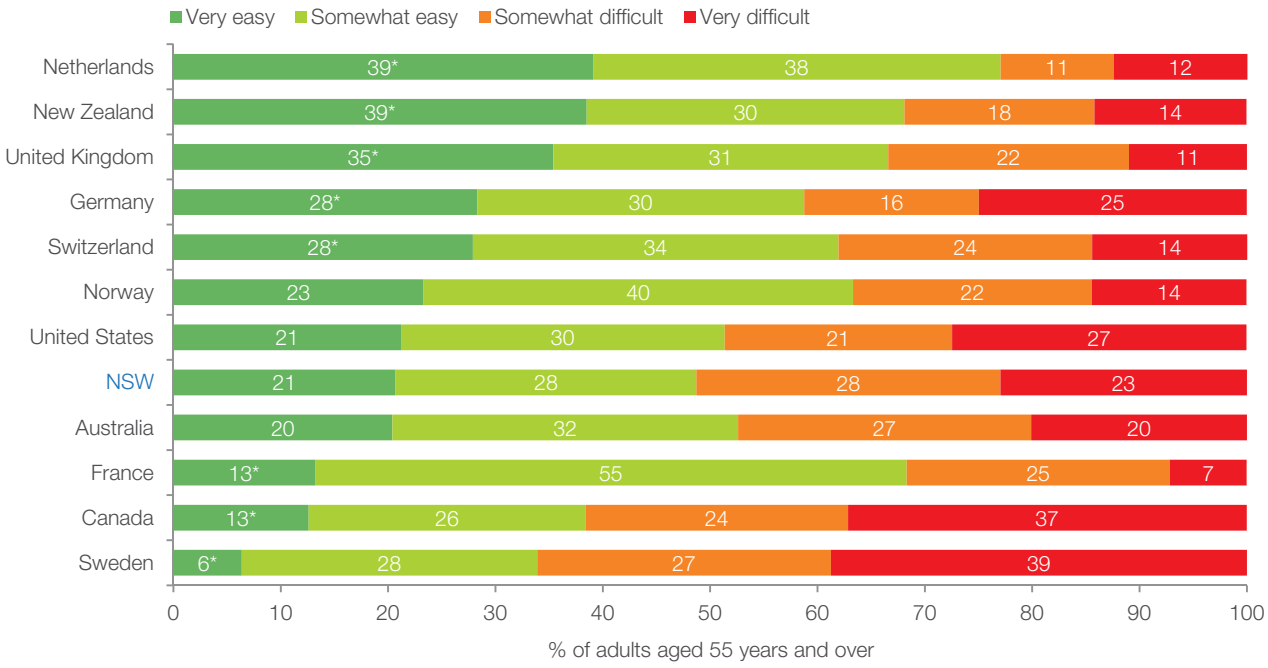
An Australian Bureau of Statistics survey of NSW residents aged 15 years and over found that one in 10 (13%) did not see a GP when needed on at least one occasion in the previous year.[5] The main reasons given for lack of access were that people were too busy (33% of responses), the waiting time was too long (21%), and that the service was not available when needed (12%).

Figure 1.10 GP Percentage of adults aged 55 years and over who needed an appointment to see a doctor or nurse, by number of days waiting, NSW and comparator countries, 2014



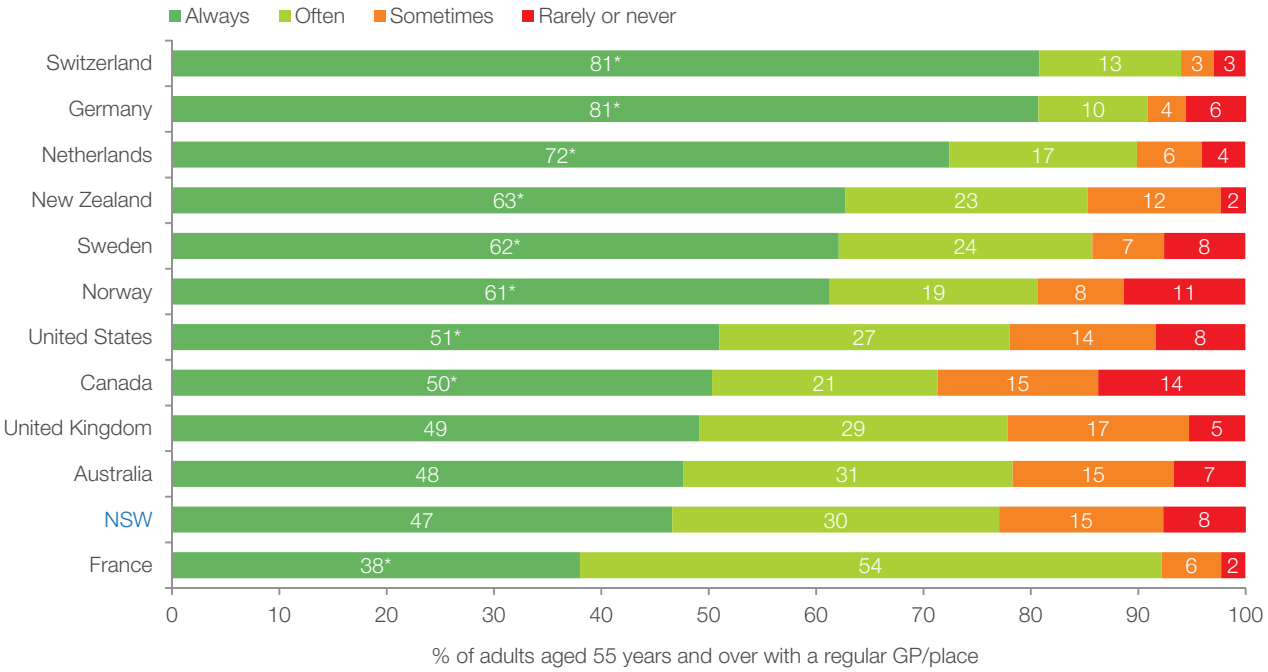
Source : Commonwealth Fund, International Health Policy Survey of Older Adults 2014

Figure 1.11 GP Percentage of adults aged 55 years and over who needed GP out-of-hours care, by ease of accessing care, NSW and comparator countries, 2014



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

Figure 1.12 GP Percentage of adults aged 55 years and over who called their regular place of care with a concern, by frequency of obtaining a same-day response, NSW and comparator countries, 2014



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

*Estimate is statistically significantly different than value for NSW. Note: Values may not add up to 100% due to rounding.

Accessibility of care for chronic conditions

People with chronic conditions have difficulty accessing out-of-hours care

More than two million people in NSW have a chronic condition such as arthritis, asthma, coronary heart disease, chronic obstructive pulmonary disease, depression or diabetes.[6] In general terms, chronic diseases are ongoing conditions that are never cured but can be successfully controlled with careful management and engagement of patients in their own care. People with a chronic condition need accessible services that include regular monitoring and treatment, and responsive sources of evidence-based advice and support.

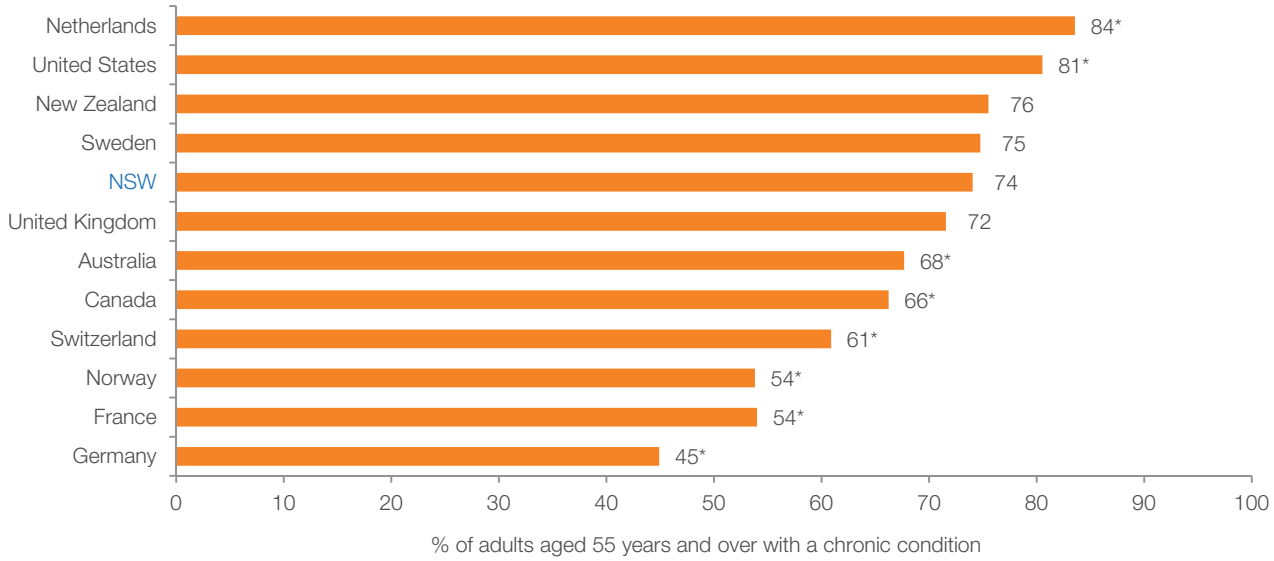
Accessibility of care can be shaped by service 'approachability' — as for some people, seeking out advice or treatment is daunting. Proactive outreach and case management can in these circumstances enhance accessibility, and have been associated with improved outcomes across a range of chronic conditions.[7]

In 2014, among NSW adults aged 55 years and over who have a chronic condition, seven in 10 (74%) said there was someone they could easily contact for advice about their condition — a higher percentage than in six comparator countries (Figure 1.13).

Only three in 10 (29%) said there was a healthcare professional who proactively contacted them between visits to see how things were going. NSW performed better than most comparator countries on this measure (Figure 1.14). In almost all jurisdictions, the percentage of people reporting that their healthcare provider was proactive in outreach was less than half the percentage who said more reactive support was available if needed (Figures 1.13 and 1.14).

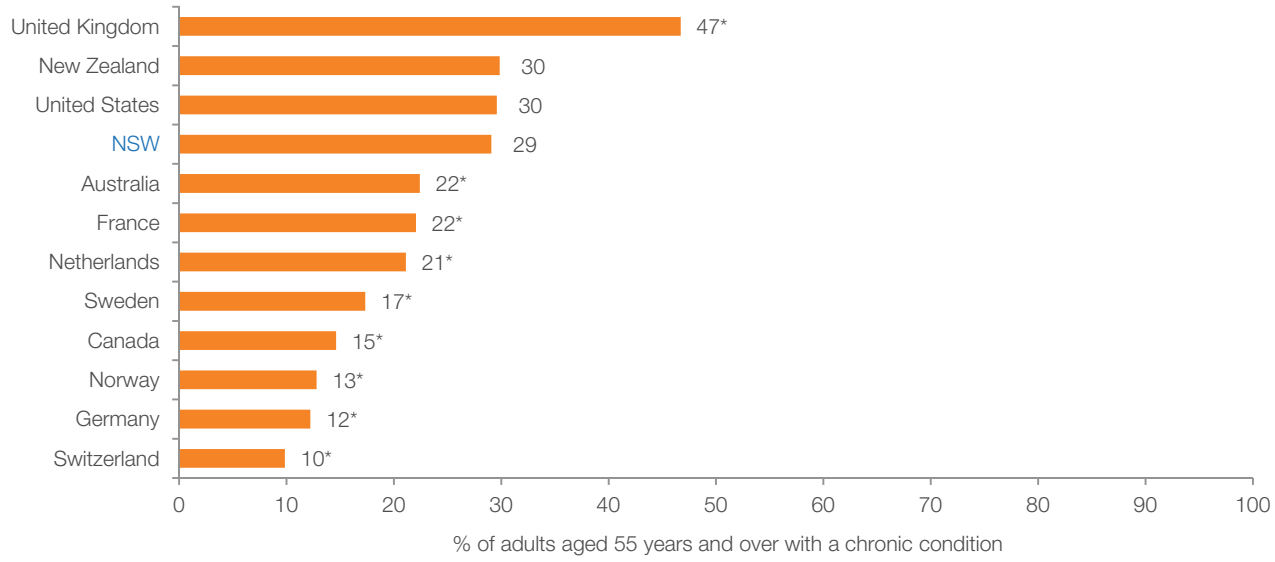
In NSW, among those with a chronic condition, six in 10 adults aged 55 years and over (64%) said they were affiliated with a medical home that delivers continuity and coordination of care (Figure 1.3). However, availability of out-of-hours care was limited, with half of those with a chronic condition (53%) describing access as somewhat or very difficult (Figure 1.15).

Figure 1.13 Percentage of adults aged 55 years and over with a chronic condition who reported having a healthcare professional whom they could contact for advice about their condition, NSW and comparator countries, 2014



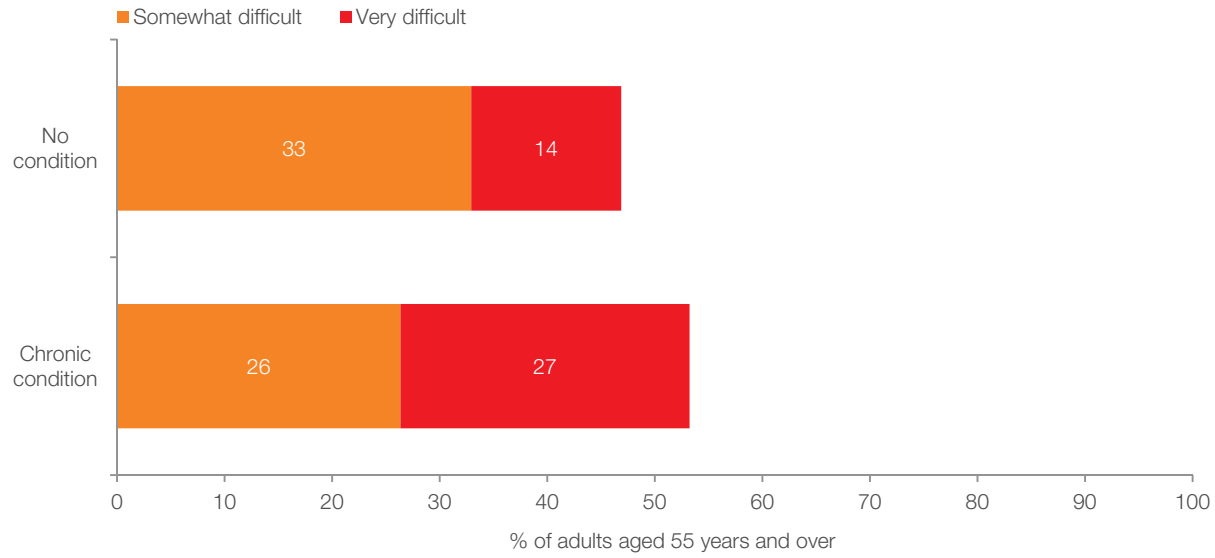
Source : Commonwealth Fund, International Health Policy Survey of Older Adults 2014

Figure 1.14 Percentage of adults aged 55 years and over who reported that someone contacts them to monitor their condition between visits, NSW and comparator countries, 2014



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

Figure 1.15 Percentage of adults aged 55 years and over reporting some difficulty in accessing out-of-hours care, by presence of a chronic condition, NSW, 2014



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

* Estimate is statistically significantly different than value for NSW.

Note: Chronic conditions included: hypertension or high blood pressure, heart disease, including heart attack, diabetes, asthma or chronic lung disease such as chronic bronchitis, emphysema or COPD, depression, anxiety or other mental health problems, cancer, joint pain or arthritis.

Timely access to care: Starting treatment in the ED

NSW emergency departments have improved in the time to start treatment

Emergency departments (EDs) provide specialised assessment and life-saving care for acutely unwell patients, and often act as an entry point to inpatient services. They are open to all and coverage is limited only by geographical proximity to an ED.

Upon arrival at an ED, patients are allocated to one of five urgency (or triage) categories. Each category has a nationally defined recommended time frame within which patients should start to receive care:

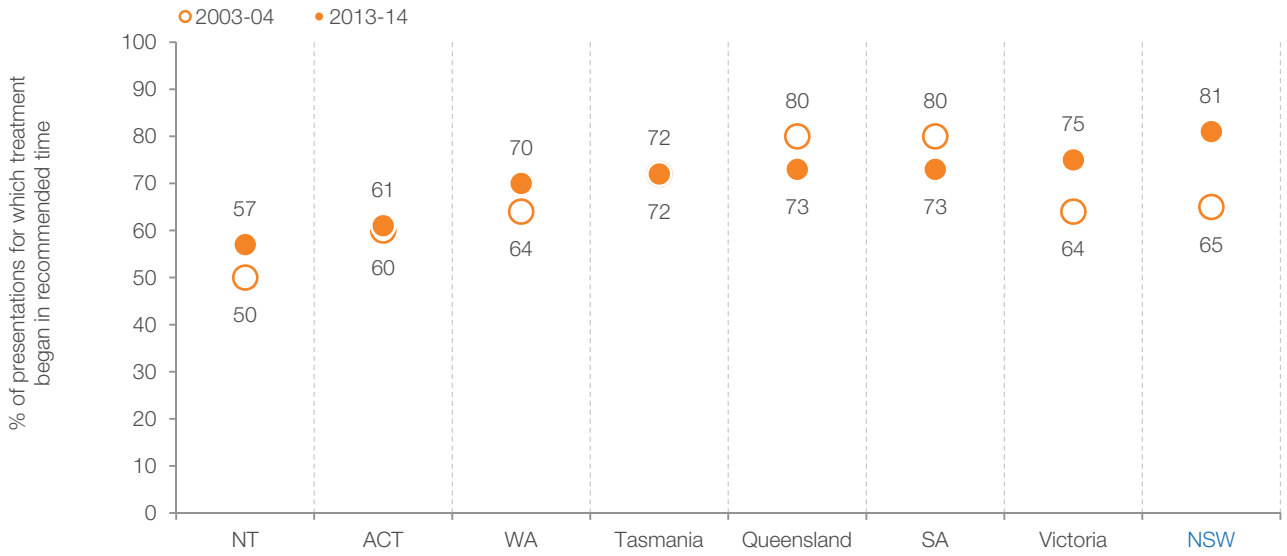
- Resuscitation (within 2 minutes)
- Emergency (within 10 minutes)
- Urgent (within 30 minutes)
- Semi-urgent (within 60 minutes)
- Non-urgent (within 120 minutes).

In 2013–14, for eight in 10 visits to NSW EDs (81%), patients received initial treatment within the recommended times. Comparing nationally over the preceding decade, NSW EDs recorded the greatest improvement in this measure of 'time to treatment' (Figure 1.16).

Measures that assess compliance with recommended treatment times are of value clinically and organisationally, however they are not always clear or meaningful to patients. Measures of median waiting times are more discernible — describing periods of time actually waited. For a particular group of patients, the median wait is the length of time the 'middle' patient waited, i.e. half had a shorter wait and half had a longer wait. Median waiting times in NSW EDs differ across urgency categories, reflecting clinical priorities. Within urgency categories, median waiting times have decreased despite increasing patient volumes, representing a general improvement in timely access to ED care (Figure 1.17).

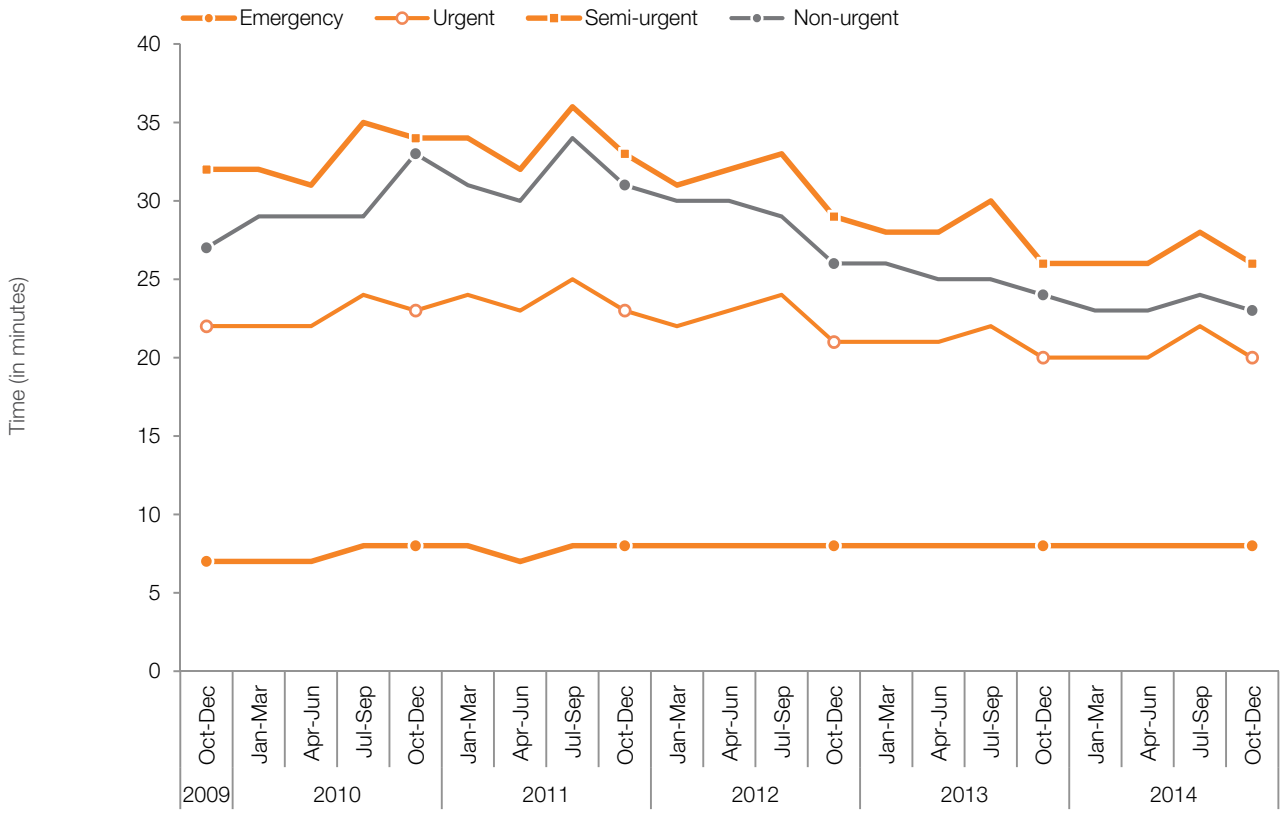
A patient perspective on ED waiting times is available from the NSW Emergency Department Patient Survey data. In 2013–14, two in 10 ED patients (20%) said the total time they waited before being treated was 'a big problem'. This percentage ranged across NSW EDs from 1% to 36% (Figure 1.18).

Figure 1.16 Percentage of emergency department presentations for which treatment started within clinically recommended time frames, states and territories 2003–04 and 2013–14



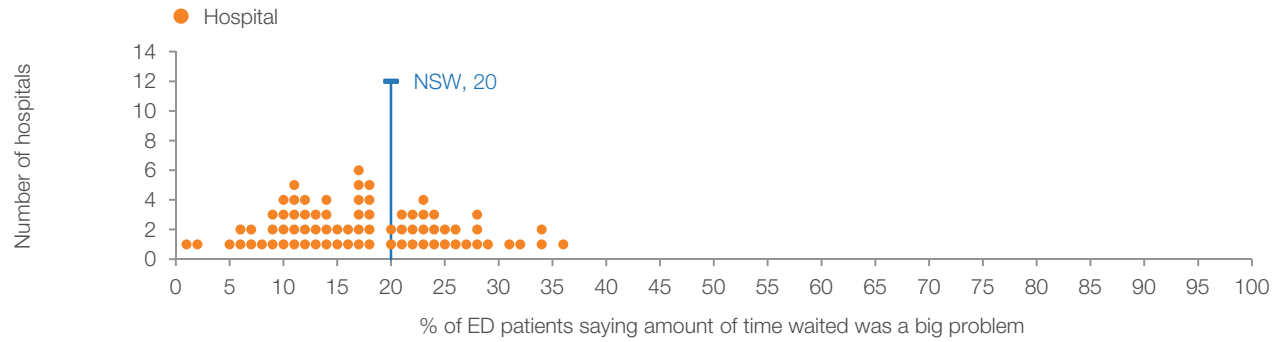
Source: AIHW, Australian hospital statistics 2013–14: emergency department care. 2014

Figure 1.17 Median time from emergency presentation to starting treatment, by urgency category, NSW public hospitals, October 2009 – December 2014



Source: NSW Ministry of Health, Emergency Department Data Collection (Extracted January 2015).

Figure 1.18 Percentage of emergency department patients saying the amount of time they waited before being treated was a big problem, NSW public hospitals, 2013–14



Timely access to care: Time spent in ED

Time spent in the emergency department has decreased for many patients

Following assessment, stabilisation and treatment in the ED, patients can either be discharged home, admitted to a short term Medical Assessment Unit or Emergency Medical Unit, admitted to a hospital ward, or transferred to another facility. Nationally, there is an agreed target to increase the percentage of patients leaving the ED within four hours.

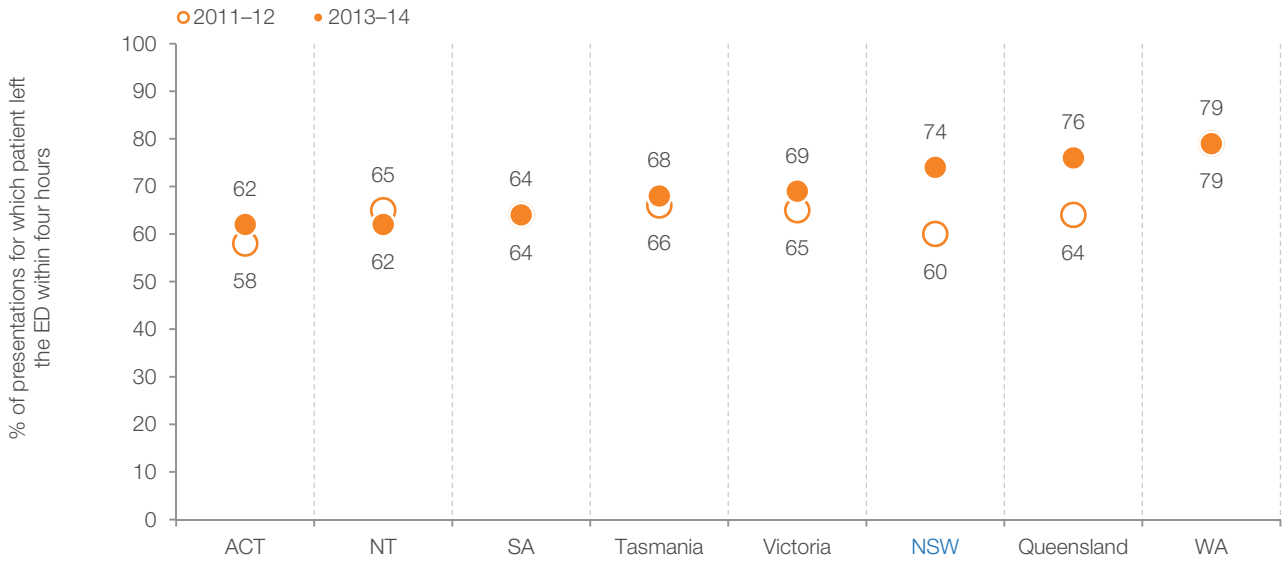
In 2013–14, for 74% of ED presentations, patients left the ED within four hours[i] — an increase of 14 percentage points from 2011–12 and one that represents the biggest improvement nationally (Figure 1.19).

While these overall figures provide a broad picture of timeliness, more meaningful comparisons distinguish between visits ending with patient discharge and those ending with patient admission (or transfer). In general, patients requiring hospital admission are less likely to leave the ED within four hours of arrival.

Statewide, among ED presentations that ended with discharge, 82% concluded with patients leaving the ED within four hours of arrival. In contrast, among presentations that ended with admission to hospital or transfer, only 41% concluded with patients leaving the ED within four hours. Comparing performance across NSW hospitals in 2013–14 for visits ending in discharge, the percentage of patients who left the ED within four hours ranged from 63% to 99%. For visits ending in hospital admission, the percentage of patients who left the ED within four hours ranged from 15% to 97%. Peer group C[ii] (smaller) hospitals generally had a higher percentage of patients leaving within four hours compared to other peer groups (Figure 1.20).

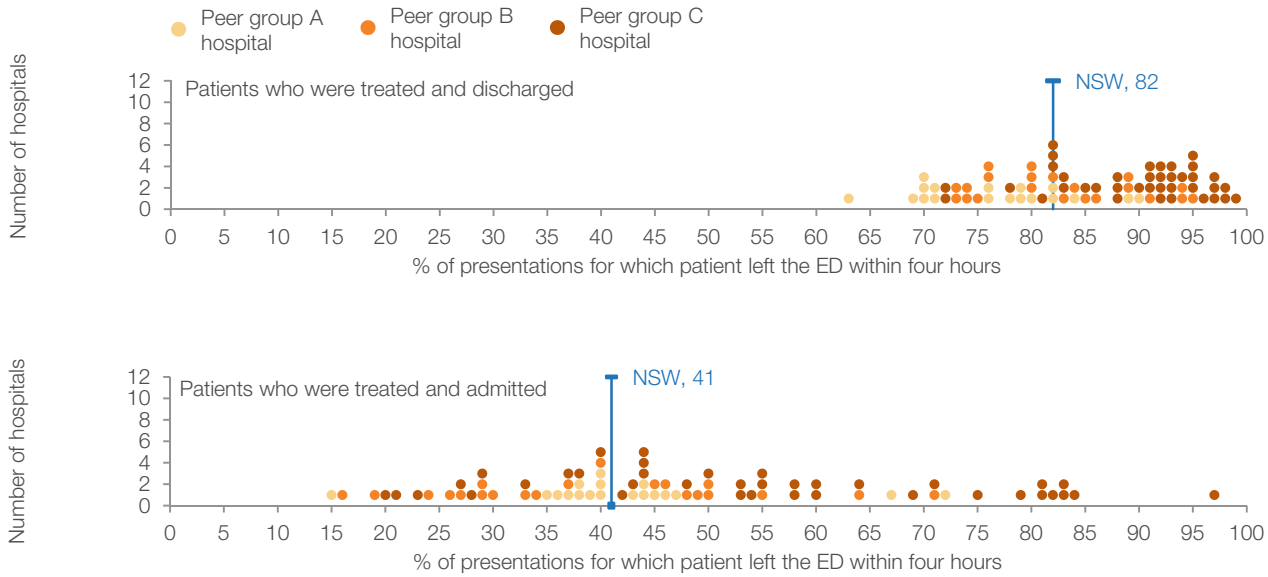
From a patient perspective, NSW Emergency Department Patient Survey data show that two in 10 patients (18%) said they were delayed in leaving the ED. A range of reasons were given for delays, most commonly waiting for a bed on a ward (41%) (Figure 1.21).

Figure 1.19 Percentage of presentations to emergency departments for which patients left within four hours, public hospitals, states and territories, 2011–12 and 2013–14



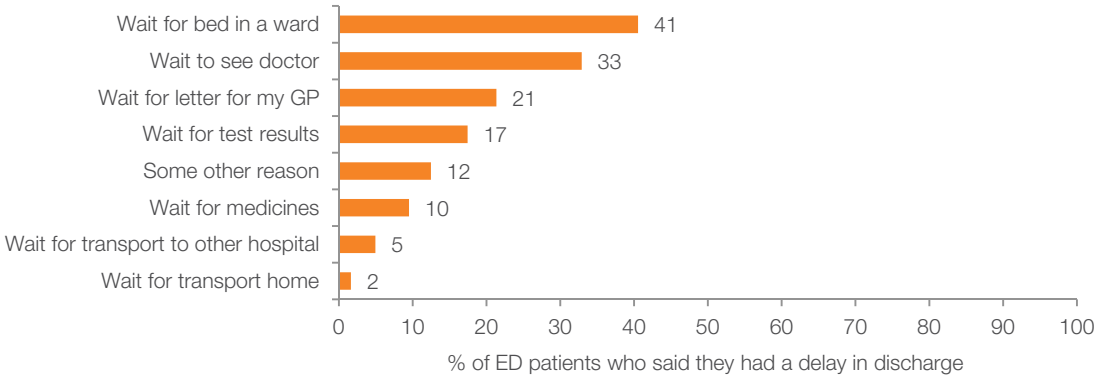
Source: AIHW, Australian hospital statistics 2013–14: emergency department care. 2014

Figure 1.20 Percentage of presentations to emergency departments for which patients left within four hours, by mode of separation, by hospital peer group, NSW public hospitals, 2013–14



Source: NSW Ministry of Health, Emergency Department Data Collection (Extracted January 2015).

Figure 1.21 Percentage of emergency department patients who were delayed leaving the ED, by reported reasons for delay in discharge, NSW public hospitals, 2013–14



Source: BHI, NSW Patient Survey Program, Emergency Department Patient Survey April 2013 to March 2014

i BHI Hospital Quarterly results differ from those published by AIHW due to the differences in emergency department coverage (related to timeliness and electronic patient data submission). The most recent Hospital Quarterly has a slightly lower overall estimate for NSW at 73% for October – December 2014.

ii NSW Health uses a classification of peer groups to consider similar hospitals together. For example, peer group A is made up of principal referral hospitals and specialist hospitals. Peer group B includes other major hospitals. Peer group C includes medium and smaller sized hospitals. For more detail see Hospital Quarterly.

Timely access to care: Seeing a specialist

Most patients in NSW wait less than four weeks to see a specialist

Patients visit specialists for different reasons, including diagnosis, treatment and monitoring of significant illnesses, and receipt of specialised services.

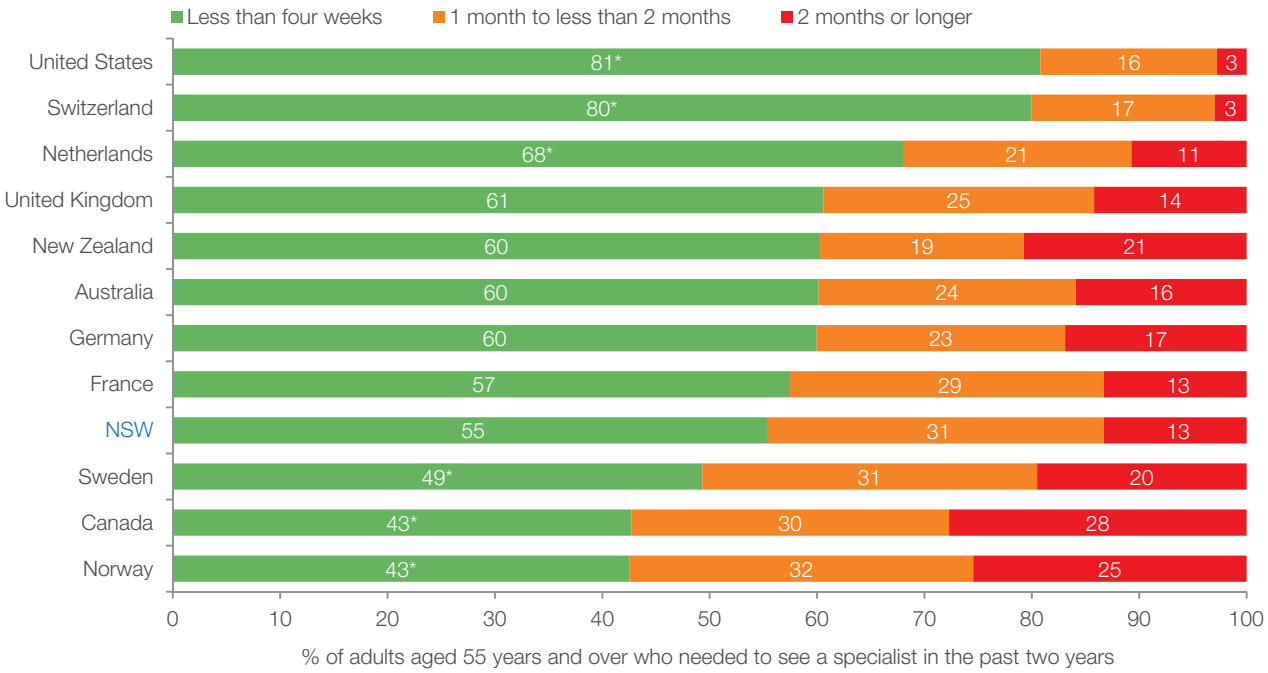
In 2014, six in 10 NSW adults aged 55 years and over (58%) said they saw a specialist in the preceding two years. Reported use of specialist services varied across countries from 43% in the United Kingdom to 86% in Germany (data not shown).

In NSW, among patients who needed to see a specialist, over half (55%) waited less than four weeks for an appointment. The percentage of patients reporting waits of less than four weeks varied across comparator countries, from 43% in Norway to 81% in the United States (Figure 1.22).

Data from the NSW Adult Admitted Patient Survey of hospital patients show that seven in 10 (65%) saw a specialist within four weeks of first trying to book an appointment. Comparing across NSW public hospitals, the percentage of patients reporting waits of less than four weeks ranged from 32% to 89% (Figure 1.23).

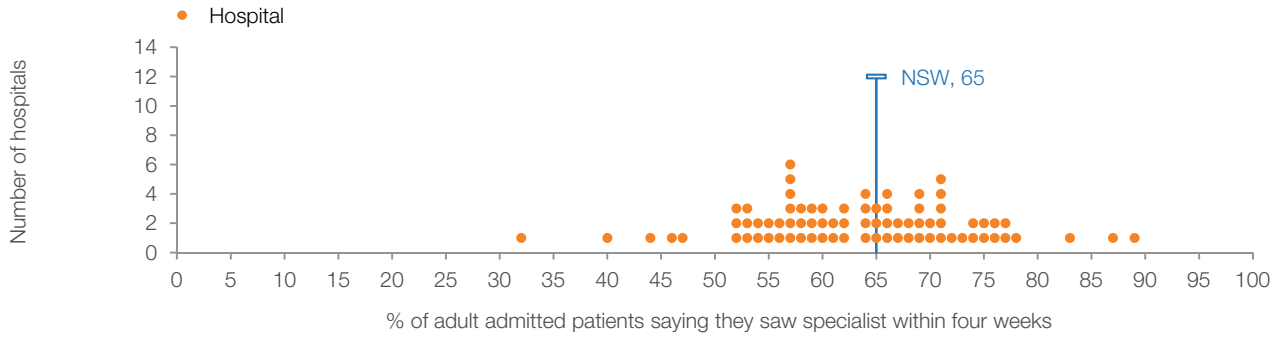
National patient experience survey data provides broader context about people seeking specialist care and explores issues that contribute to access problems and unmet needs. In 2013–14, one in 10 NSW adults aged 15 years and over (13%) who said they needed to see a specialist did not do so. The most commonly cited reason underlying that unmet need was cost (28%) (Figure 1.24).

Figure 1.22 Percentage of adults aged 55 years and over who needed to see a specialist, by time to specialist consultation, public and private, NSW and comparator countries, 2014



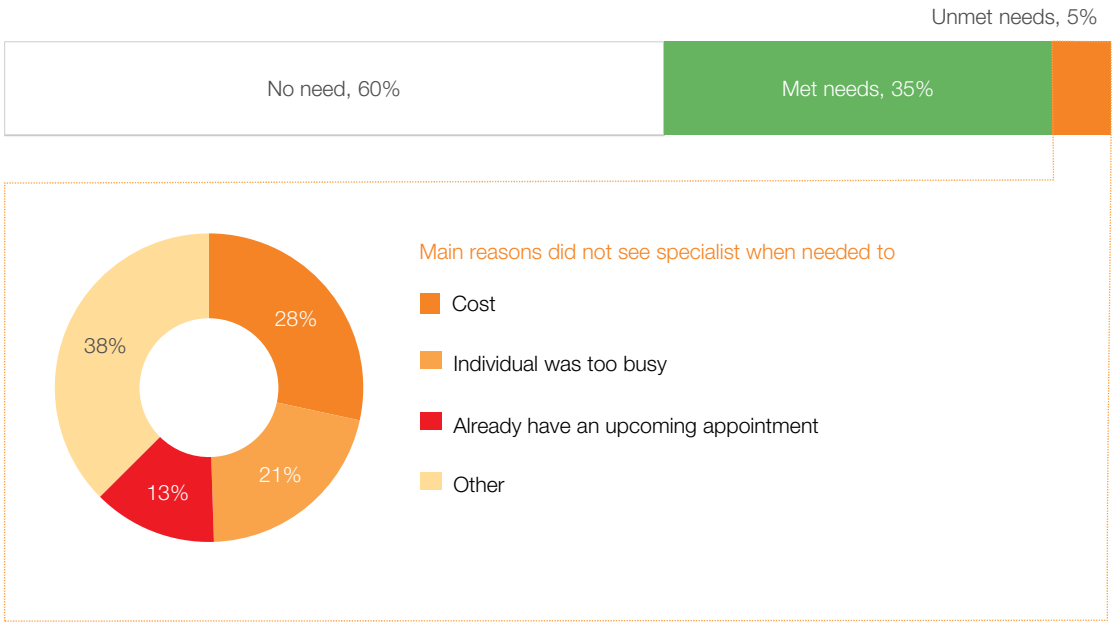
Source : Commonwealth Fund, International Health Policy Survey of Older Adults 2014

Figure 1.23 Percentage of NSW adult admitted patients who reported seeing specialist within four weeks, NSW public hospitals, 2013



Source: BHI, NSW Patient Survey Program, Adult Admitted Patient Survey 2013

Figure 1.24 Percentage of NSW patients aged 15 years and over, by reported need to see a specialist, and main reasons need was not met, 2013–14



Source: ABS, Patient Experience Survey 2013–14 (customised request)

* Statistically significantly different than NSW. Values may not add up to 100% due to rounding.

Timely access to care: Elective surgery

NSW has longer median waits but most surgical procedures are performed on time

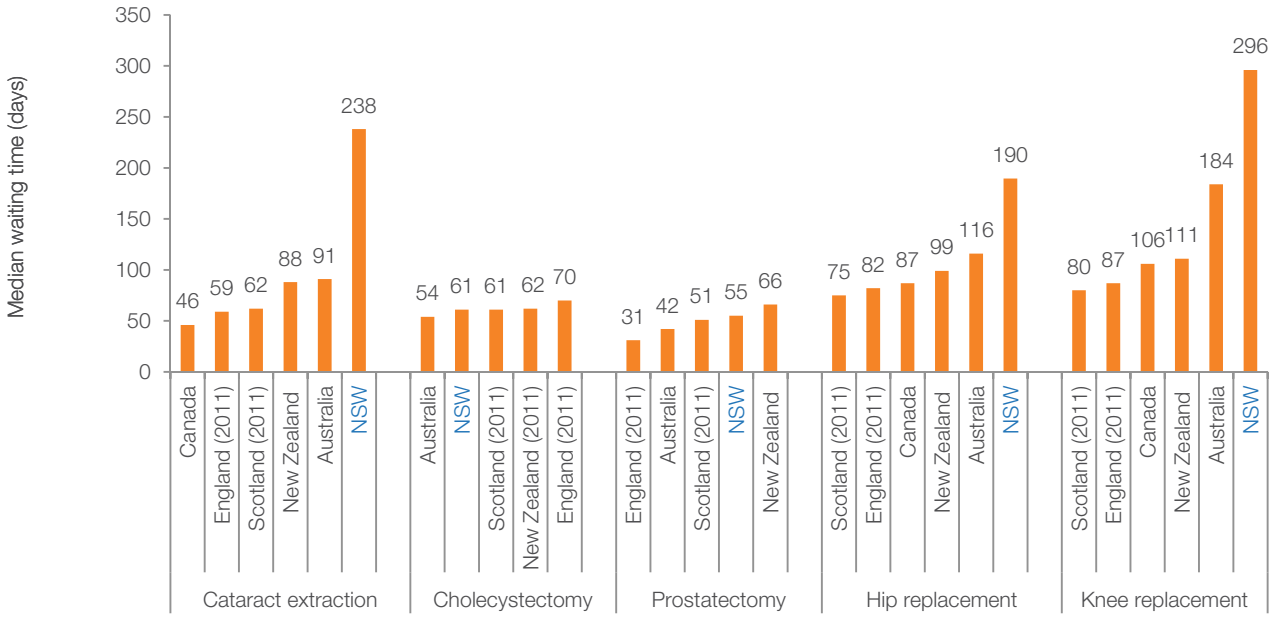
Long waiting times for elective surgical procedures — such as hip and knee replacements and cataract extractions — can impact patients, particularly their quality of life and the ability to carry out everyday tasks.[8]

In NSW between October and December 2014, 97% of elective surgical procedures were completed within clinically recommended time frames. Policies, guidelines and target times within which different types of surgery should occur vary across healthcare systems. Therefore, international comparisons are commonly made using median wait times. For a particular group of patients, the median wait is the length of time the 'middle' patient waited, i.e. half had a shorter wait and half had a longer wait. In 2012, median waiting times for cataract extraction and hip and knee replacement procedures in NSW public hospitals were substantially longer than those reported internationally and nationally.[9,10]

For other procedures, including prostatectomy (prostate removal) and cholecystectomy (gall bladder removal),[i] median waiting times in NSW are in line with those reported by comparator countries (Figure 1.25).

Median waiting times in NSW public hospitals[ii] increased for surgical procedures between 2006 and 2014. However, over the same period, the percentage of procedures performed within clinically recommended times increased and the percentage of procedures for which patients waited over a year decreased (Figure 1.26).

Figure 1.25 Median waiting times for selected elective surgery procedures (public hospitals or equivalent),[i] NSW and available international comparators, 2012 or nearest year[i]



Sources: OECD Health Statistics. NSW Health, Waiting List Collection On-line System (extracted 14 January 2015).

i Internationally, comparisons of elective surgery are available only for the procedures provided. Coronary artery bypass grafts were also included for some jurisdictions, but are not shown here.

ii In NSW, a substantial percentage of elective surgery occurs in the private sector. For example, 32% of cataract procedures and 53% of cholecystectomies are provided by public hospitals. The NSW data shown in this graph relate to public hospital patients (and publicly-funded patients admitted to private hospitals) only.

Notes: Elective surgery waits vary by procedure as well as urgency. Elective surgery procedures are classified within three urgency categories, each with a recommended maximum time by which the procedure should be performed: rgent (30 days), semi-urgent (90 days) and non-urgent (365 days). For more detail for NSW, local health districts and hospitals, see Hospital Quarterly: October – December 2014.

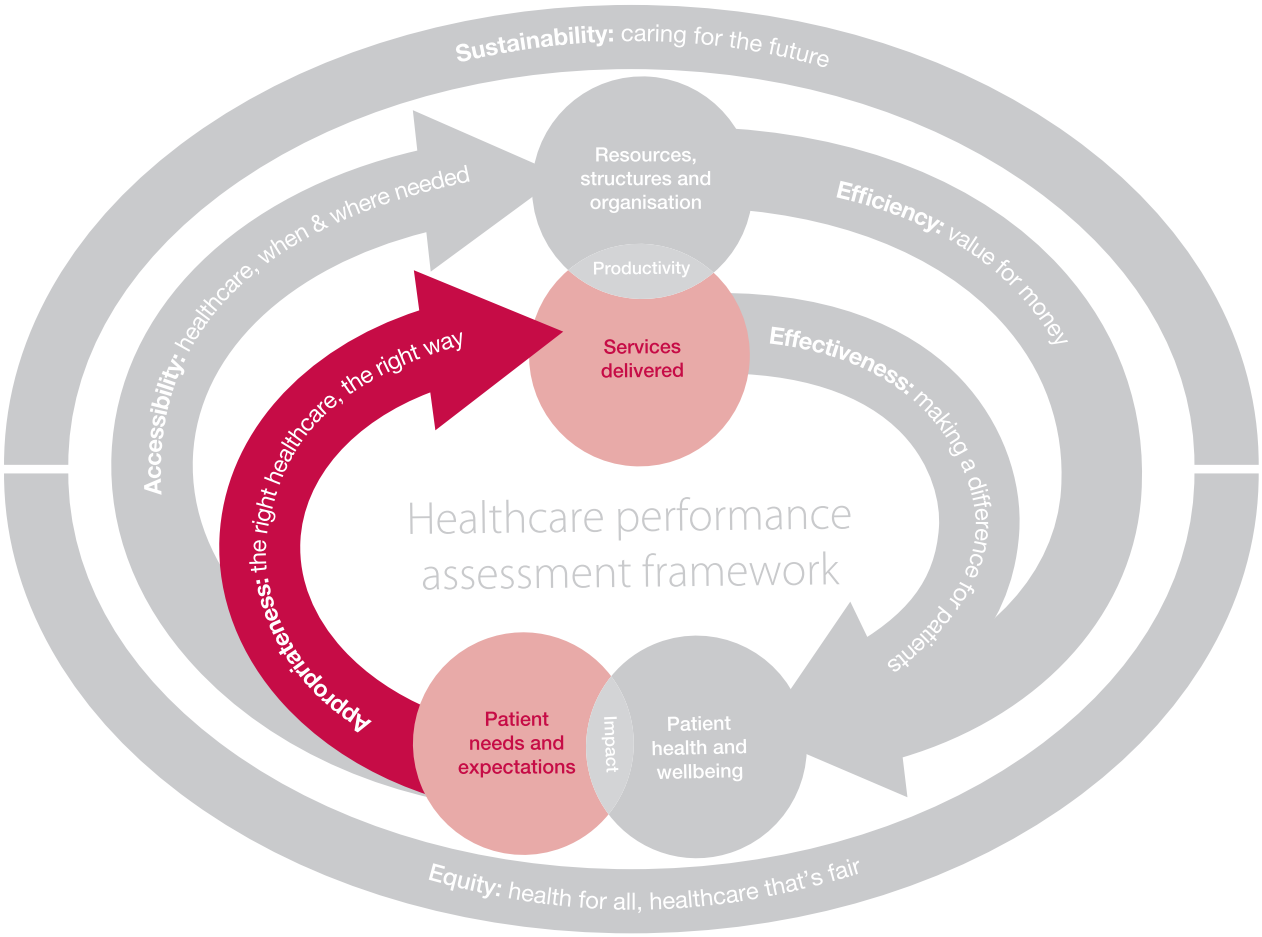
Australia data (such as reporting of clinical urgency categorisation) for public hospital elective surgery waiting times may be affected by variations in reporting practices across states and territories and over time.[9]

Figure 1.26 Median waiting times, percentage of procedures completed in recommended time and, percentage waiting over one year, by elective surgery type, NSW 2006 – 2014

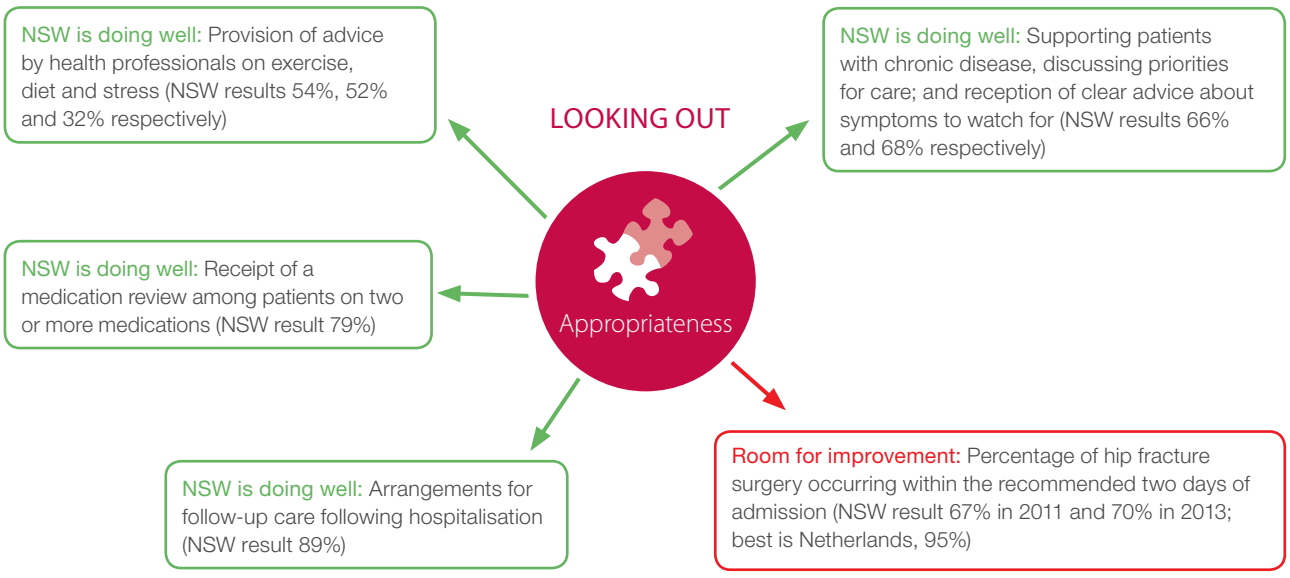
Source: NSW Health, Waiting List Collection On-line System (extracted 14 January 2015)

Appropriateness

The right care, the right way



Appropriateness in an international context



Appropriateness refers to the extent to which patients receive services that respond to their health needs, social circumstances and their reasonable expectations regarding how they want to be treated and cared for. Appropriate healthcare implies that people receive the right care, in the right setting and in the right way.

Appropriateness reflects issues such as technical quality and concordance with models of best practice and available evidence, risk mitigation and safety processes. It also relates to the physical environment and comfort; continuity and comprehensiveness of care; respectfulness and the protection of patients' dignity; communication and the provision of information; the participation and engagement of patients in their care; and assistance and responsiveness to patients' changing needs and circumstances.

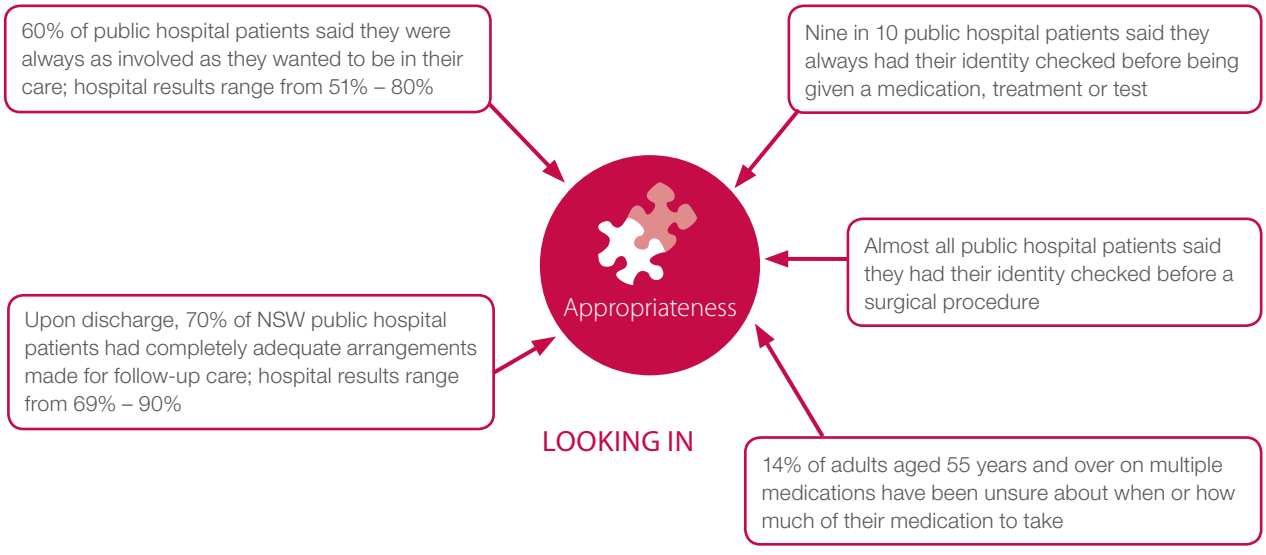
There are two main types of appropriateness measures. The first type focuses on rates of care delivery processes that have been proven to be of net benefit and are recognised as being part of best-practice models of care, i.e. is the right care delivered? The second type focuses on different elements of patient experience in various healthcare settings, i.e. is care delivered in the right way?

This edition of *Healthcare in Focus* presents a range of measures that help assess appropriateness of healthcare in NSW. Most measures place NSW results in an international context — using clearly defined and consistently applied performance measures to compare NSW with 11 OECD countries that have similarly developed health systems.

The measures of appropriateness contained in this report encompass:

- Receipt of preventive services (advice on healthy behaviours or appropriate screening services)
- Management of chronic conditions (supporting self-management and managing medication)
- Safety and medical mistakes
- Communication with and engagement of patients
- Coordination of care at hospital discharge
- Delivery of surgical care in accordance with clinical recommendations.

Appropriateness in NSW



Preventive health services

Half of adults aged 55 years and over received diet and exercise advice

Preventive health services provide cost-effective and sustainable ways to reduce the burden of sickness in the community.[1] Primary care plays an important role in health promotion and prevention, offering services such as vaccination, cancer screening and other health checks, and providing counselling and advice on healthy lifestyles.

In 2014, more than half of NSW adults aged 55 years and over reported that in the preceding two years a healthcare professional discussed with them: diet (52%), exercise (54%) or things that cause them worry or stress (32%). NSW outperformed most comparator countries on each of these questions (Figure 2.2).

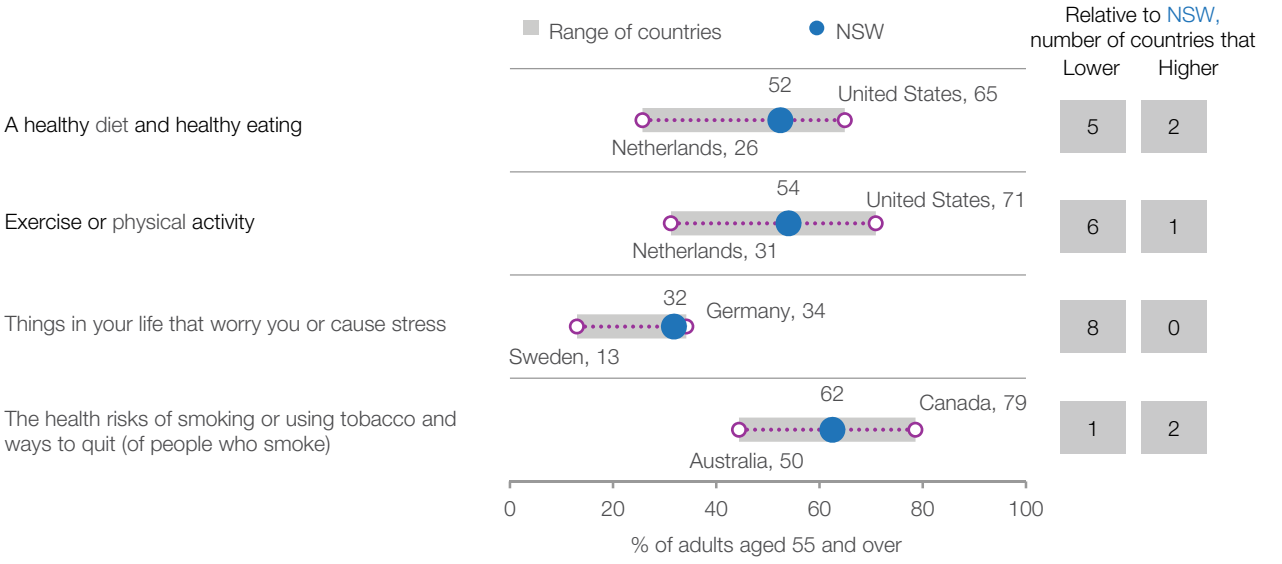
Specific counselling for more at-risk populations is an important part of health promotion. In 2014, six in 10 (62%) NSW adults aged 55 years and over who smoked said a health professional discussed with them the health risks and ways to quit. There were two comparator countries where a higher percentage of smokers said they received such advice (Figure 2.1).

An annual influenza vaccination is recommended for people aged 65 years and over as an effective way of preventing illness and minimising the need for hospitalisation. In 2013, seven in 10 (71%) NSW adults aged 65 years and over were vaccinated against influenza — a high rate internationally (Figure 2.2).

Breast screening by mammogram every two years for early detection and timely treatment of breast cancer is currently recommended for women aged 50–74 years. This is an extension of previous advice which defined the target age group as 50–69 years. Available data report on the 50–69 year cohort. In 2011–12, half of all NSW women aged 50–69 years (51%) were screened for breast cancer. This was low in comparison with other Australian states and territories (Figure 2.3).

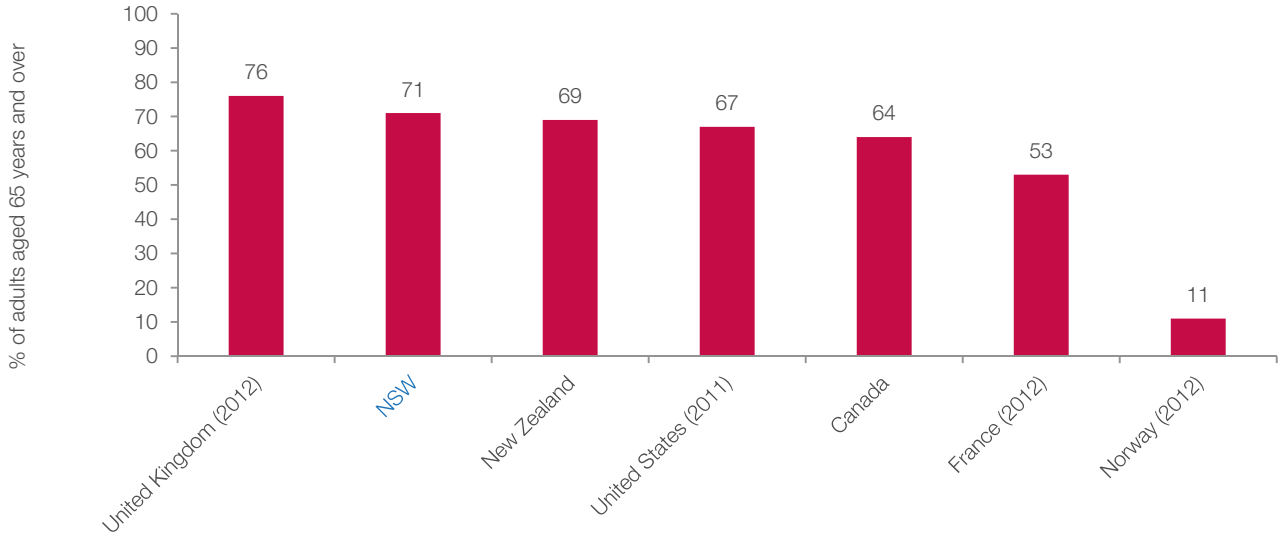
Between December 2010 and December 2014, the number of women aged 50–69 years screened biennially increased by around 23,000. However, due to population growth, participation rates are relatively static. For more information on cancer care in NSW see www.cancerinstitute.org.au/prevention-and-early-detection/screening-programs/breast-cancer.

Figure 2.1 Percentage of adults aged 55 years and over who reported receiving selected health promotion and prevention advice, NSW and comparator countries, 2014



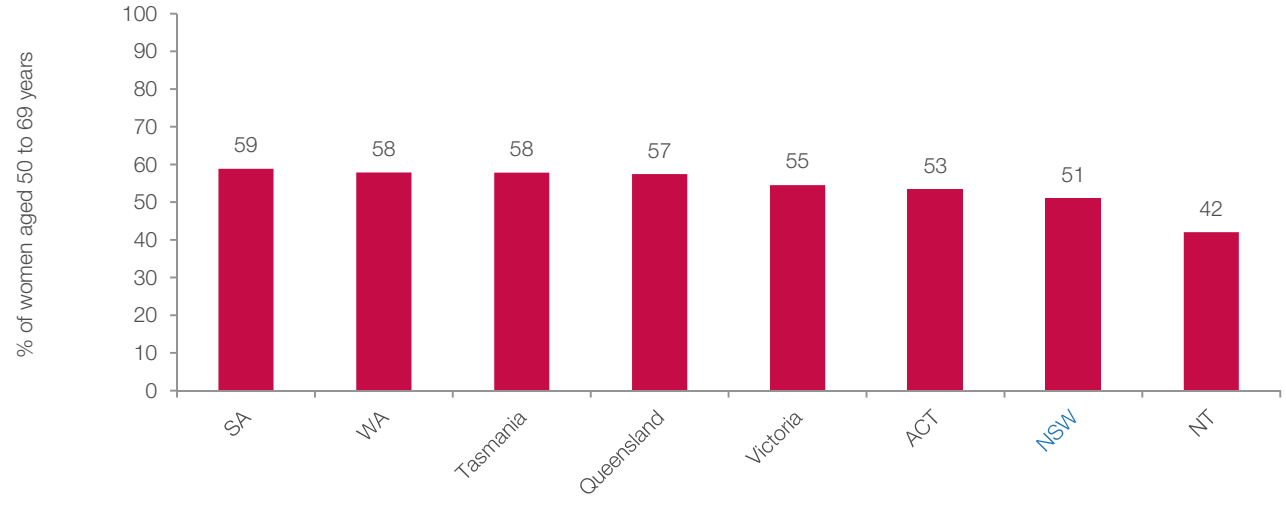
Source: Commonwealth Fund International Health Policy Survey of Older Adults 2014

Figure 2.2 Percentage of adults aged 65 years and over who reported they received an influenza vaccination, NSW and comparator countries, 2013 or nearest year



Sources: NSW Population Health Survey (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health. OECD health Statistics 2014. Canadian Community Health Survey, CANSIM table 105-0501.

Figure 2.3 Percentage of women aged 50–69 years who had a screening mammogram, states and territories, 2011–12



Source: AIHW, BreastScreen Australia monitoring report 2011–2012, 2014

Patient engagement in chronic care

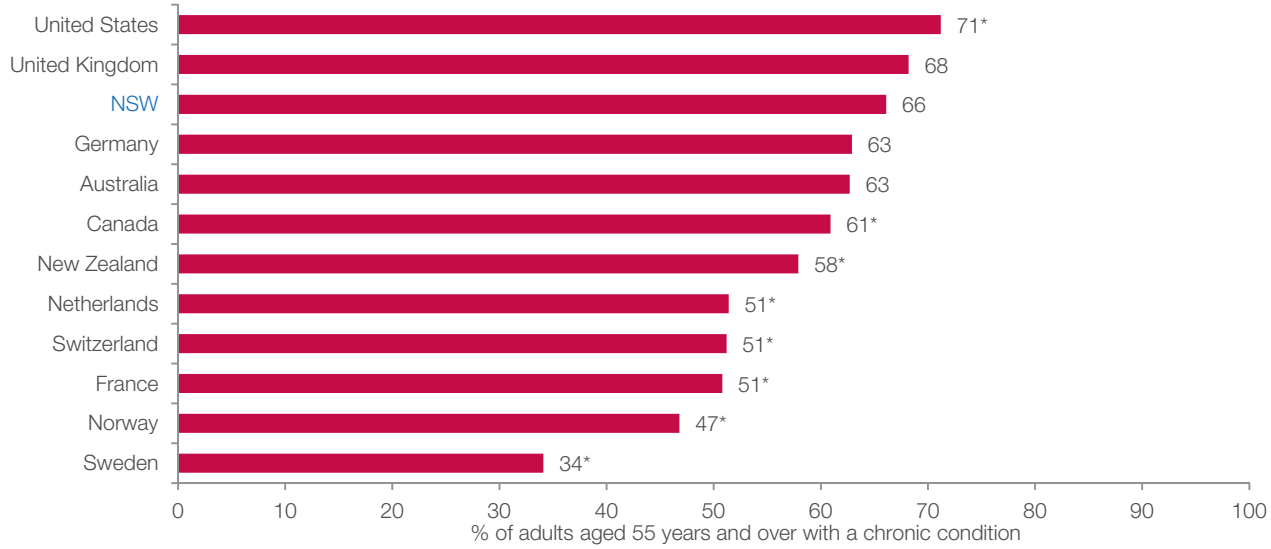
NSW patients with chronic conditions among most likely to report clear communication

Actively engaging patients in decisions about their care and providing support for informed self-management have been shown to have a positive impact on patient behaviours, quality of life, clinical symptoms and the efficient use of healthcare resources.[2]

Particularly important for people with chronic conditions, self-management is founded on clear communication between patients and healthcare providers — usually primary care providers — and the collaborative development of care plans. Care plans are written documents that describe goals for treatment and steps for how to achieve those goals.[3]

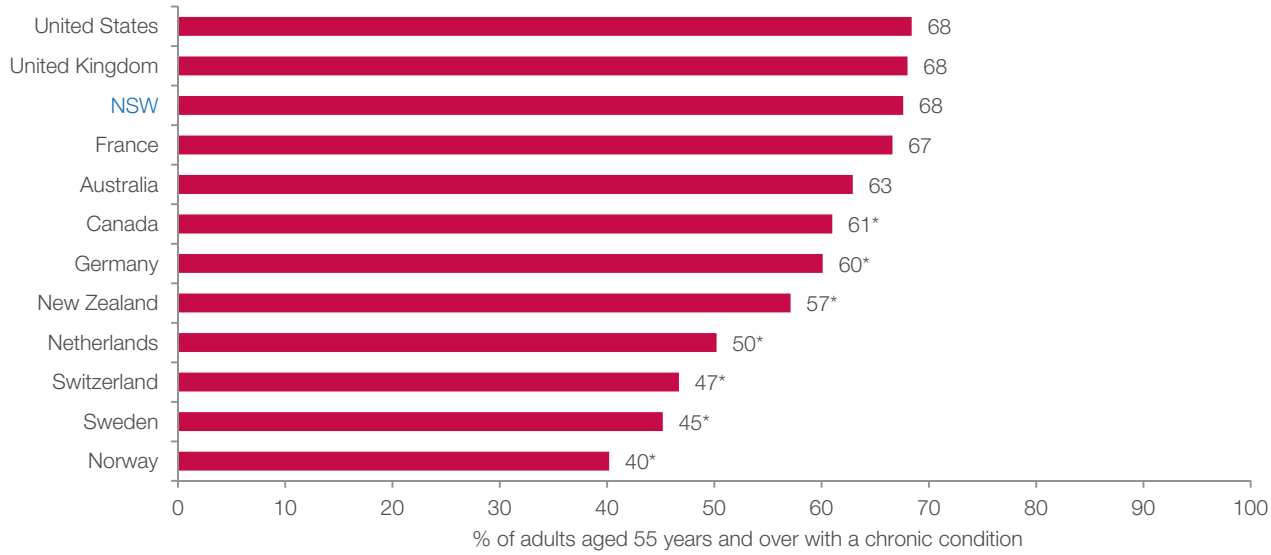
In 2014, among NSW adults aged 55 years and over who had a chronic condition, seven in 10 said that a healthcare professional had discussed with them the main goals in caring for their condition (66%) and given them clear instructions about symptoms to watch for and when to seek care (68%), while about half (47%) said a healthcare professional gave them a written plan to help manage their own care. Viewed alongside comparator countries, NSW results were in the top three for each of these measures (Figures 2.4, 2.5, and 2.6).

Figure 2.4 Percentage of adults aged 55 years and over with a chronic condition who said a healthcare professional discussed their main goals with them in the past year, NSW and comparator countries, 2014



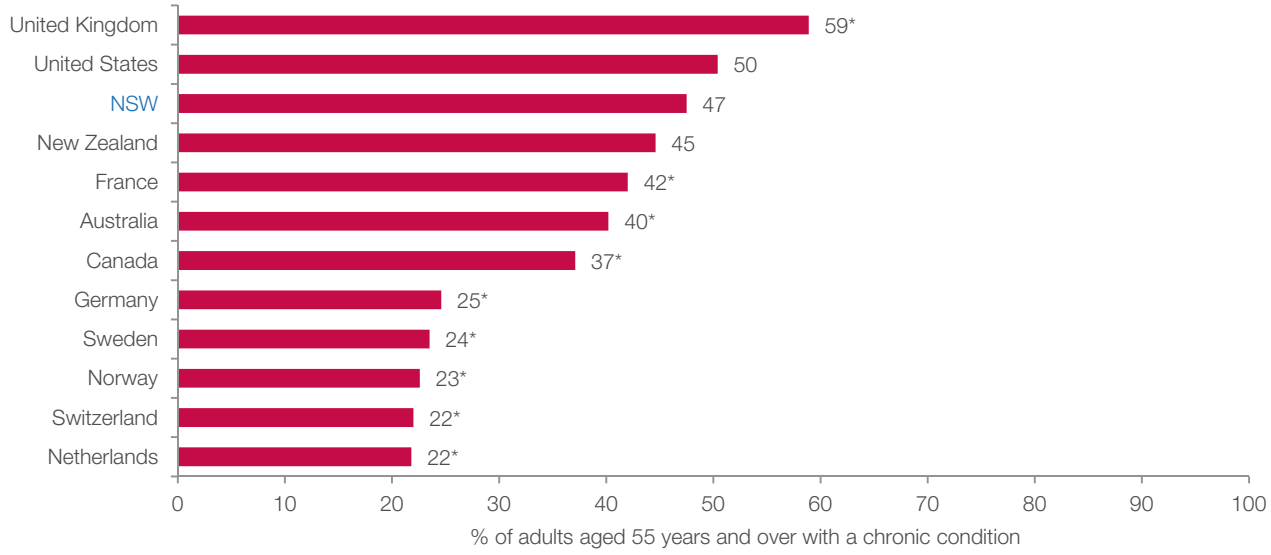
Source: Commonwealth Fund International Health Policy Survey of Older Adults 2014

Figure 2.5 Percentage of adults aged 55 years and over with a chronic condition who said a healthcare professional gave them clear instructions about when to seek care in the past year, NSW and comparator countries, 2014



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

Figure 2.6 Percentage of adults aged 55 years and over with a chronic condition who said a healthcare professional gave them a written plan to help manage their own care in the past year, NSW and comparator countries, 2014



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

*Estimate statistically significantly different than NSW,

Safe medication use

Appropriate processes for medication safety are generally followed

Medication-related errors are common. Many do not cause harm, but a significant percentage lead to serious consequences for patients. It has been estimated that adverse drug reactions occur either on admission to hospital or during hospitalisation for up to 3% of hospital stays in Australia.[4] Medication errors account for 27% of all clinical incidents occurring in Australian hospitals.[5,6]

Medication-related errors are often rooted in a lack of effective communication about medicines, particularly in care transitions.[7,8] Medication lists and reconciliation processes improve patients' understanding of and ability to manage their own medicines, and reduce the risk of medication errors.[9]

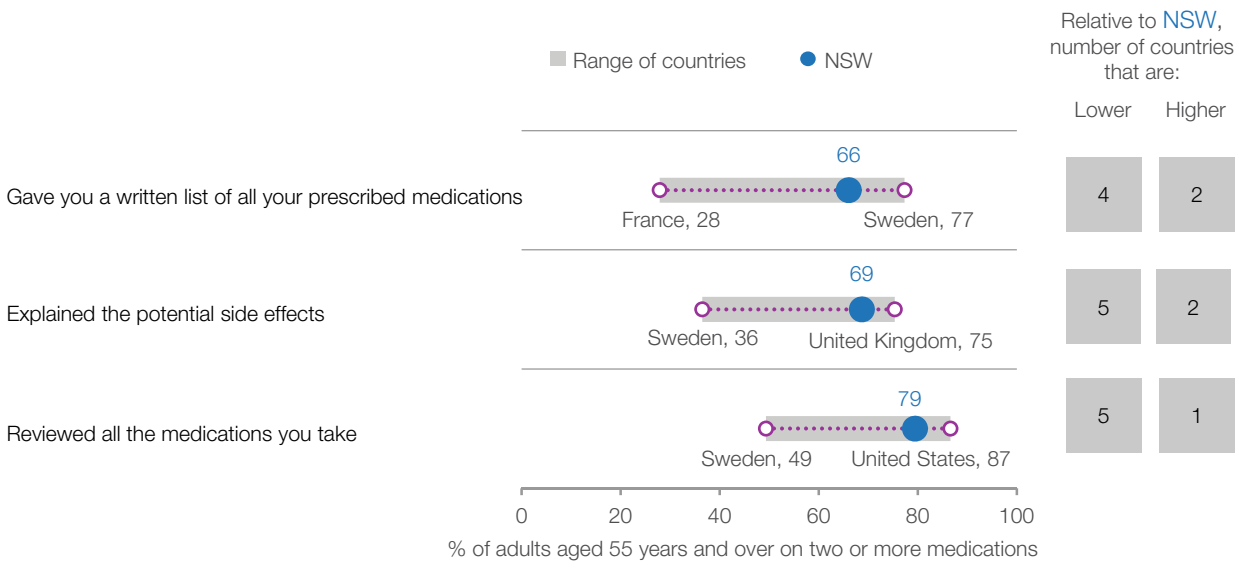
According to the 2014 Commonwealth Fund survey, six in 10 NSW adults aged 55 years and over were on two or more prescription medications (62%). Among this group, eight in 10 (79%) said a health professional had reviewed their medications in the previous year, and seven in 10 said a professional had explained possible side effects (69%) and given them a written list of their medications (66%) (Figure 2.7).

NSW-specific data show that among adults aged 55 years and over prescribed multiple medications, than one in 10 (14%) said they had been unsure about when or how much of their medication to take at some point in the previous year.[i]

For adults admitted to public hospitals in NSW, who were given medication to take home, almost all (91%) said they were given the 'right amount' of information about their medication. Results were consistently high across hospitals, ranging from 87% to 98% (Figure 2.8).

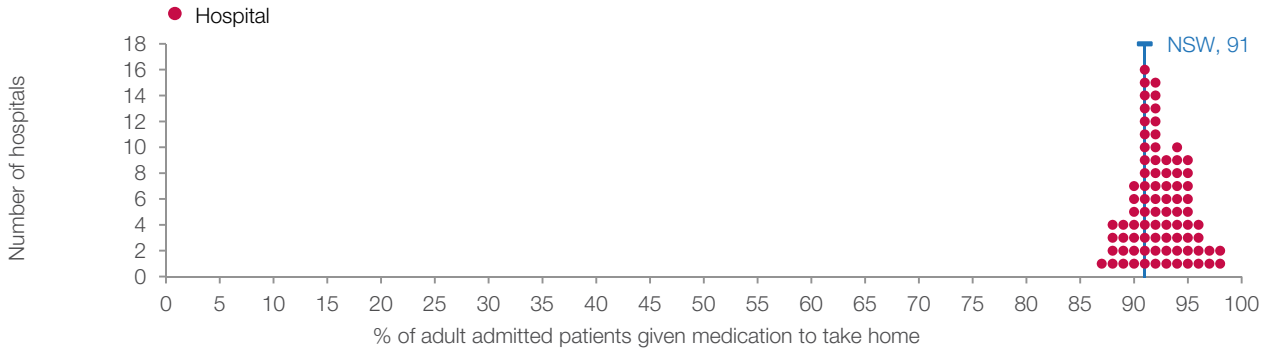
Among people who visited a NSW emergency department (ED) and were given medication, eight in 10 (84%) said staff explained the purpose of the medication in a way they could completely understand. However, fewer than half (48%) said they were told about potential side effects to watch for. There was considerable variation across hospitals (Figure 2.9).

Figure 2.7 Percentage of adults aged 55 years and over on two or more medications, by type of medication information, NSW and comparator countries, 2014



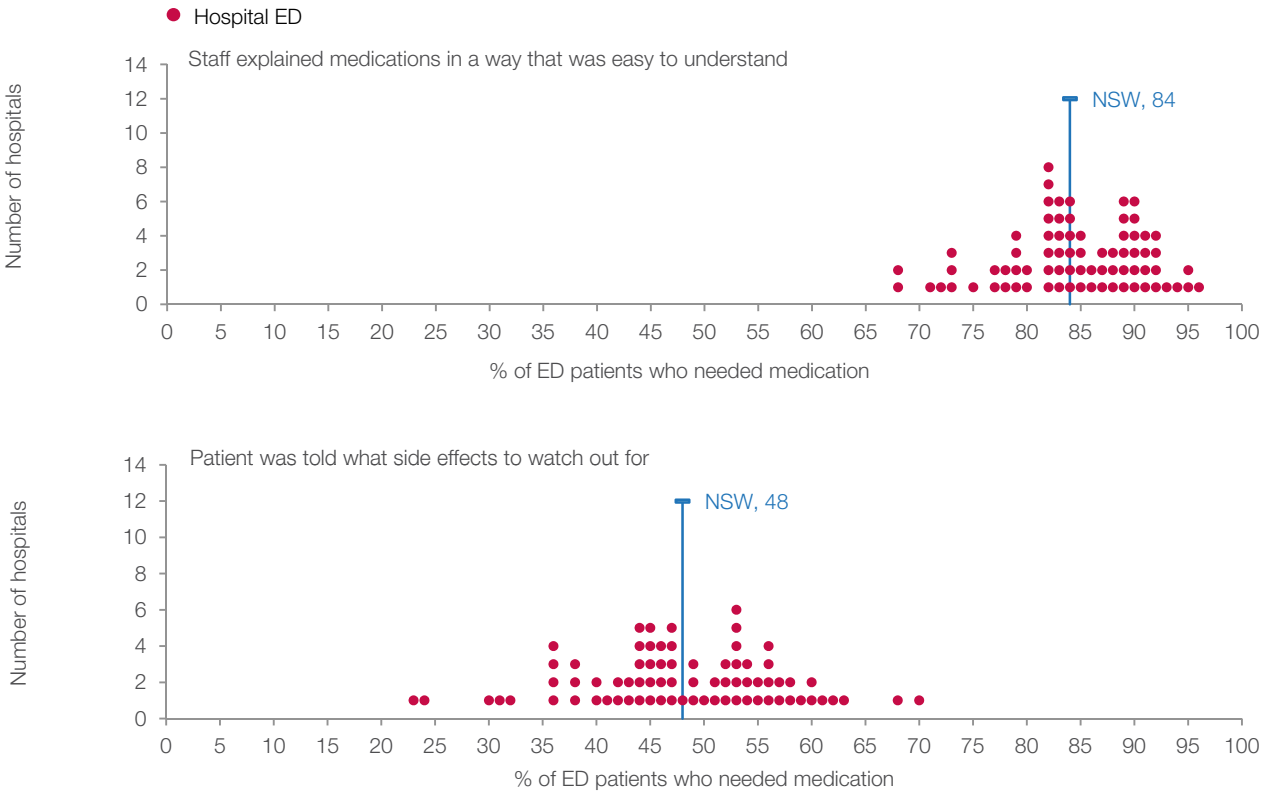
Source: Commonwealth Fund International Health Policy Survey of Older Adults 2014

Figure 2.8 Percentage of adult admitted patients on medication who said they were given the 'right amount' of information about the medication they were taking home, NSW public hospital variation, 2013



Source: BHI, NSW Patient Survey Program, Adult Admitted Patient Survey 2013

Figure 2.9 Percentage of ED patients who received specified medication information, NSW emergency department variation, by type of information, 2013–14



Source: BHI, NSW Patient Survey Program, Emergency Department Patient Survey April 2013 to March 2014

i The question about confidence with medication was not available for international comparators

Patient-reported medical mistakes

Almost all hospital patients had ID checks; 7% experienced a medical error

Appropriate care is delivered in a technically competent way that minimises medical mistakes. Many healthcare systems monitor 'sentinel events' as one way to measure deficiencies in appropriateness of care. Sentinel events are rare, but serious, 'never-events' such as wrong-site surgery,[i] haemolytic blood transfusions resulting from ABO incompatibility, and infants discharged to the wrong family. When these events do occur, they are often a result of failure to check patient identification.[10]

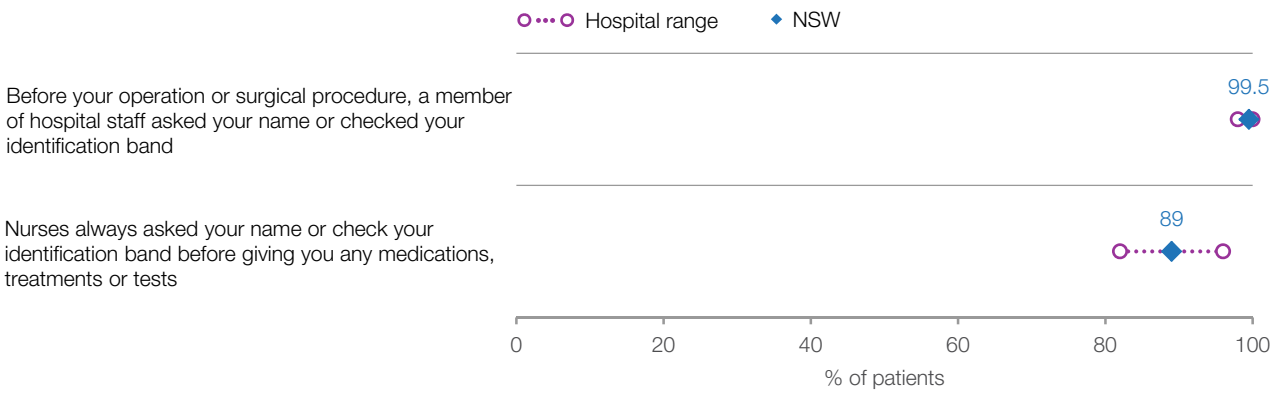
In 2013, among NSW public hospital patients undergoing a surgical procedure, 99.5% said that their identification was checked before surgery (Figure 2.10).

Patient identification checks are also an important part of safety processes to minimise medication and treatment errors. In 2013, nine in 10 adult admitted patients (89%) said nurses 'always' checked their identification before giving them medications, treatments or tests. Across NSW public hospitals this percentage ranged from 82% to 96% (Figure 2.10).

In terms of patient-reported mistakes, in 2014 fewer than one in 10 NSW adults aged 55 years and over (7%) said a medical mistake was made in their treatment or care in the preceding two years — only France (2%) had a significantly lower percentage (Figure 2.11).

Those who had a medical home[#] were less likely to say a medical mistake was made in their care — a pattern that was replicated across most comparator countries (Figure 2.12).

Figure 2.10 Percentage of NSW adult admitted patients who reported their identification was checked, NSW public hospital variation, 2013

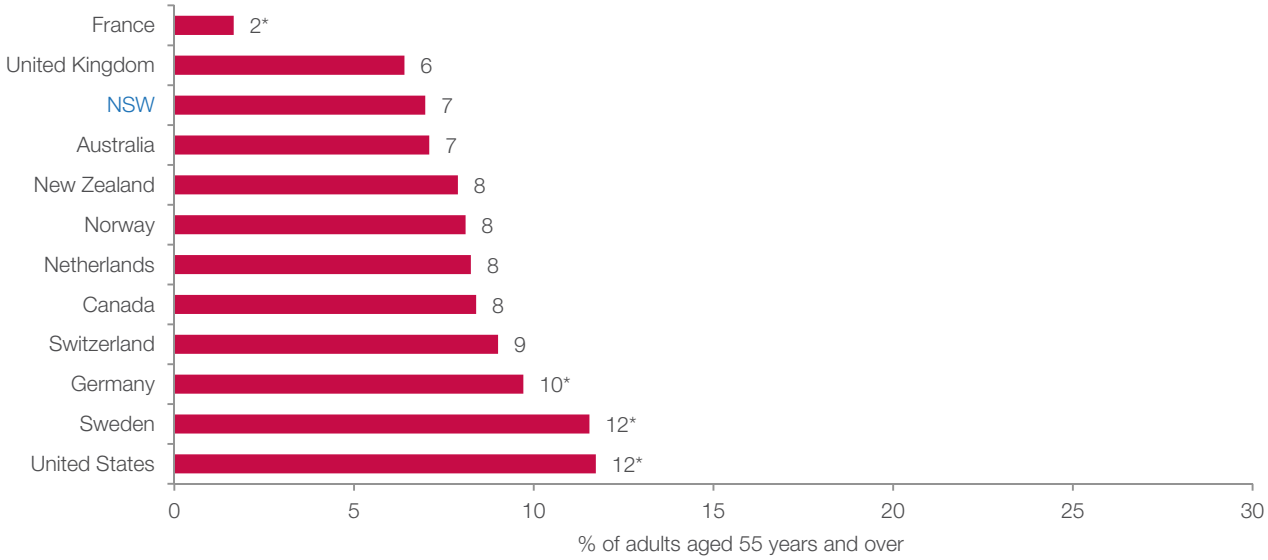


Source: BHI, NSW Patient Survey Program, Adult Admitted Patient Survey 2013

i In 2009–10, there were 10 reported events in Australia with procedures involving the wrong patient or body part that resulted in death or major permanent loss of function.[9]

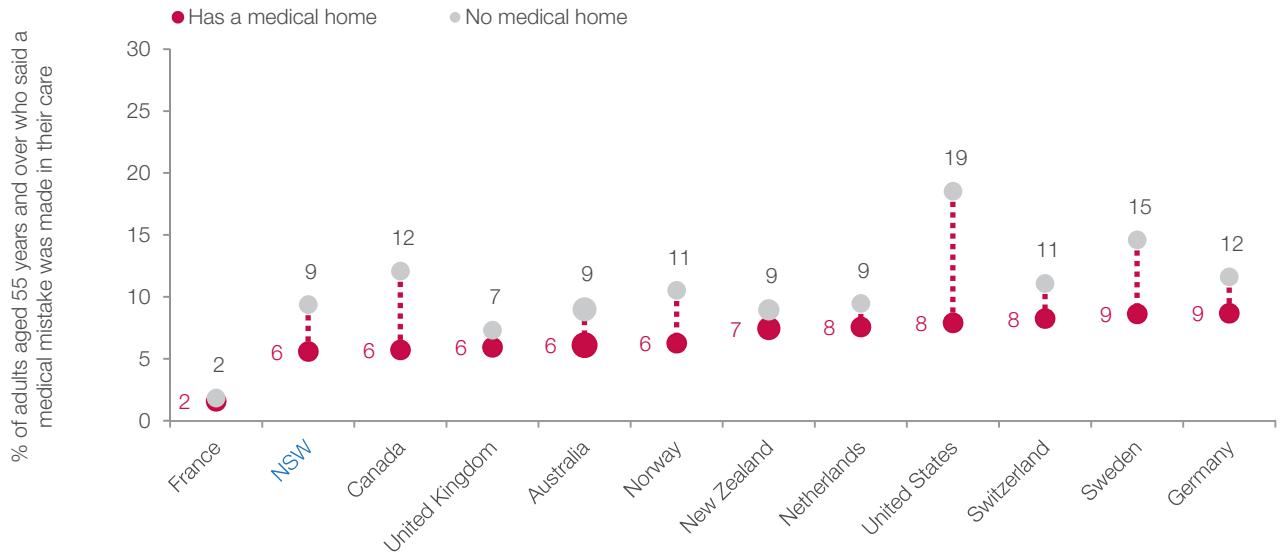
A medical home is a general practice or clinic that provides ongoing, accessible, comprehensive, coordinated, whole person care. Having a medical home has been associated with improved patient engagement and better outcomes.

Figure 2.11 Percentage of adults aged 55 years and over who said a medical mistake was made in their treatment or care, NSW and comparator countries, 2014



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

Figure 2.12 Percentage of adults aged 55 years and over who said a medical mistake was made in their treatment or care, by presence of a medical home, NSW and comparator countries, 2014



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

* Estimate statistically significantly different than NSW.

Communication with patients

Most patients say GPs explain things clearly and encourage questions

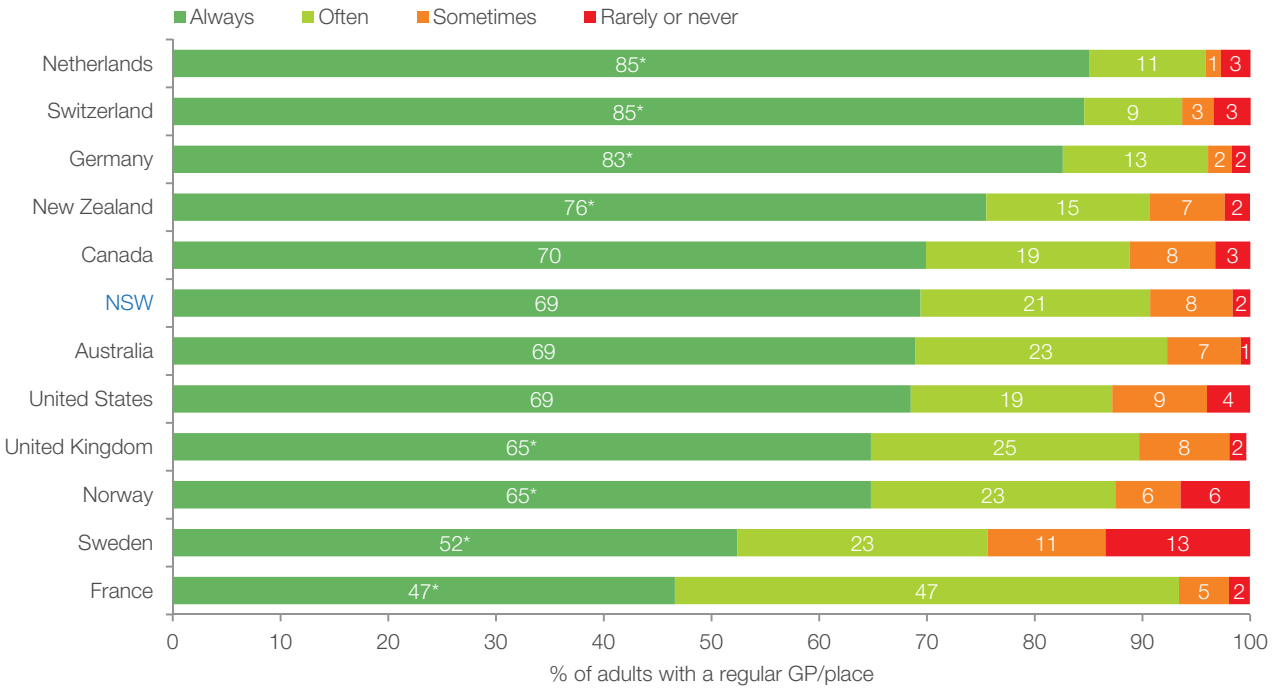
Clear communication between patients and healthcare professionals is an essential component of appropriateness. Most patients expect to be given information about their health and treatment options. They also want their regular doctor to know them well, give them enough time and attention, and encourage them to ask questions.

In 2014, seven in 10 NSW adults aged 55 years and over said their regular GP always knows important information about their medical history (69%) and explains things in a way that is easy for them to understand (69%) (Figures 2.13 and 2.14).

A lower percentage (57%) said they are always encouraged to ask questions (Figure 2.15).

Looking across all three of these elements of communication, NSW is mid-range among comparator countries.

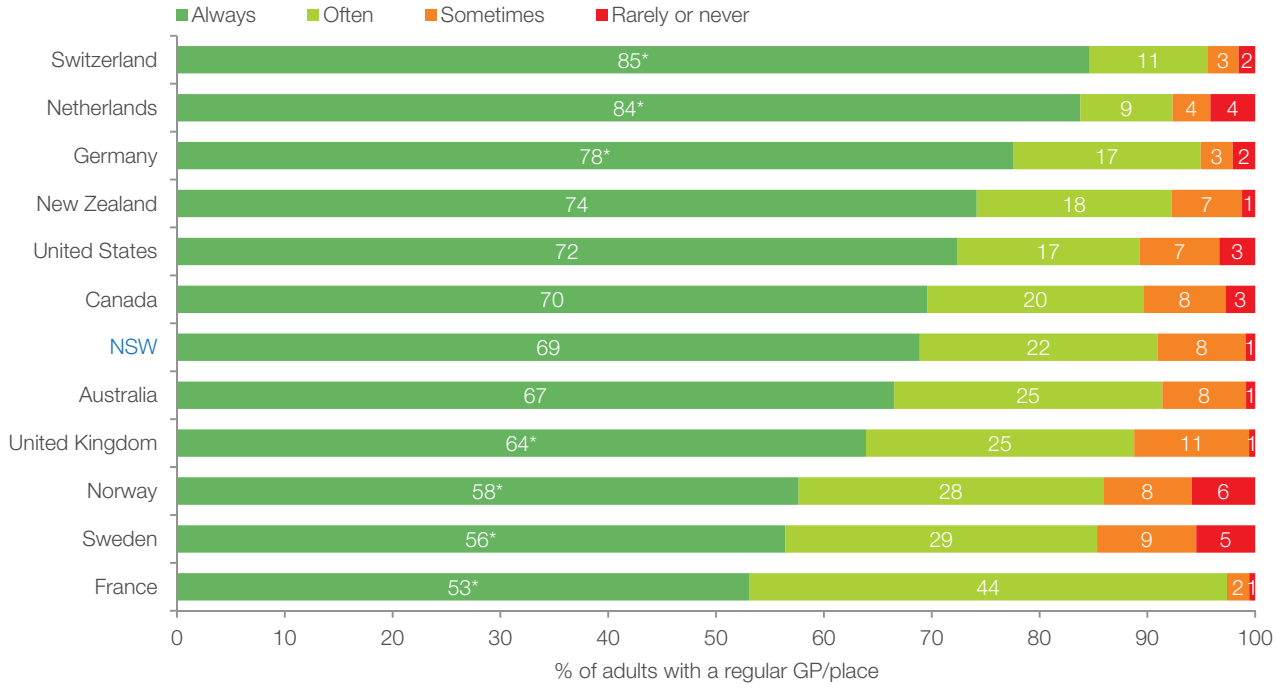
Figure 2.13 GP Percentage of adults aged 55 years and over saying their regular GP or medical staff know their medical history, NSW and comparator countries, 2014



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

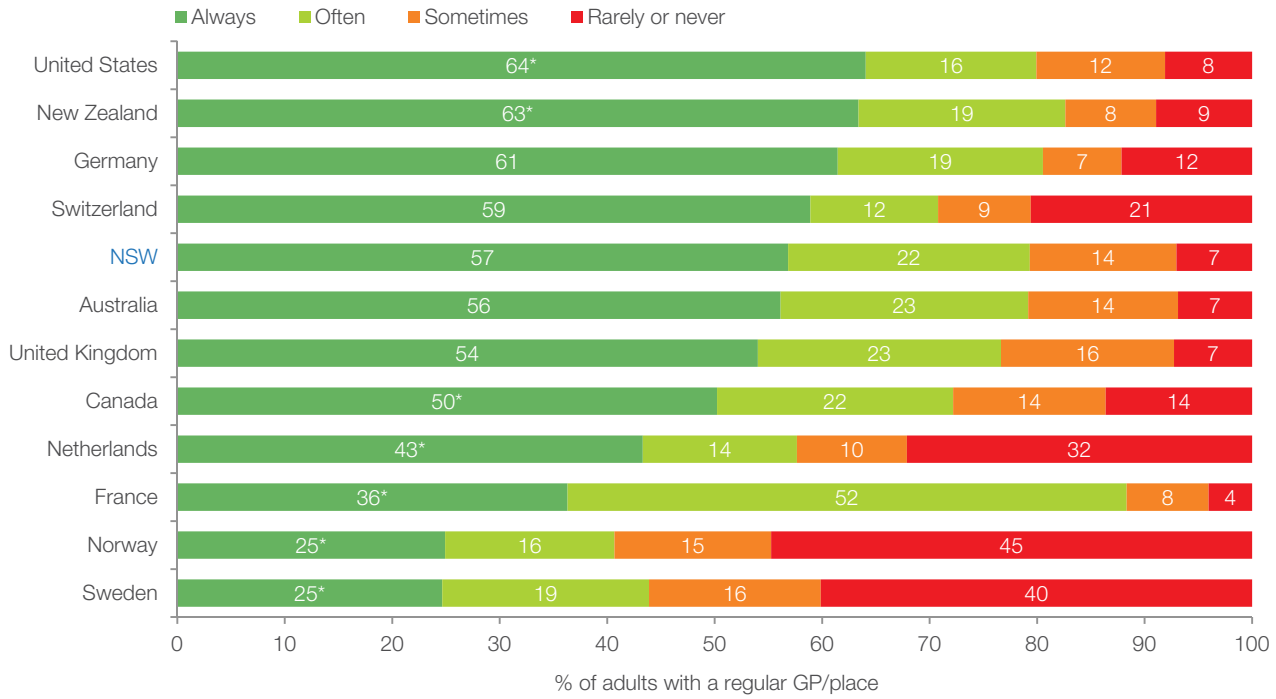
* Estimate statistically significantly different than NSW. Estimates may not add up to 100% due to rounding.

Figure 2.14 GP Percentage of adults aged 55 years and over saying their regular GP or medical staff explained things clearly, NSW and comparator countries, 2014



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

Figure 2.15 GP Percentage of adults aged 55 years and over saying their regular GP or medical staff encouraged them to ask questions, NSW and comparator countries, 2014



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

Patient engagement

A majority of patients say they are always involved in decisions about their care

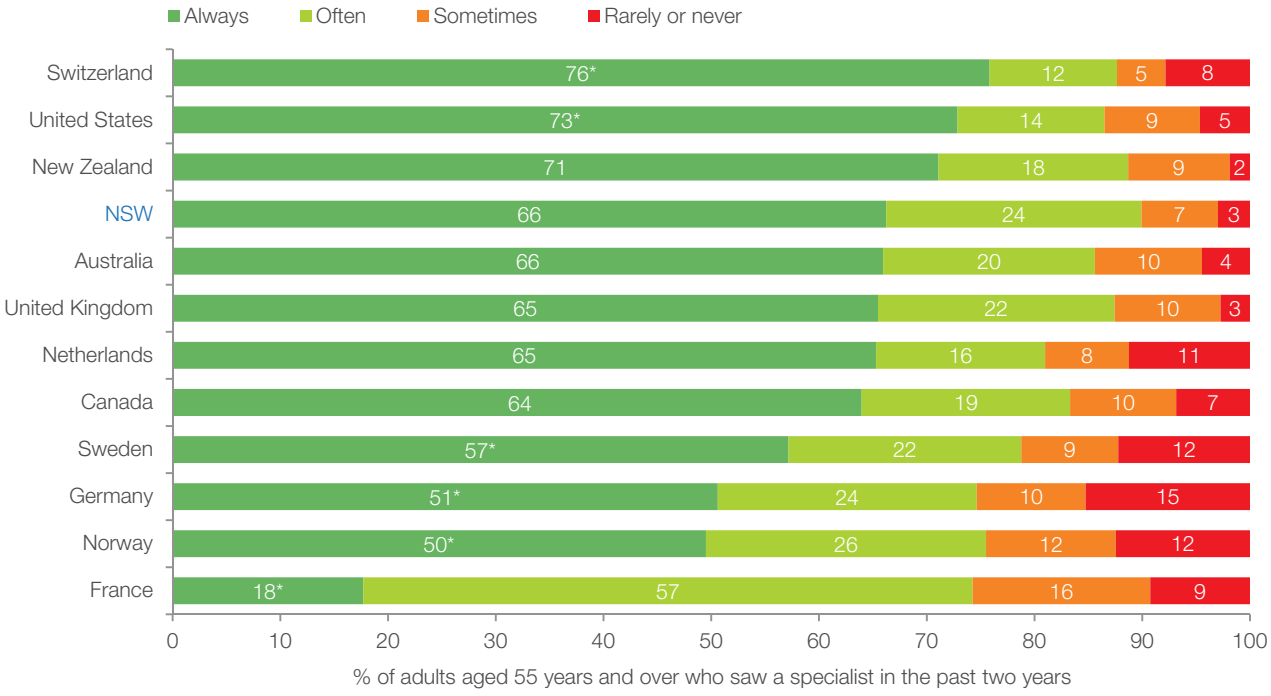
Patient engagement involves shared decision-making processes that are informed by clear communication flow. Engaging patients in their own care makes a positive contribution to quality of care, outcomes and attitudes towards the healthcare system.[11]

In 2014, among NSW adults aged 55 years and over who reported seeing a specialist in the preceding two years, seven in 10 (66%) said they were involved as much as they wanted to be in decisions about their treatment or care. Switzerland (76%) and the United States (73%) had a higher percentage of patients involved in their care while four countries (Sweden, Germany, Norway and France) had a lower percentage (Figure 2.16).

According to 2013 NSW Patient Survey data, most hospitalised adult patients said they were definitely involved in their care (60%); always received explanations they could understand (56%); and always got to speak to a doctor when needed (54%). For those undergoing a surgical procedure, the majority said they received completely understandable information both before (81%) and after (70%) their operation (Figure 2.17).[i]

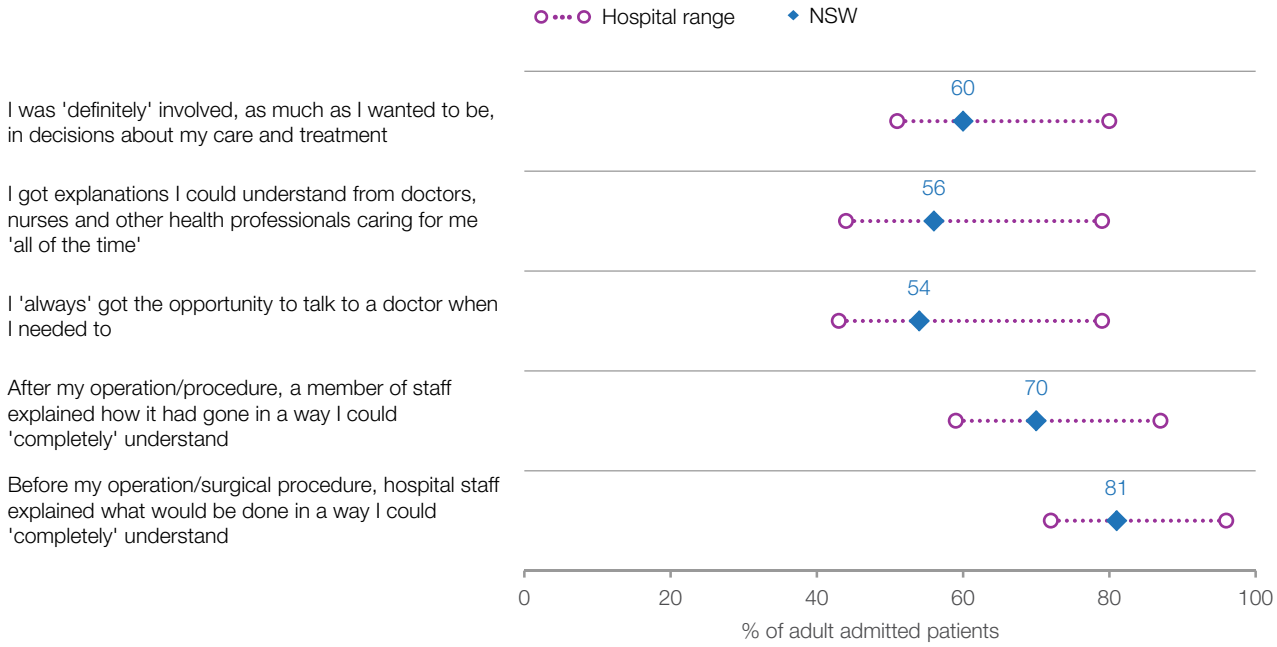
Among people visiting a NSW emergency department (ED) in 2013–14, six in 10 said that ED staff explained things clearly all of the time (56%); and definitely involved them, as much as they wanted, in decisions about their care (63%). Almost nine in 10 (86%) said they were given the right amount of information about their condition or treatment by health professionals — ranging from 76% to 96% across hospitals (Figure 2.18).[i]

Figure 2.16 Percentage of adults aged 55 years and over, who saw a specialist, who said specialist involved them in care, NSW and comparator countries, 2014



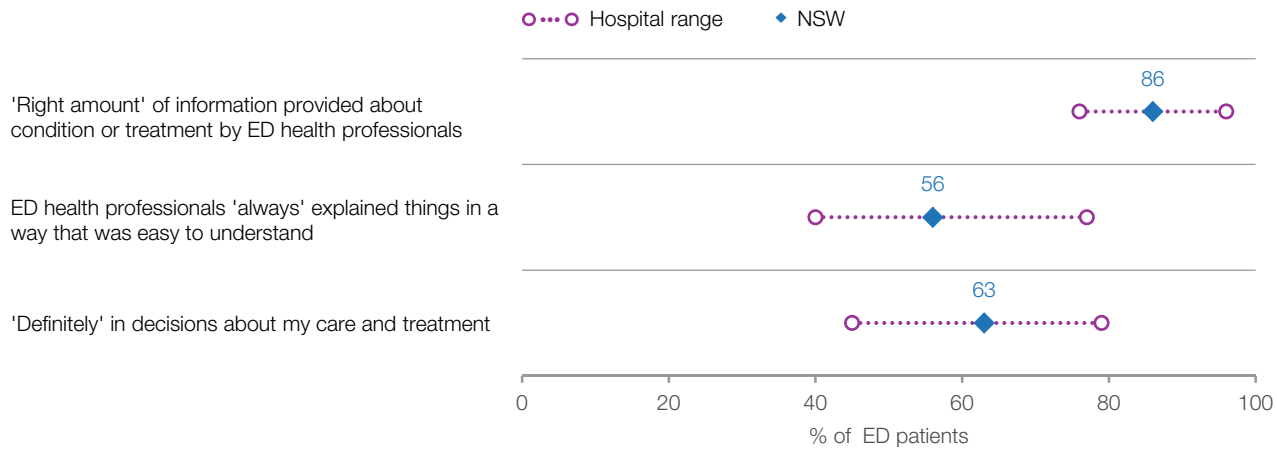
Source: Commonwealth Fund International Health Policy Survey of Older Adults 2014

Figure 2.17 Percentage of adult admitted patients reporting they had positive engagement and communication with hospital staff, NSW public hospital variation, 2013



Source: BHI, NSW Patient Survey Program, Adult Admitted Patient Survey 2013

Figure 2.18 Percentage of ED patients reporting they had positive engagement and communication with staff, NSW public hospital emergency department variation, 2013–14



Source: BHI, NSW Patient Survey Program, Emergency Department Patient Survey April 2013 to March 2014

*Estimate statistically significantly different than NSW. Values may not add up to 100% due to rounding

[i] For more detail on hospitals, local health districts and full responses, see Healthcare Observer (www.bhi.nsw.gov.au/healthcare_observer)

Coordination of care: Hospital discharge

Most hospitalised patients have arrangements made for follow-up care

During transitions such as discharge from hospital, patients are at increased risk of experiencing adverse events. Communication failures can lead to delays in appropriate treatment and community support, duplication of tests and avoidable readmissions to hospital.[7,12]

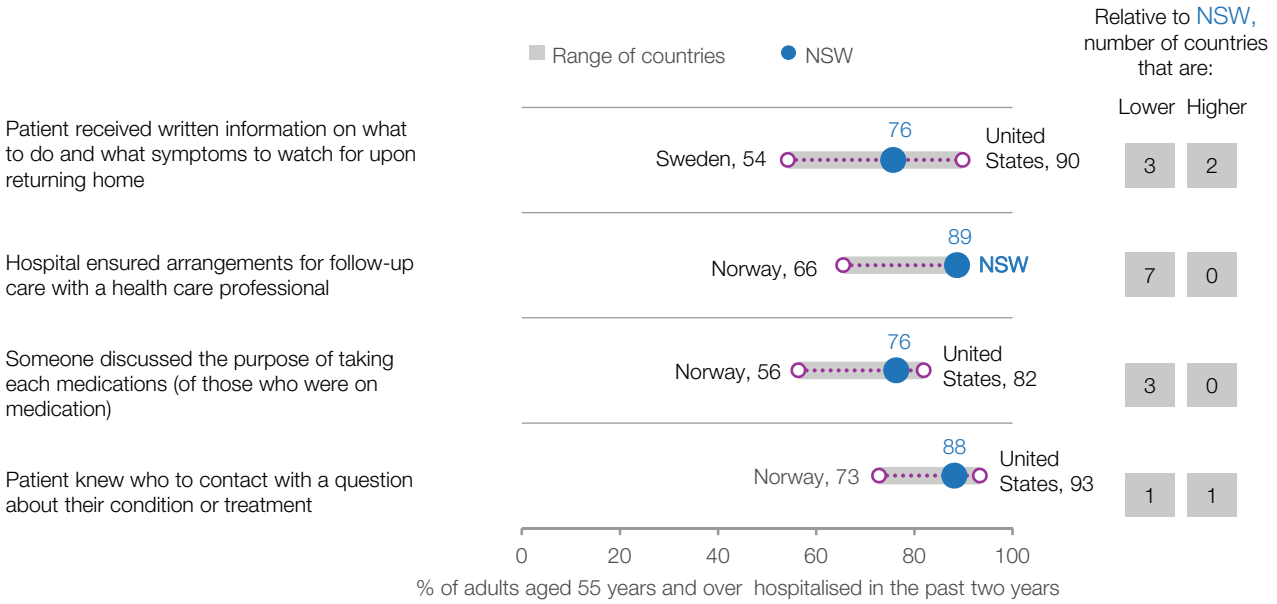
In 2014, eight in 10 NSW adults aged 55 years and over who were hospitalised overnight in the previous two years said they received written information on what to do when they went home (76%) and that someone discussed the purpose of their medications with them (76%). Almost all (89%) said the hospital made arrangements for follow-up care — no comparator country performed better (Figure 2.19).

Results from the NSW Patient Survey Program show that 86% of patients admitted to NSW public hospitals were told who to contact if worried about their condition or treatment after discharge. Seven in 10 hospitalised patients said their family situation was taken into account (72%); adequate arrangements were made (70%); and they were given enough information to manage their care at home (74%). Results varied between hospitals in NSW (Figure 2.20).

Among people who visited a NSW emergency department, about half said that completely adequate arrangements were made for follow-up upon their discharge (54%). Results ranged across hospitals from 40% to 81% (Figure 2.21).

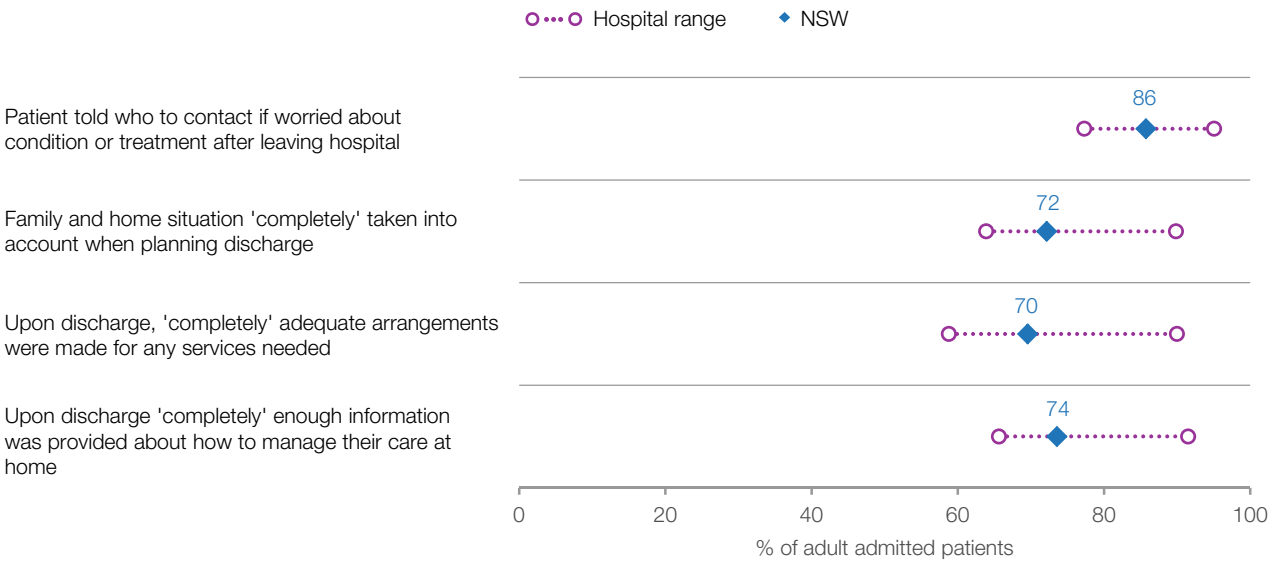
For more information about NSW public hospital results, see Healthcare Observer (www.bhi.nsw.gov.au/healthcare_observer).

Figure 2.19 Percentage of adults aged 55 years and over hospitalised in the past two years (public or private hospitals) receiving care-coordination, NSW and comparator countries, 2014



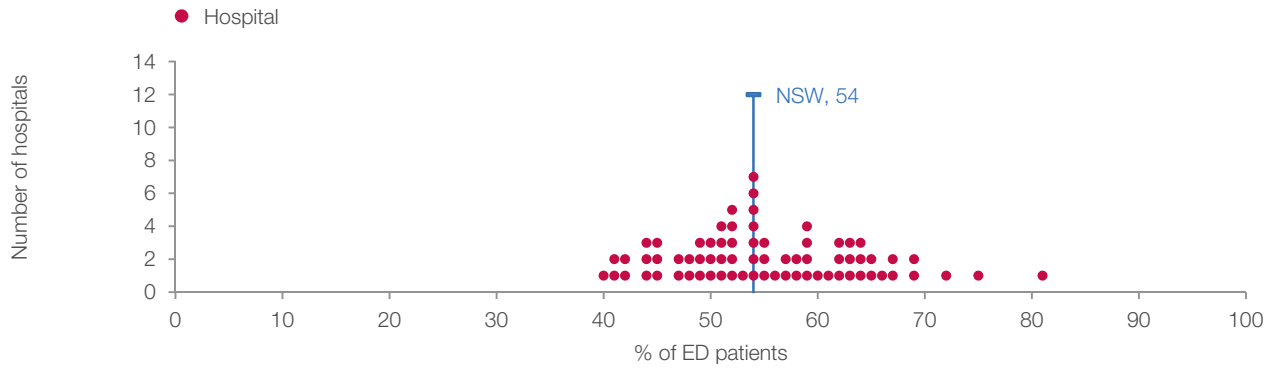
Source: Commonwealth Fund International Health Policy Survey of Older Adults 2014

Figure 2.20 Percentage of adult admitted patients reporting care coordination, by type, NSW public hospital variation, 2013



Source: BHI, NSW Patient Survey Program, Adult Admitted Patient Survey 2013

Figure 2.21 Percentage of emergency department patients saying follow-up arrangements were 'completely' made upon discharge, NSW public hospital emergency department variation, 2013–14



Source: BHI, NSW Patient Survey Program, Emergency Department Patient Survey April 2013 to March 2014

Compliance with guidelines: Hip fracture surgery

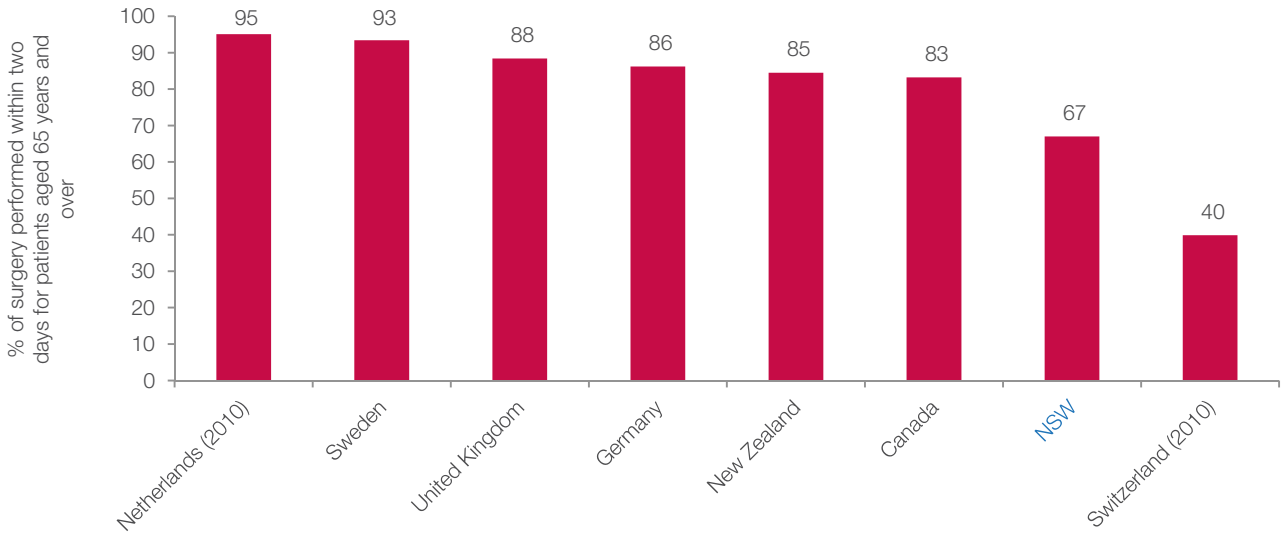
One third of hip fracture patients wait longer than the recommended two days

Evidence-based guidelines recommend that patients suffering from a hip fracture injury should undergo surgery within 48 hours of admission to hospital.[13] Delay to surgery beyond 48 hours results in prolonged pain and discomfort and has been shown to be associated with more than twice the number of major post-operative complications.[14]

In 2011, among NSW hip fracture patients aged 65 years or over, two thirds (67%) had surgery within two days of admission to hospital. This is lower than for most other reporting jurisdictions (except Switzerland) (Figure 2.22).

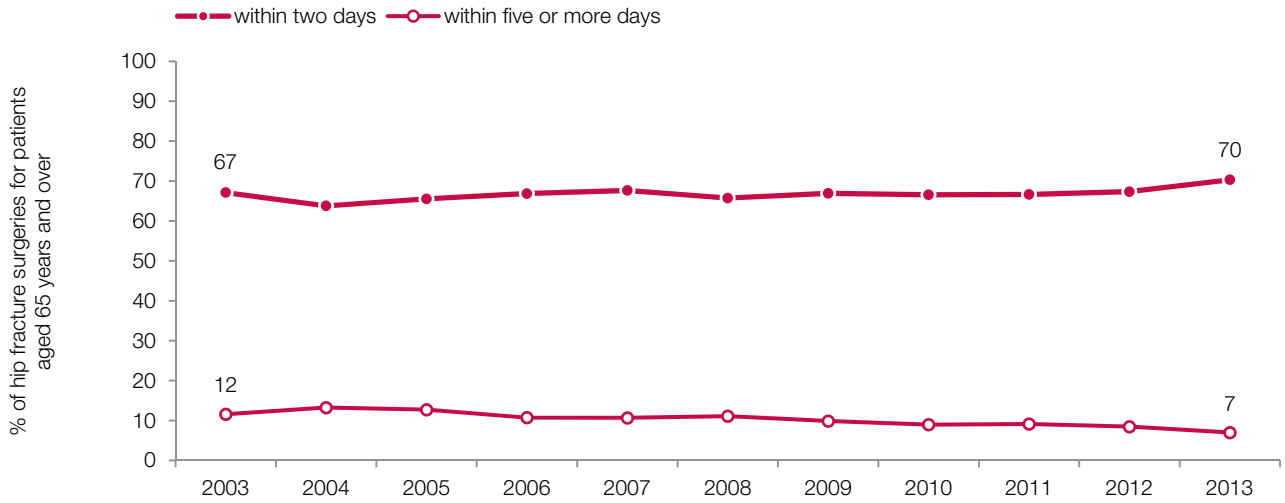
In 2013, 70% of hip fracture surgery in NSW was initiated within two days (public and private hospitals). The percentage of surgery performed within two days has remained fairly stable over the past decade, amidst increasing volumes (5,058 in 2003 and 5,434 in 2013 – an increase of 7%). The percentage of surgery that occurred on or beyond day five has decreased over the past decade (Figure 2.23).

Figure 2.22 Percentage of hip fracture surgery among patients aged 65 years and over initiated within 48 hours of hospital admission (public and private hospitals), NSW and comparator countries, 2011 or nearest year



Sources: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis). OECD Health Statistics 2014.

Figure 2.23 Percentage of hip fracture surgery performed on patients aged 65 years and over, by time of initiation of surgery, NSW public and private hospitals, 2003–2013

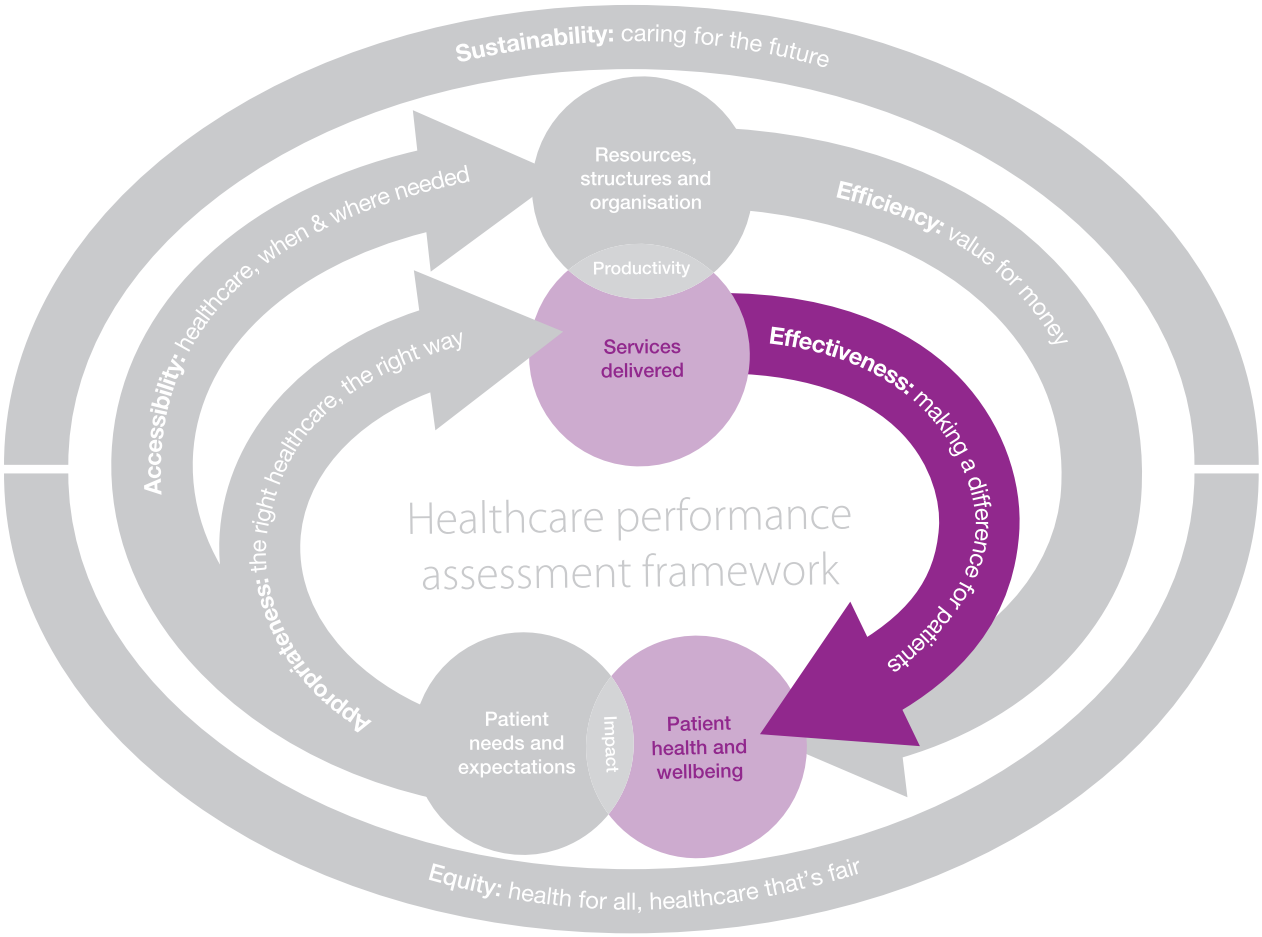


Source: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis)

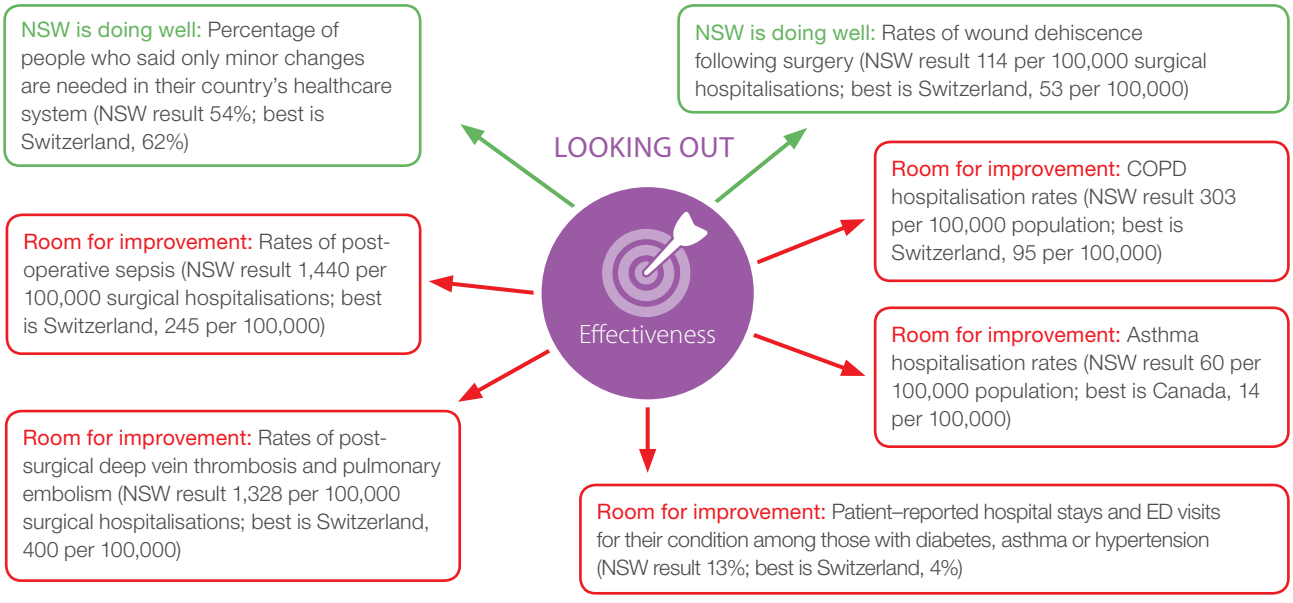
Note: The time to surgery is not calculated within hours but within days for the NSW data, based on the difference between the date of admission and the date of the procedure

Effectiveness

Making a difference for patients



Effectiveness in an international context



Effectiveness refers to the extent to which healthcare services deliver the benefits expected from them. For example, do they reduce the incidence, duration, intensity or consequences of health problems? Effectiveness is closely aligned to the concept of impact which assesses more broadly the extent to which a patient's overall health and wellbeing are positively affected by the care they receive, reaping the benefits of appropriate care without undue harm or complications.

Effectiveness at a system level reflects overall views and judgements about how well the healthcare system achieves its stated goals.

Effectiveness at a patient level reflects both the outcomes of treatment — such as mortality, unplanned readmissions, changes in functional status, and quality of life and wellbeing — as well as patients' ability to realise the potential benefits of treatment, through increased health literacy and self-efficacy at managing their health problems.

Effectiveness and impact can be assessed by measuring changes in the overall health status of patients and groups of patients, patient-reported outcomes and quality of life, complication rates and adverse events, views on healthcare system performance, and levels of patients' trust and capacity to engage in self-provision of care.

This edition of *Healthcare in Focus* presents measures of effectiveness and impact that place NSW's performance in an international context — using clearly defined and consistently applied performance measures to compare NSW with 11 OECD countries that have similarly-developed health systems.

The measures of effectiveness encompass:

- Overall views of patients about the healthcare system and healthcare they received in public hospitals and emergency departments
- Hospitalisations and readmissions for patients with chronic illnesses that can generally be managed outside hospital
- Potentially preventable hospitalisations
- Avoidable hospitalisations for respiratory problems and mental health-related readmissions
- Mortality following stroke
- Post-operative complications of surgery and obstetric trauma
- Patient-reported adverse events following hospitalisation and emergency department presentations.

Effectiveness in NSW

Overall views

Over half of those surveyed in NSW said the healthcare system works well

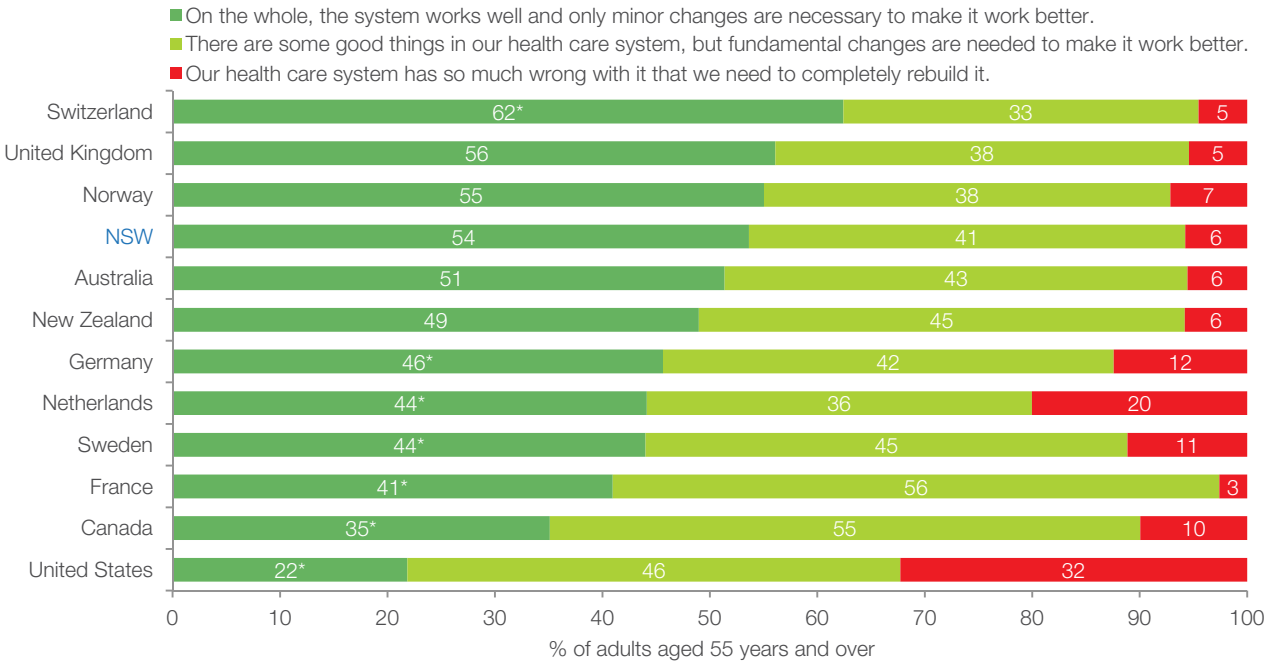
Effectiveness of a healthcare system can be reflected by the overall views and judgements of patients and citizens about how well the healthcare system achieves its stated goals.

The 2014 Commonwealth Fund International Health Policy Survey was conducted in 11 countries — each with different policy, structural and financial arrangements for the provision of healthcare. The survey asked adults aged 55 years and over about their overall views of the healthcare system. In NSW, more than half (54%) said that the healthcare system worked well. About one in 20 (6%) said that there was so much wrong with the system that it needed a complete rebuild. Only Switzerland had a significantly higher percentage of people than NSW who said their system works well, while six countries had significantly lower percentages (Figure 3.1).

In NSW, the Patient Survey Program elicits overall views from patients who have direct experience of different types of care. In 2013, six in 10 adult admitted patients (64%) rated the care they received in hospital as 'very good'. Across NSW, public hospital results ranged from 52% to 87% (Figure 3.2).

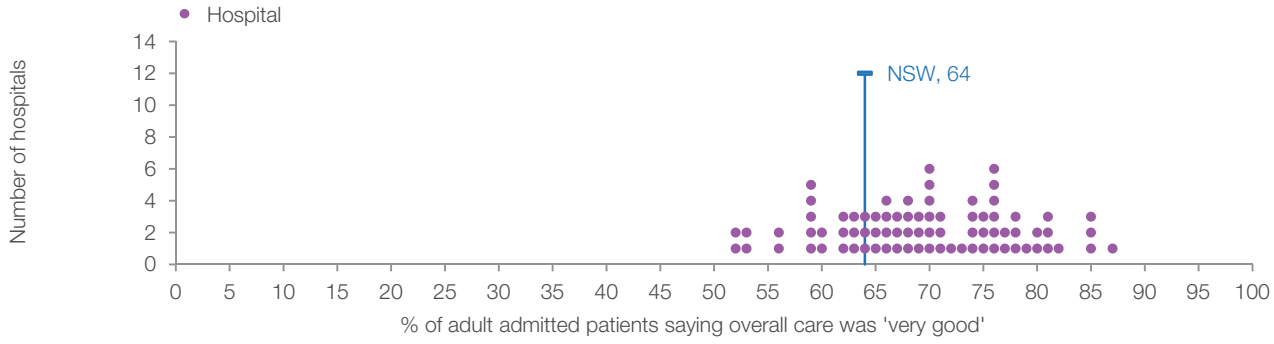
For emergency department (ED) patients, about half said that the care they received was 'very good' (52%). Results ranged from 34% to 71% across NSW EDs (Figure 3.3).

Figure 3.1 Percentage of adults aged 55 years and over expressing overall views on the country's healthcare system, by viewpoint, NSW and comparator countries, 2014



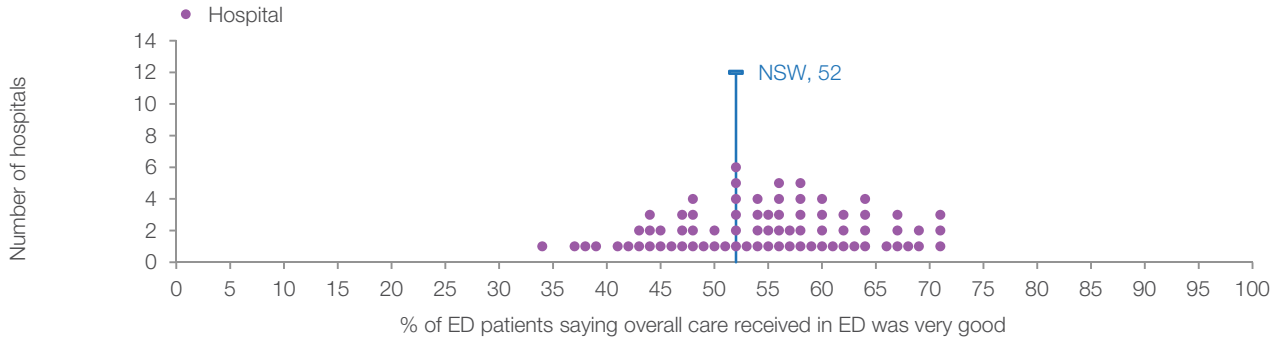
Source : Commonwealth Fund, International Health Policy Survey of Older Adults 2014

Figure 3.2 Percentage of adult admitted patients rating care received as very good, NSW public hospital variation, 2013



Source: BHI, NSW Patient Survey Program, Adult Admitted Patient Survey 2013

Figure 3.3 Percentage of emergency department patients rating care received as very good, NSW public hospital emergency department variation, 2013–14



Source: BHI, NSW Patient Survey Program, Emergency Department Patient Survey April 2013 to March 2014

*Estimate statistically significantly different than NSW. Estimates may not add up to 100% due to rounding.

Chronic disease control

NSW adults with a chronic condition rate their overall health positively

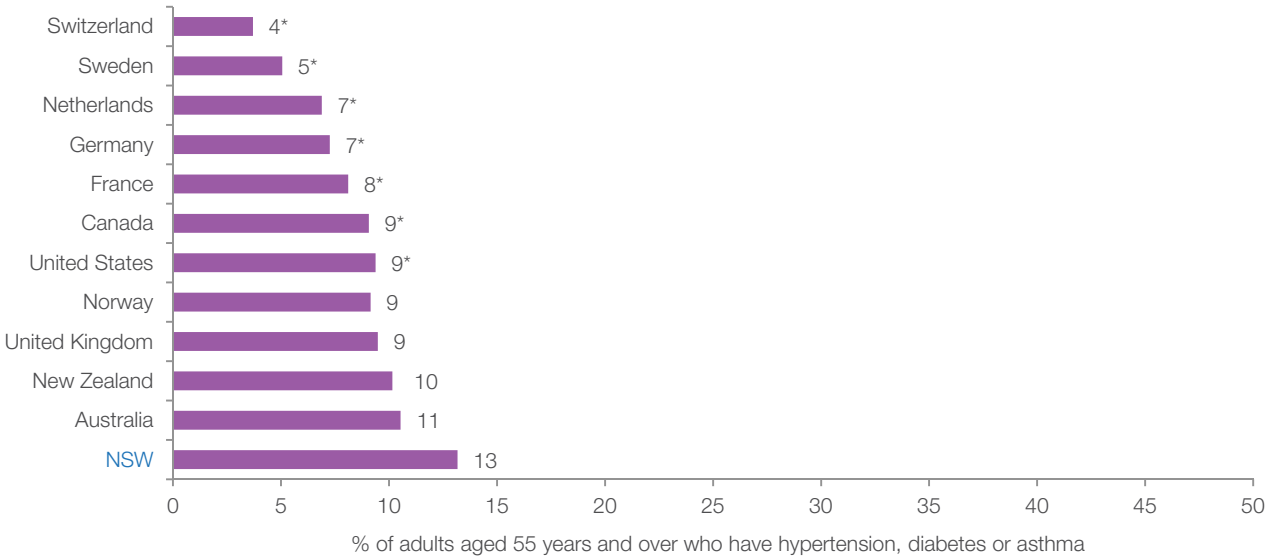
Working together, primary care, specialist services and engaged patients can ensure good quality of care for adults with chronic or long-term conditions — keeping patients well and minimising the need for ED visits or hospitalisation.[1]

In 2014, among NSW adults aged 55 years and over with diabetes, asthma or hypertension, one in 10 (13%) said they stayed in a hospital or visited an ED because of their condition in the previous year. The NSW result was higher than those in seven comparator countries (Figure 3.4).

In terms of perceived impact of chronic care treatment plans, six in 10 adults with a chronic condition and a treatment plan (63%) said that the plan helped them 'a lot' to control or manage their condition. Only 1% felt their treatment plan did not help at all (Figure 3.5).

Effective management of chronic conditions can help enhance daily functioning and wellbeing. The Commonwealth Fund survey data show that for those in NSW who have a chronic condition, three quarters (75%) rated their health as either good, very good or excellent (Figure 3.6).

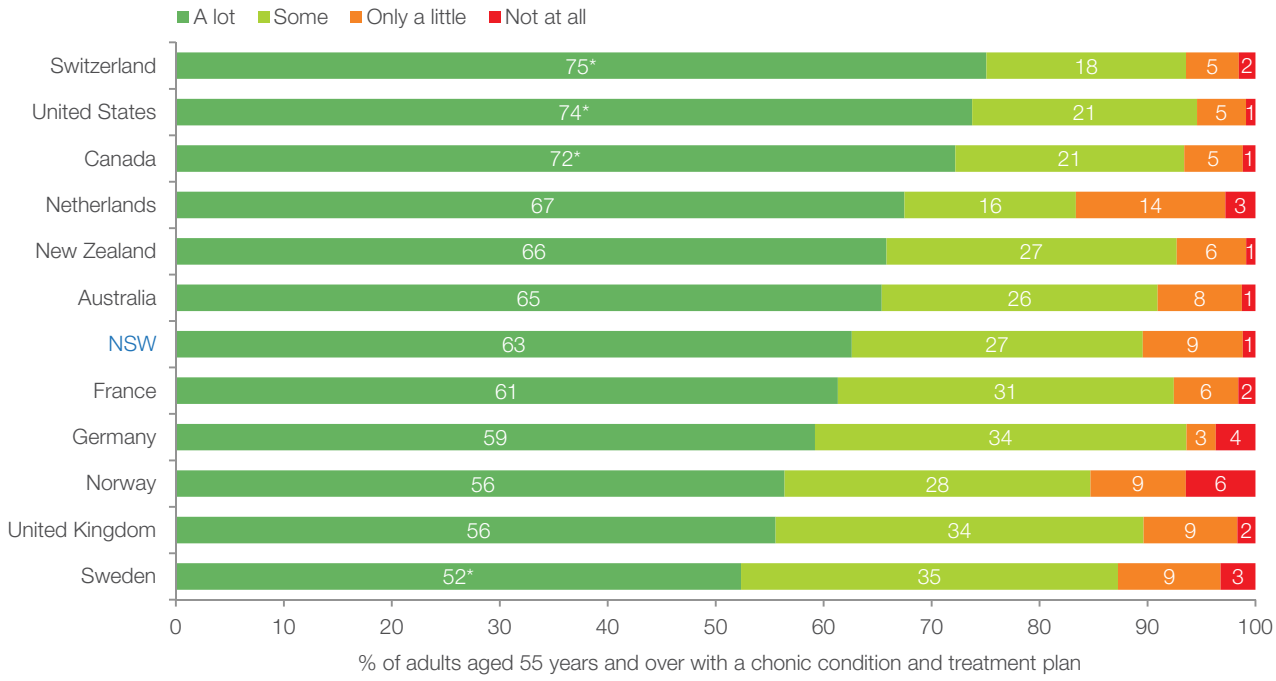
Figure 3.4 Percentage of adults aged 55 years and over with a chronic condition who stayed in a hospital or visited the emergency department because of the condition, public and private hospitals, NSW and comparator countries, 2014



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

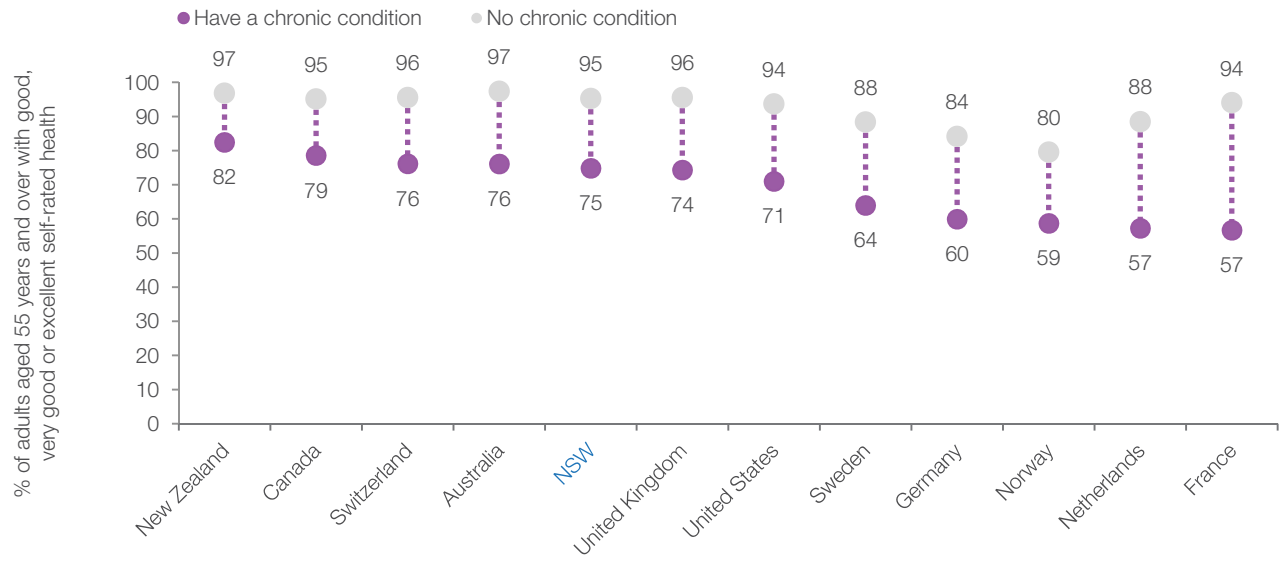
*Estimate statistically significantly different than NSW. Estimates may not add up to 100% due to rounding.

Figure 3.5 Percentage of adults aged 55 years and over with a chronic condition who had a treatment plan, by perceived usefulness of treatment plan in helping to manage their condition, NSW and comparator countries, 2014



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

Figure 3.6 Percentage of adults aged 55 years and over with good, very good or excellent self-rated health, by presence of a chronic condition, NSW and comparator countries, 2014



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

Hospitalisations that are potentially preventable

There is scope for improvement in rates of diabetic hospitalisations

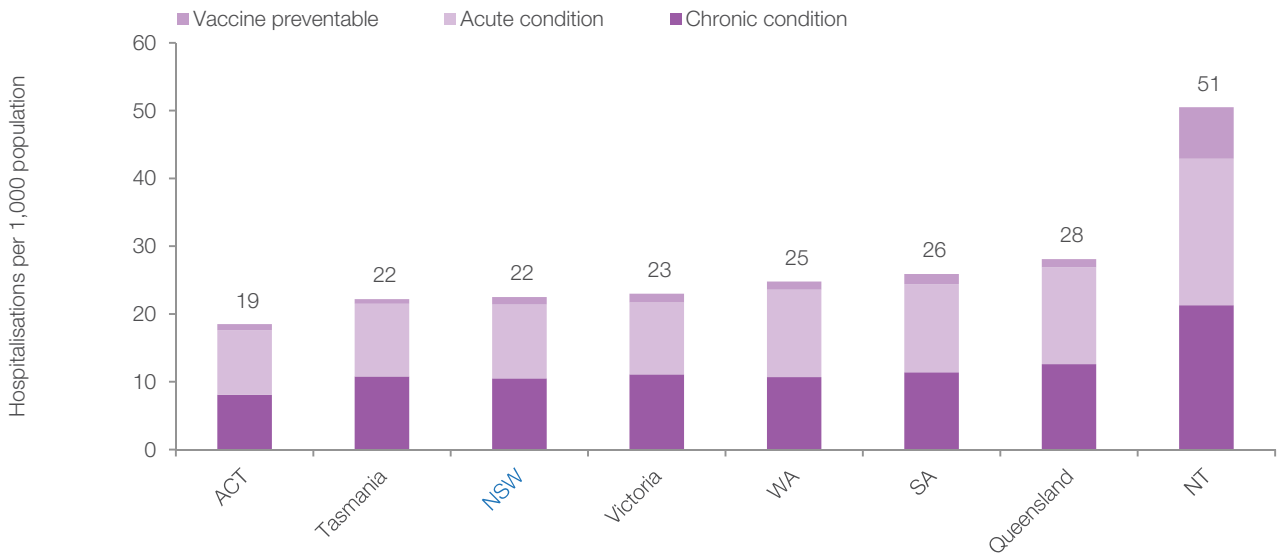
'Potentially preventable hospitalisations' is a widely used indicator of effectiveness of care. It captures hospitalisations that "may be preventable with high-quality primary and preventive care… if clinicians effectively diagnose, treat, and educate patients, and if patients actively participate in their care and adopt healthy lifestyle behaviours".[2]

Potentially preventable hospitalisations[i] are categorised into vaccine preventable conditions (e.g. influenza and pneumonia), acute conditions (e.g. dehydration, gastroenteritis and urinary tract infections) and chronic conditions (e.g. diabetes and asthma). NSW recorded 22 hospitalisations per 1,000 population for 2013–14, with the majority being acute and chronic conditions (Figure 3.7).

Complications from diabetes can result in potentially preventable hospitalisations. They are more likely to occur when a patient's diabetes is not well-managed. In 2011, the age-sex standardised rate of potentially avoidable diabetic hospitalisations for NSW was 120 hospitalisations per 100,000 population, in the mid-range internationally (Figure 3.8).

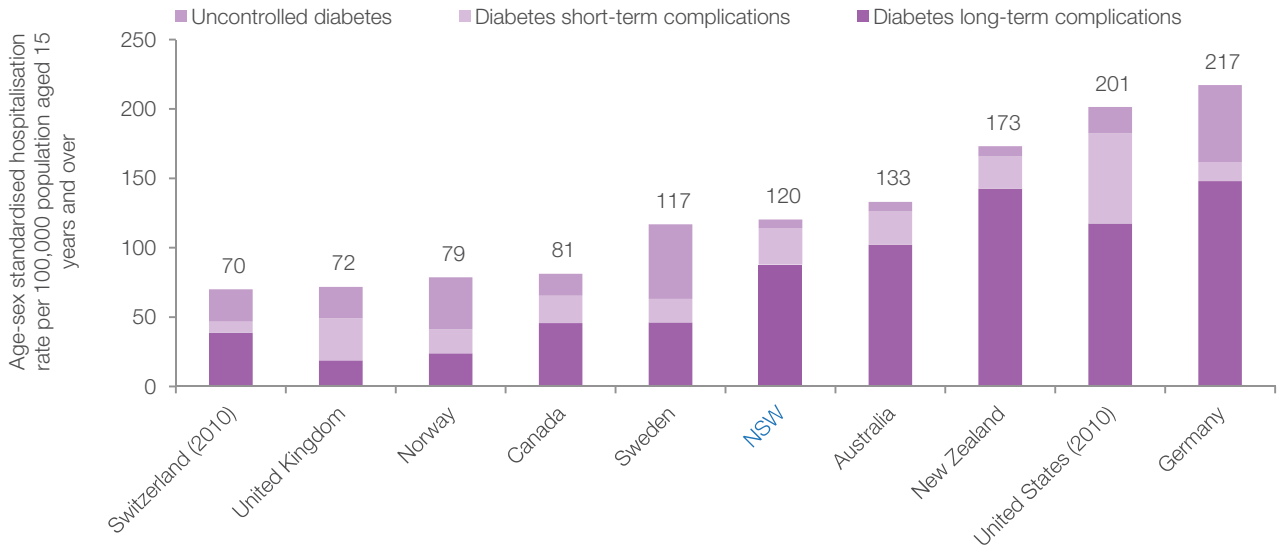
Rates of hospital admission for lower extremity (limb) amputation may also reflect the quality of long-term diabetic care, specifically in terms of glycaemic control and the prevention of peripheral vascular damage. In 2011, there were 533 cases of lower limb amputation among patients aged 15 years or over in NSW. The age-sex standardised rate was nine per 100,000 population in NSW (Figure 3.9).

Figure 3.7 Potentially preventable hospitalisations, by type of condition, public and private hospitals, states and territories, 2013–14



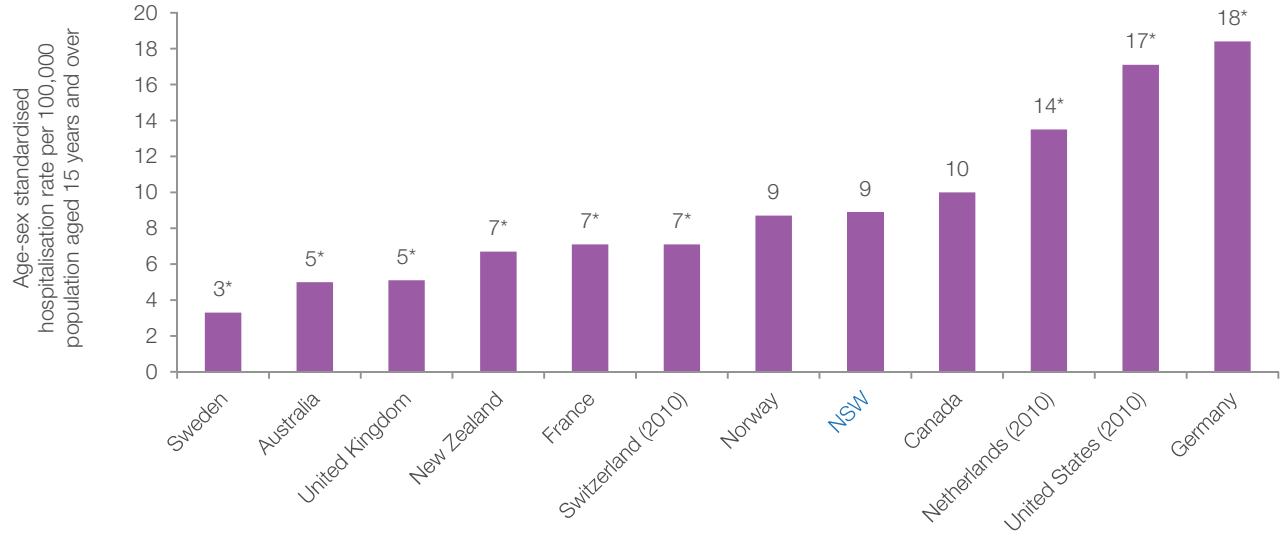
Source: AIHW, Admitted patient care 2013–14: Australian hospital statistics

Figure 3.8 Age-sex standardised hospitalisation rates for diabetes, by type of admission, public and private hospitals, NSW and comparator countries, 2011 or nearest year



Sources: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis). OECD Health Statistics 2014

Figure 3.9 Age-sex standardised hospitalisation rates for diabetes-related lower extremity amputation, public and private hospitals, NSW and comparator countries, 2011 or nearest year



Sources: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis). OECD Health Statistics 2014

* Estimate statistically significantly different than NSW

i This definition includes hospitalisations that are not avoidable in the short term but are amenable to effective public health interventions and adoption of healthy lifestyles

Hospitalisations for respiratory conditions

Hospitalisation rates for respiratory conditions are relatively high in NSW

An important subgroup of potentially preventable hospitalisations includes respiratory conditions such as asthma and chronic obstructive pulmonary disease (COPD). Asthma symptoms can affect people of all ages, but they can be effectively controlled with treatment, while COPD is a progressive disease that affects older adults and people with a history of smoking in particular.[3] Both conditions can often be managed effectively outside the hospital setting given integrated, appropriate and timely care.

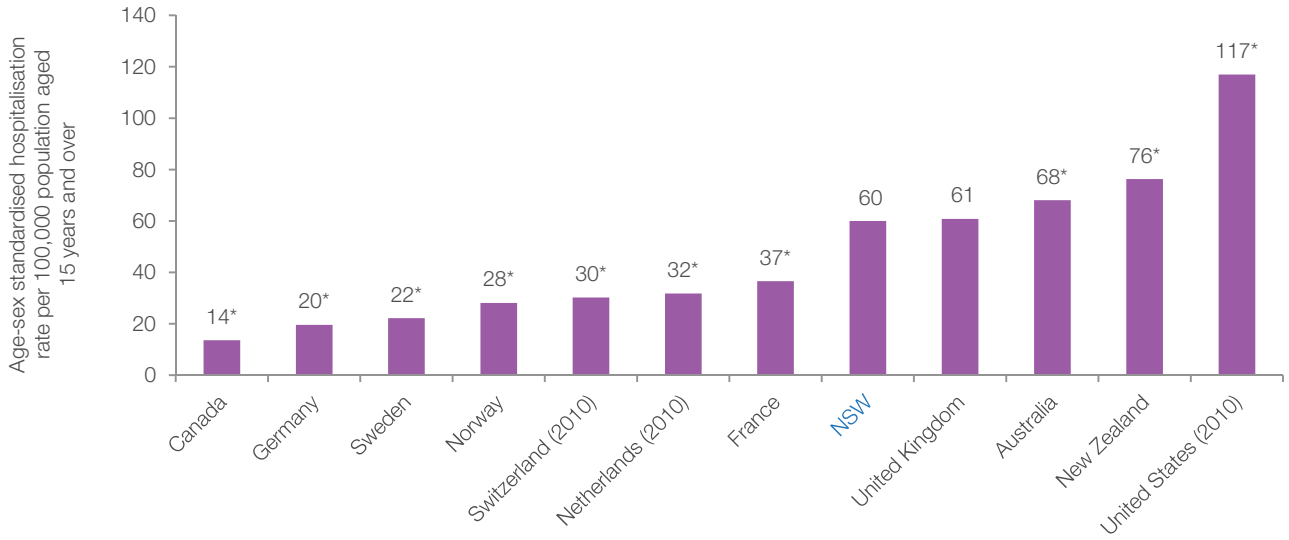
In NSW in 2012, asthma was estimated to affect 10% of people aged 16 years and over,[4] and was the main cause of 3,841 hospitalisations. In contrast, COPD was estimated to affect 3% of NSW residents aged over 15 years in 2011–12[5] and was the main cause of 19,513 hospitalisations in 2013.

Comparing internationally for 2011, the standardised hospital admission rate for asthma in NSW was 60 per 100,000 — markedly higher than rates recorded in Canada, Germany, Sweden and Norway (Figure 3.10).

Similarly for COPD, in 2011 NSW hospitalisation rates were two to three times as high as those in Switzerland, France, the Netherlands and Sweden (Figure 3.11).

Over time, hospitalisation rates have decreased in NSW. Between 2003 and 2012, hospitalisation rates for asthma fell by 26%; and for COPD by 4% (Figure 3.12).

Figure 3.10 Age-sex standardised asthma hospitalisation rates among people aged 15 years and over, public and private hospitals, NSW and comparator countries, 2011 or nearest year

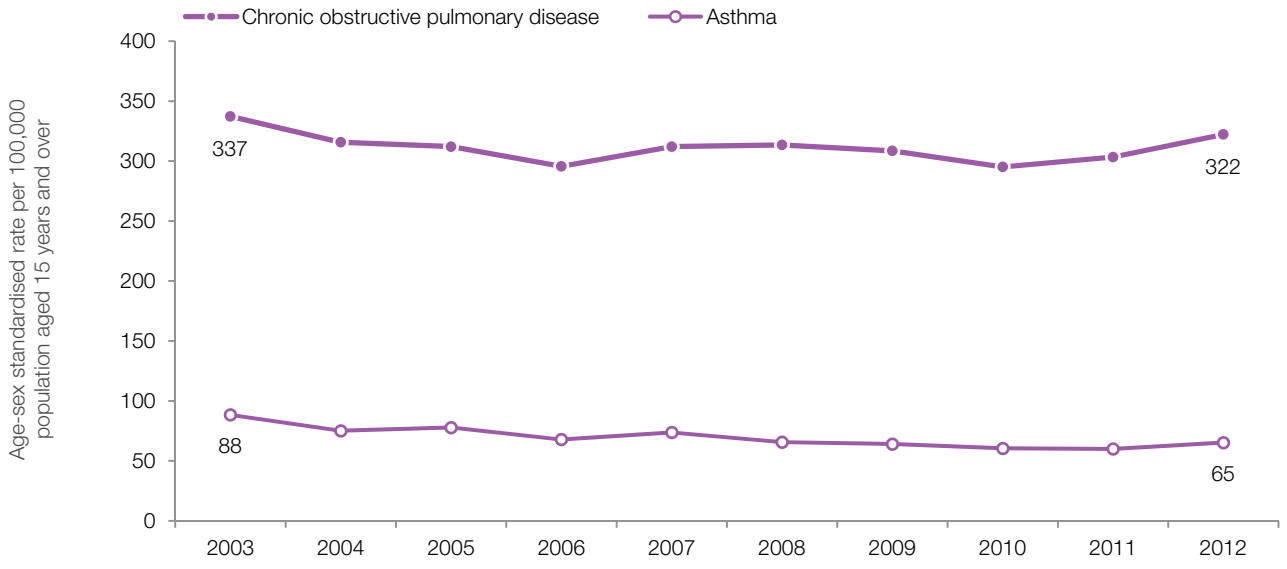


Sources: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis). OECD Health Statistics 2014

Figure 3.11 Age-sex standardised hospitalisation rates for COPD among people aged 15 years and over, public and private hospitals, NSW and comparator countries, 2011 or nearest year

Sources: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis). OECD Health Statistics 2014

Figure 3.12 Age-sex standardised hospitalisation rates for asthma and COPD among people aged 15 years and over, NSW public and private hospitals, 2003–2012



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

*Estimate statistically significantly different than NSW

Readmissions: Mental health conditions

Almost 15 in 100 patients hospitalised for schizophrenia or bipolar disorder experienced an unplanned mental health-related readmission

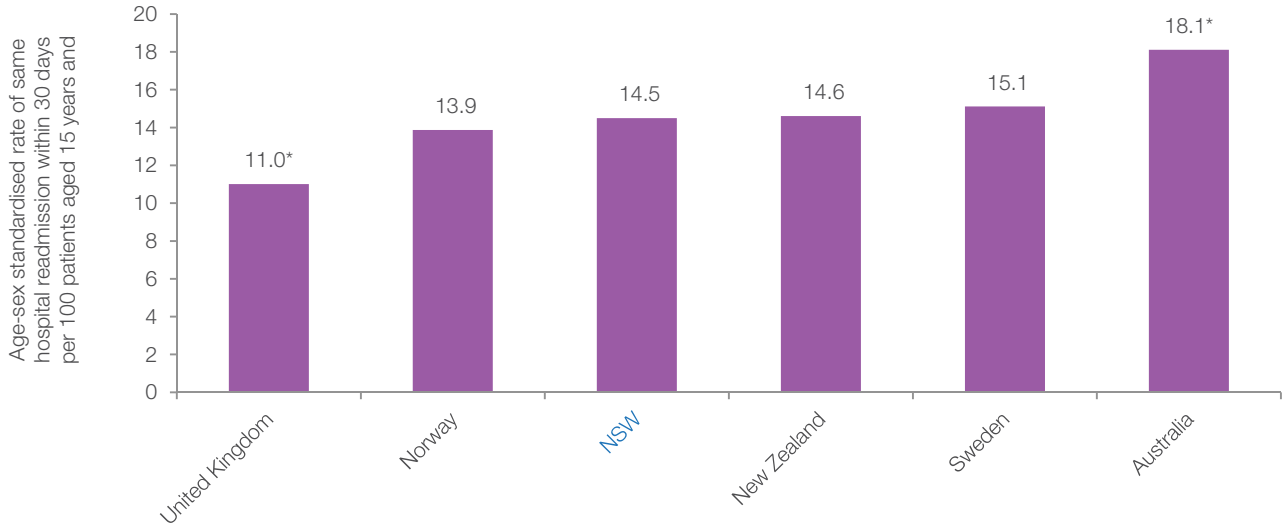
Psychiatric inpatient services aim to provide treatment that enables patients to return to the community as soon as possible. Unplanned readmission to a psychiatric facility in the 30 days following discharge may reflect ineffective or incomplete inpatient care or inadequate community care.[6]

Schizophrenia and bipolar disorder are serious mental health conditions that can require hospitalisation. Schizophrenia is a complex disorder that changes how a person perceives the world, themselves and others. Some people may have one episode and with treatment do not relapse, while others may require a high level of ongoing support. In 2013, there were 8,959 patients aged 15 years and over who were admitted to a NSW hospital with a diagnosis of schizophrenia at least once, with 1,379 readmitted to the same hospital within 30 days for a mental health-related reason. In 2011, the age-sex standardised rate for NSW was 14.5 readmissions to the same hospital for every 100 discharged patients — in the mid-range of international comparators (Figure 3.13).

Bipolar disorder is a neurobiological brain disorder that usually develops in adolescence, and is characterised by fluctuations between high and low mood. In 2013, there were 4,591 patients hospitalised at least once for a bipolar disorder diagnosis in NSW. In 696 of those cases, the patient returned to the same hospital within 30 days. The age-standardised readmission rate for NSW in 2011 was 14.7 readmissions per 100 discharged patients. International comparators ranged from 11.3 to 15.7 per 100 discharged patients (Figure 3.14).

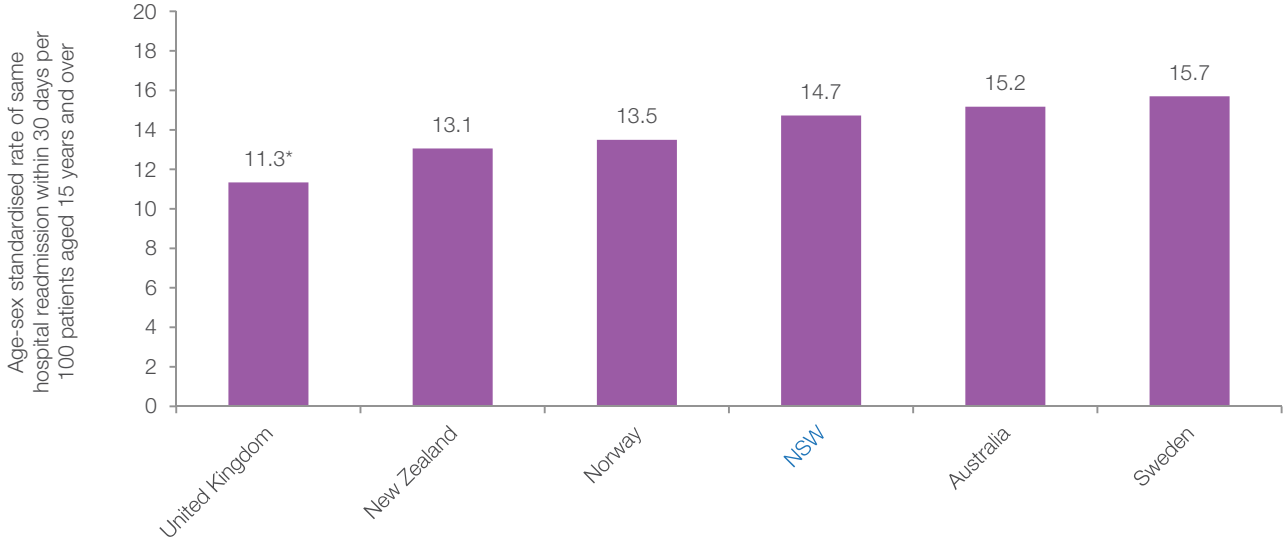
Over time in NSW, rates of readmission did not change significantly between 2003 and 2013 (Figure 3.15).

Figure 3.13 Age-sex standardised rate of same-hospital readmissions within 30 days for patients age 15 years and over with schizophrenia, public and private hospitals, NSW and available comparator countries, 2011



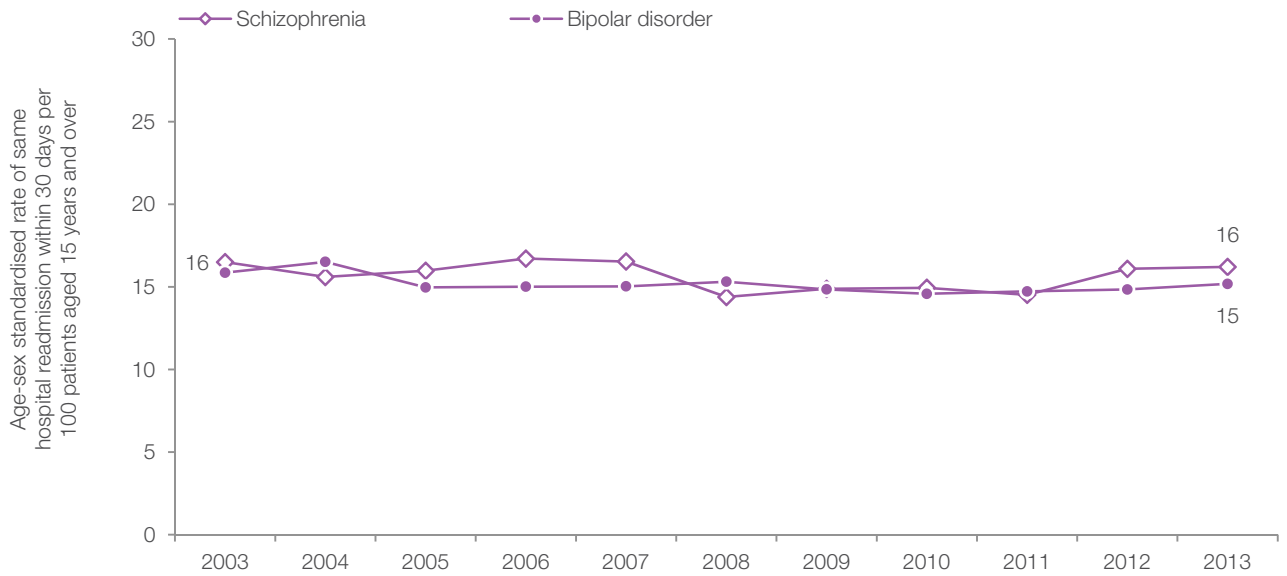
Sources: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis). OECD Health Statistics 2014

Figure 3.14 Age-sex standardised rate of same-hospital readmissions within 30 days for patients aged 15 years and over with bipolar disorder, public and private hospitals, NSW and available comparator countries, 2011



Sources: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis). OECD Health Statistics 2014

Figure 3.15 Age-sex standardised rate of same-hospital readmission for patients with schizophrenia and bipolar disorder, NSW public and private hospitals, 2003–2013



Source: NSW Ministry of health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis)

*Estimate is statistically significantly different than NSW

Notes: Readmissions are calculated using OECD methods to make international comparisons. Any hospitalisation with a selected mental health diagnosis recorded as one of the first three diagnoses is considered a mental health related readmission. Any such hospitalisations that begin within 30 days of discharge from the index hospitalisation are included in the measure. Some hospitalisations counted as a readmission may have a principal diagnosis for medical and surgical-related conditions. In the NSW cohort, one in 10 (10%) records do not have a mental health code recorded as the principal diagnosis.

This indicator measures readmission after discharge from any unit, and is not a measure of specialist mental health service performance. In NSW, an indicator of mental health-related readmissions within 28 days is reported regularly and includes readmissions to the mental health unit of any hospital.

Mortality following hospitalisation for stroke

30-day stroke mortality in NSW decreased between 2003 and 2013

A stroke occurs when blood supply to the brain is compromised, either by a blood vessel suddenly becoming blocked (ischaemic stroke) or when a blood vessel bursts or leaks (haemorrhagic stroke). Stroke units providing specialised, timely care have been shown to improve outcomes for stroke patients.[7]

Potential years of life lost (PYLL) is a summary measure of premature mortality. As such, it is a long-term indicator of effectiveness that highlights impact of care — albeit one that is difficult to directly attribute to any healthcare provider or organisation. In NSW, the PYLL due to stroke decreased by 16% between 2001 and 2011. Over the same time period, PYLL due to stroke decreased in all comparator countries (Figure 3.16).

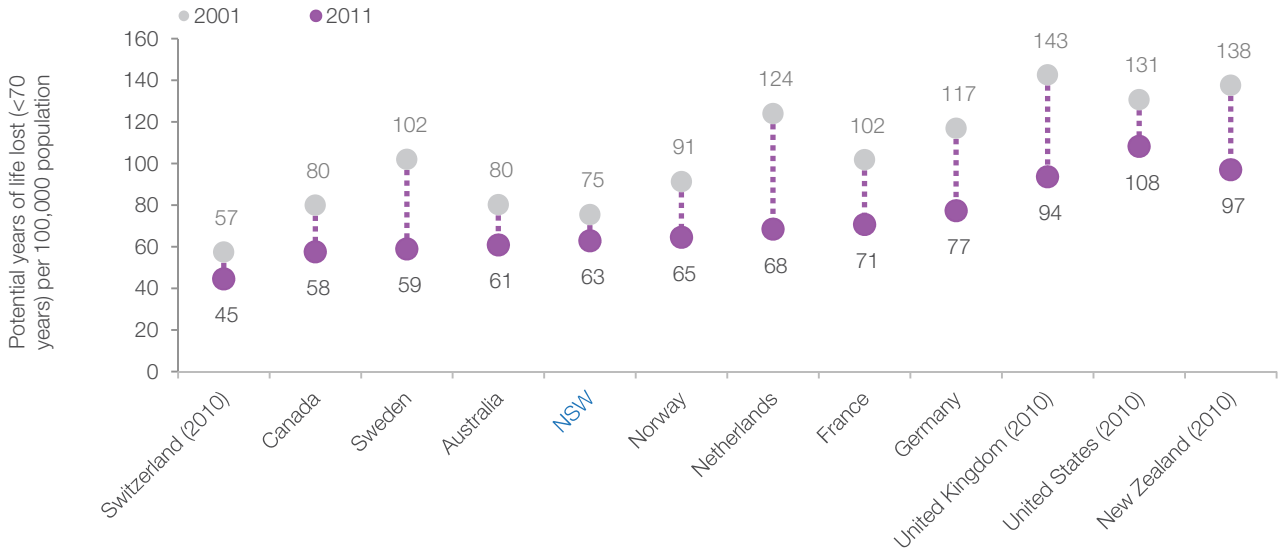
Measures of effectiveness of care for stoke patients include 30-day mortality indicators — here defined as deaths, both in and out of hospital, in the 30 days following hospital admission for stroke.

In 2011, there were 6,706 admissions for ischaemic stroke in NSW. The standardised 30-day mortality rate for NSW was 11.5 per 100 patients — higher than Sweden and Norway but not significantly different from other comparator countries.

In 2011, there were 2,418 admissions for haemorrhagic stroke to NSW public and private hospitals. The standardised 30-day mortality rate for NSW was 29.6 per 100 patients aged 45 years and over. This placed NSW mid-range among comparator countries, significantly higher than Sweden and Norway (Figure 3.17).

Between 2003 and 2013 in NSW, standardised 30-day mortality rates decreased by 24% for ischaemic stroke and by 14% for haemorrhagic stroke (Figure 3.18).

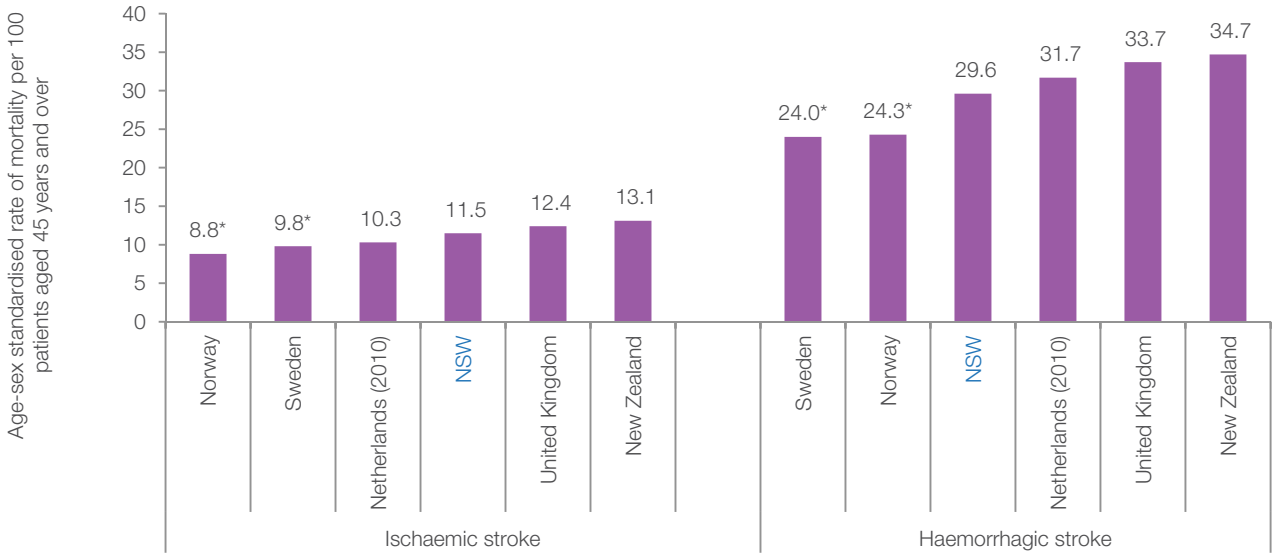
Figure 3.16 Rate of potential years of life lost due to stroke,[i] NSW and comparator countries, 2001 and 2011 (or nearest year)



Sources: ABS, Causes of Death 2011 (customised request). OECD Health Statistics 2014

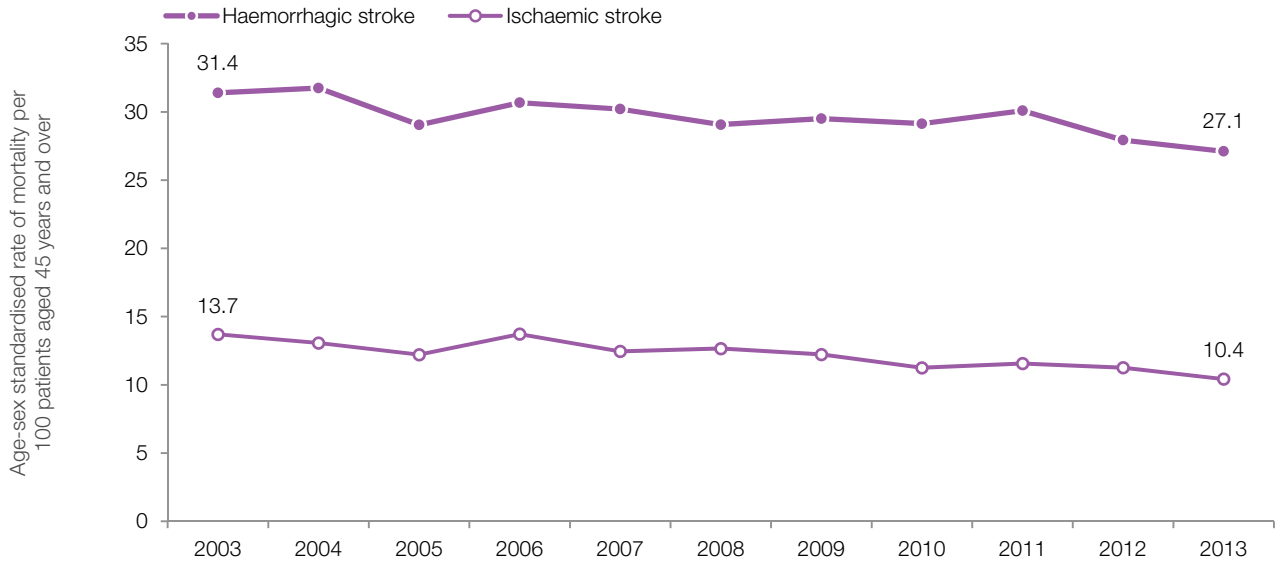
i Potential years of life lost are for all cerebrovascular diseases, of which stroke makes up the majority

Figure 3.17 Age-sex standardised 30-day (in-hospital and out of hospital) mortality rate for stroke for patients aged 45 years and over, by type of stroke, public and private hospitals, NSW and available comparator countries, 2011 or nearest year



Sources: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis). OECD Health Statistics 2014

Figure 3.18 Age-sex standardised 30-day (in-hospital and out of hospital) mortality rate for patients aged 45 years and over, by type of stroke, NSW public and private hospitals, 2003–2013



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

*Estimate statistically significantly different than NSW

Complications of care: post-surgery

NSW has high rates of some post-operative complications

As well as addressing patients' health problems, effective care causes no undue harm. Effectiveness measures can therefore include rates of adverse events and complications of care, such as deep vein thrombosis (DVT), pulmonary embolism (PE), wound dehiscence and sepsis.

Adverse events reflect clinical practice and organisation of care however rates can also be influenced by differences in patient case mix and coding practices.[i] Not all adverse events or complications are avoidable, and relatively high rates may be a result of effective patient safety monitoring rather than poor care.[3] Nevertheless, high rates can point to performance issues.

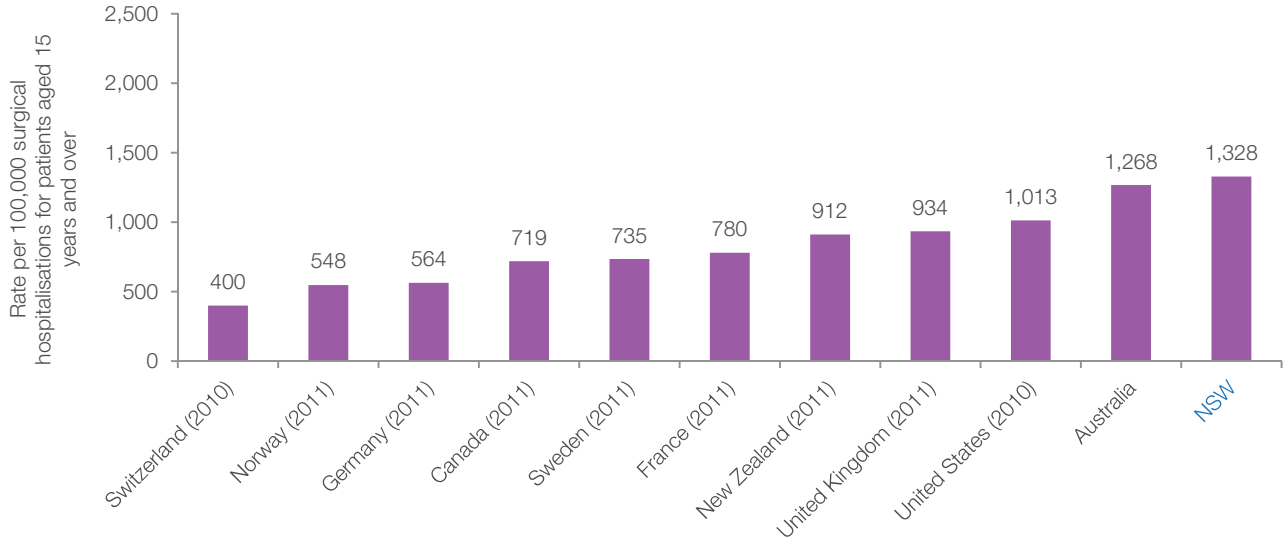
A DVT occurs when a blood clot forms in a deep vein, usually in the lower leg, thigh or pelvis. A PE occurs when a part of the clot breaks off and lodges in the lungs, causing a blood flow blockage. Large clots can be fatal. Following surgery, patients are at increased risk of developing DVTs and PEs. These risks can be minimised by appropriate risk assessment, prophylaxis and patient education.[8]

In 2012, among 196,698 surgical hospitalisations with a length of stay of two days or more, there were 2,613 cases of DVT or PE. This corresponds to a NSW rate of 1,328 per 100,000 surgical hospitalisations, higher than all comparator countries (Figure 3.19).

Wound dehiscence is a surgical complication where the wound at the surgical site breaks down. In 2012, there were 114 cases for every 100,000 surgical hospitalisations in NSW — among the lowest rates internationally (Figure 3.20)

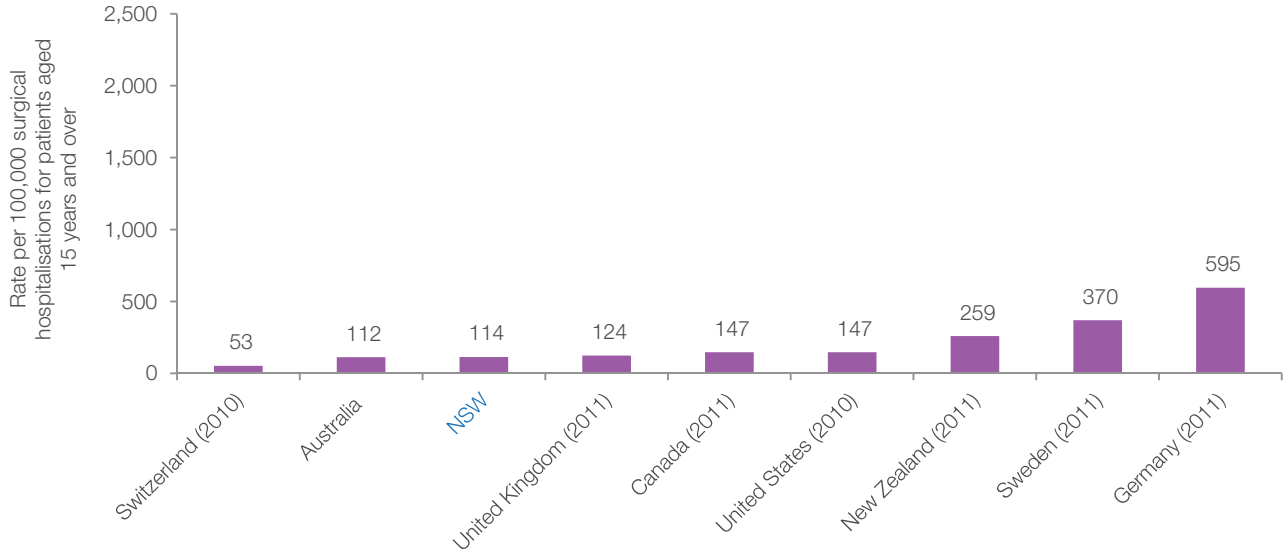
Sepsis (bloodstream infection) is a life-threatening condition. For surgical patients, it can be minimised by appropriate use of antibiotics, sterile surgical techniques and good post-operative care.[9] In 2012, of 111,252 surgical hospitalisations with a length of stay of three days or more, 1,626 cases had sepsis recorded. This corresponds to a NSW rate of 1,440 cases per 100,000 surgical separations — the highest rate among comparator countries (Figure 3.21).

Figure 3.19 Rates of post-operative deep vein thrombosis and pulmonary embolism among surgical patients aged 15 years and over, public and private hospitals, NSW and comparator countries, 2012 or nearest year



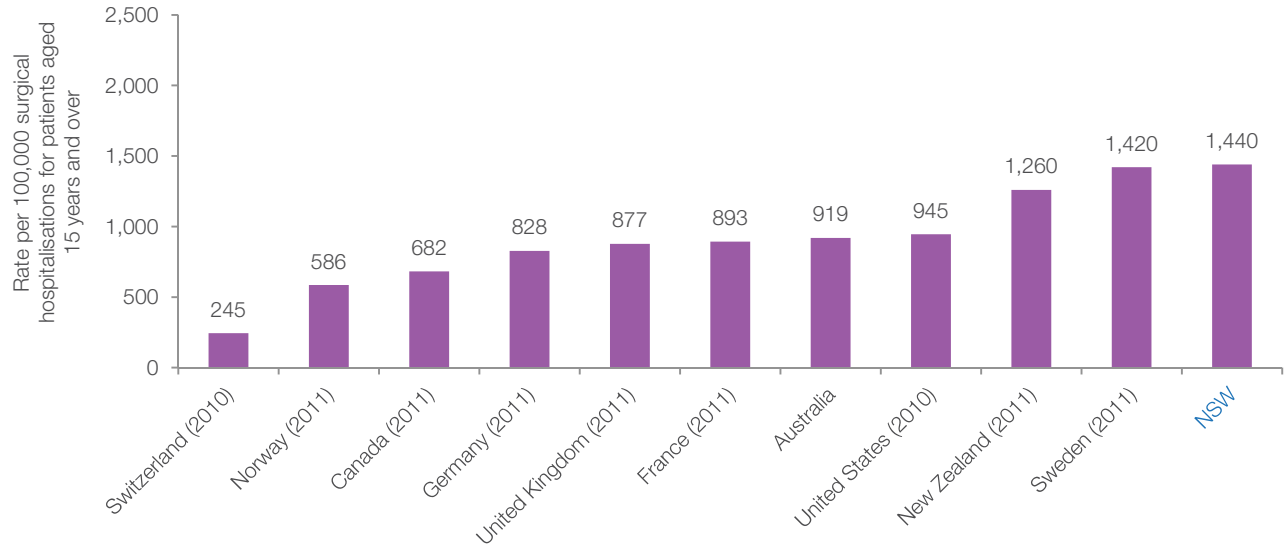
Sources: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis). OECD Health Statistics 2014

Figure 3.20 Rates of post-operative wound dehiscence among surgical patients aged 15 years and over, public and private hospitals, NSW and comparator countries, 2012 or nearest year



Sources: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis). OECD Health Statistics 2014

Figure 3.21 Rate of post-operative sepsis among surgical patients aged 15 years and over, public and private hospitals, NSW and comparator countries, 2012 or nearest year



Sources: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis). OECD Health Statistics 2014

i Indicator definitions excludes hospital stays of less than two days for DVT/PE and wound dehiscence, and excludes stays of less than three days for sepsis.

Complications of care: Obstetric trauma

NSW rates of obstetric trauma are similar to most comparator countries

In NSW in 2012, there were more than 98,000 births, of which 57% were normal vaginal births and 12% were forceps or vacuum extractions.[10] During childbirth, potentially avoidable complications can occur for the mother, including tearing of the perineum. Serious tears (categorised as third- or fourth-degree tears) require surgical repair and may lead to ongoing pain and incontinence.[11] Measures of obstetric trauma report the number of third- and fourth-degree tears that occur during vaginal delivery.

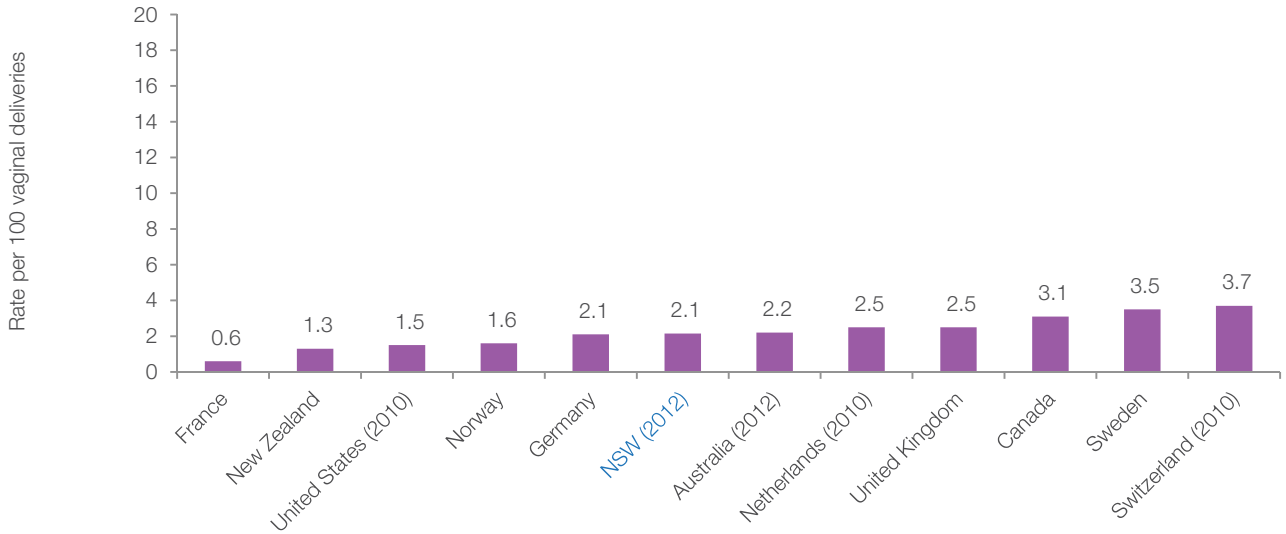
In NSW in 2012, for deliveries without forceps or vacuum extraction (deliveries without instrument), two women in 100 experienced a third- or fourth-degree tear. Internationally, results varied from 0.6 to 3.7 per 100 vaginal deliveries (Figure 3.22).

Deliveries using forceps or vacuum extraction (deliveries with instrument) have a higher risk of a perineal laceration or tear. In 2012, among vaginal deliveries with instrument, NSW had a rate of 6.6 per 100 deliveries that resulted in a third- or fourth-degree tear. Across comparator countries, results varied from 2.6 per 100 vaginal deliveries in France to 17.0 per 100 vaginal deliveries in Canada (Figure 3.23).

Across NSW public hospitals in 2013, rates of obstetric trauma varied. For deliveries without instrument, rates ranged from 0 to 6.6 per 100 vaginal deliveries. For deliveries with instrument, rates ranged from 3.9 to 13.9 per 100 deliveries (Figure 3.24).

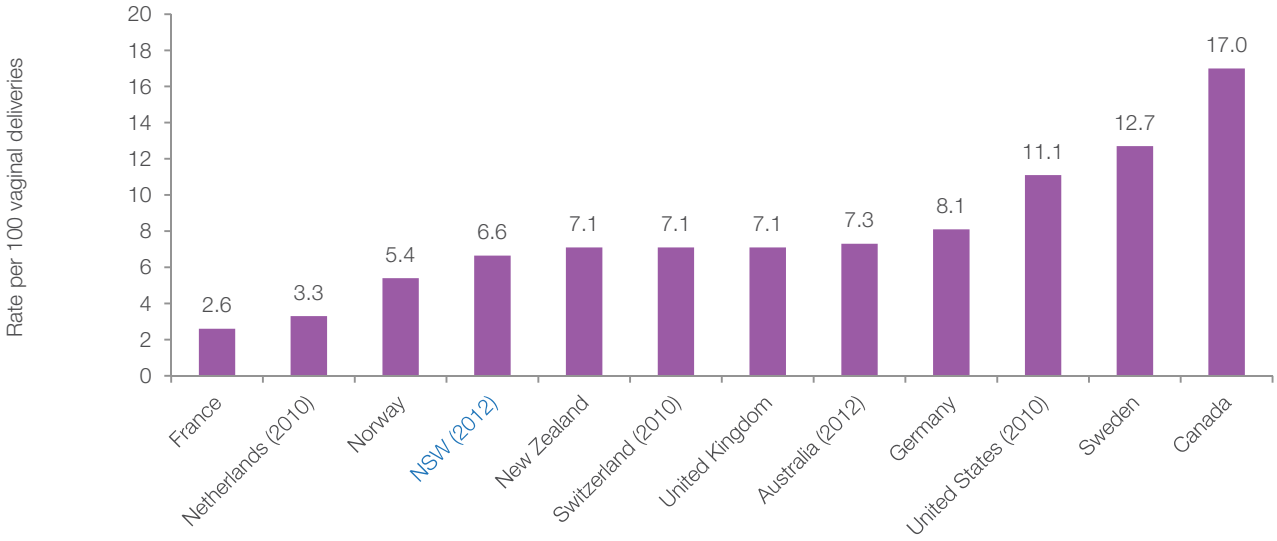
Risk of obstetric trauma is greater for mothers of advanced maternal age, first-time mothers, and for larger babies. These factors have not been accounted for in these analyses. While obstetric trauma cannot be prevented in all cases, studies have shown that use of forceps over vacuum, and episiotomy procedures (a surgically-planned incision before delivery) are associated with higher rates of obstetric trauma.[12] In NSW, episiotomy rates vary from 2% to 20% in public hospitals,[13] whereas in Canada they are 17%.[14] For more information on measures of maternity care including episiotomy rates in NSW see *Towards Normal Birth in NSW, 2010*.

Figure 3.22 Rates of obstetric trauma for vaginal deliveries without instrument, patients aged 15 years and over, public and private hospitals, NSW and comparator countries, 2011 or nearest year



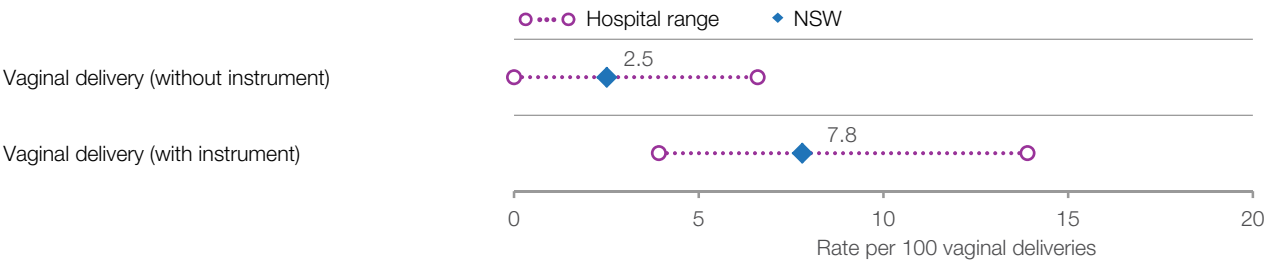
Sources: NSW Ministry of Health, NSW Perinatal Data Collection (SAPHaRI). Centre for Epidemiology and Evidence. OECD, Health Statistics 2014

Figure 3.23 Rates of obstetric trauma for vaginal deliveries with instrument, patients aged 15 years and over, public and private hospitals, NSW and comparator countries, 2011 or nearest year



Sources: NSW Ministry of Health, NSW Perinatal Data Collection (SAPHaRI). Centre for Epidemiology and Evidence. OECD, Health Statistics 2014

Figure 3.24 Rates of obstetric trauma, with and without instrument, patients aged 15 years and over, NSW public hospital variation, 2013



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

Note: Hospitals with 100 or more deliveries, either with or without instrument, were included.

Patient-reported complications of care

One in 20 NSW public hospital patients said they contracted an infection during or soon after hospitalisation

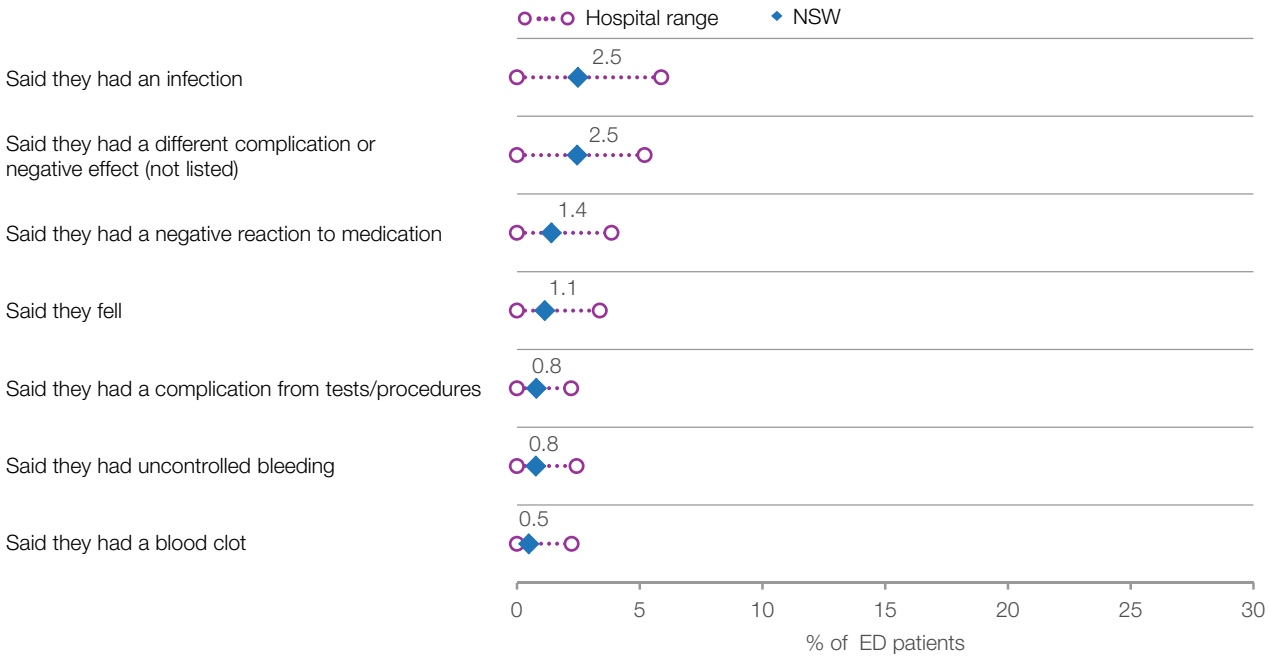
Patients are important informants about adverse events. Their accounts can supplement information gathered in administrative data and incident reporting schemes. Patients can give firsthand accounts of adverse events that occur in hospital and in the period following discharge, and can describe their impact.[15] The patient perspective provides a valuable addition to administrative data sources and incident reporting initiatives.

Data from the NSW Patient Survey Program shows that between April 2013 and March 2014, 2.5% of NSW emergency department (ED) patients said they contracted an infection during or soon after their visit to the ED. Results for other types of complications were lower, with some variation across hospital EDs (Figure 3.25).

Among adult admitted patients in 2013, one in twenty (6.3%) said they experienced an infection during or shortly after their stay. The percentage reporting other types of complications was lower and results varied across public hospitals (Figure 3.26).

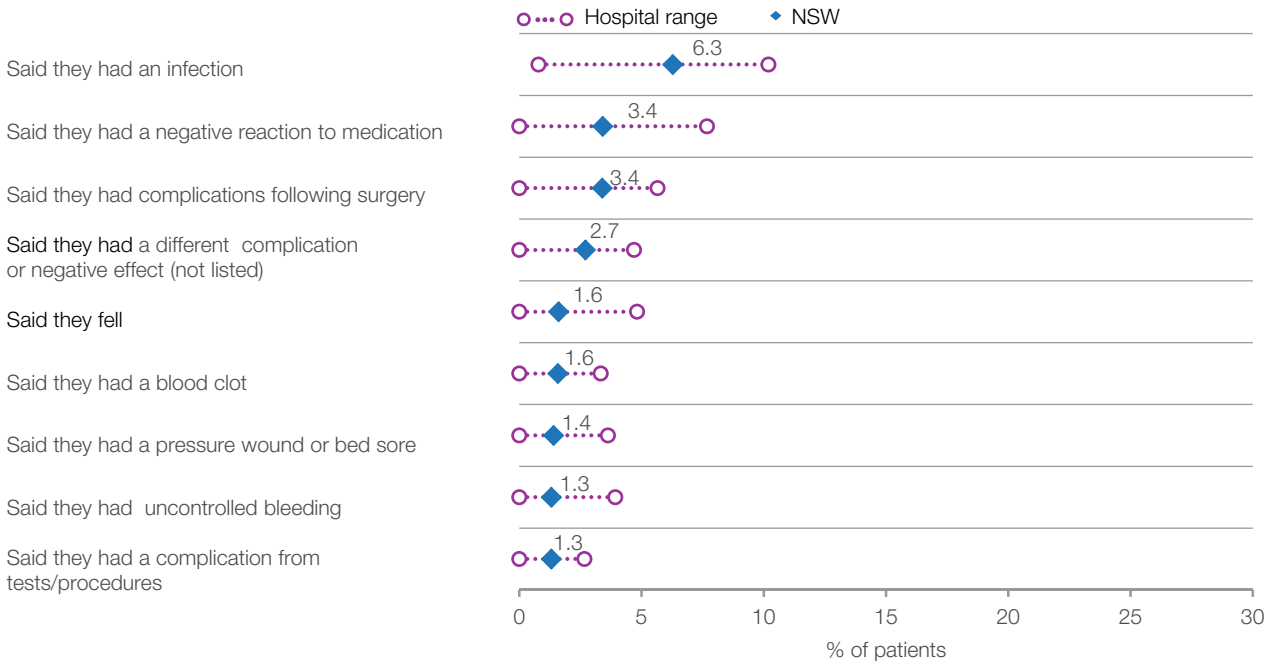
Among adult admitted patients who said they experienced any complication, two in 10 (18%) reported that the impact on their health was very serious, while one in 10 (8%) said it was not at all serious (Figure 3.27).

Figure 3.25 Percentage of emergency department patients who said they had a complication during or shortly after their hospital stay, NSW public hospital variation, 2013–14



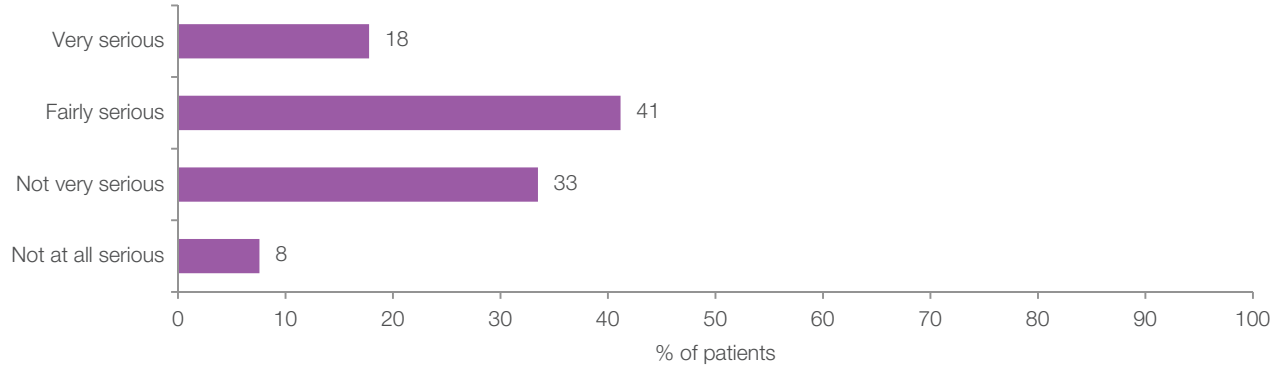
Source: BHI, NSW Patient Survey Program, Emergency Department Patient Survey April 2013 to March 2014

Figure 3.26 Percentage of adult admitted patients who said they had a complication during or shortly after their hospital stay, NSW public hospital variation, 2013



Source: BHI, NSW Patient Survey Program, Adult Admitted Patient Survey 2013

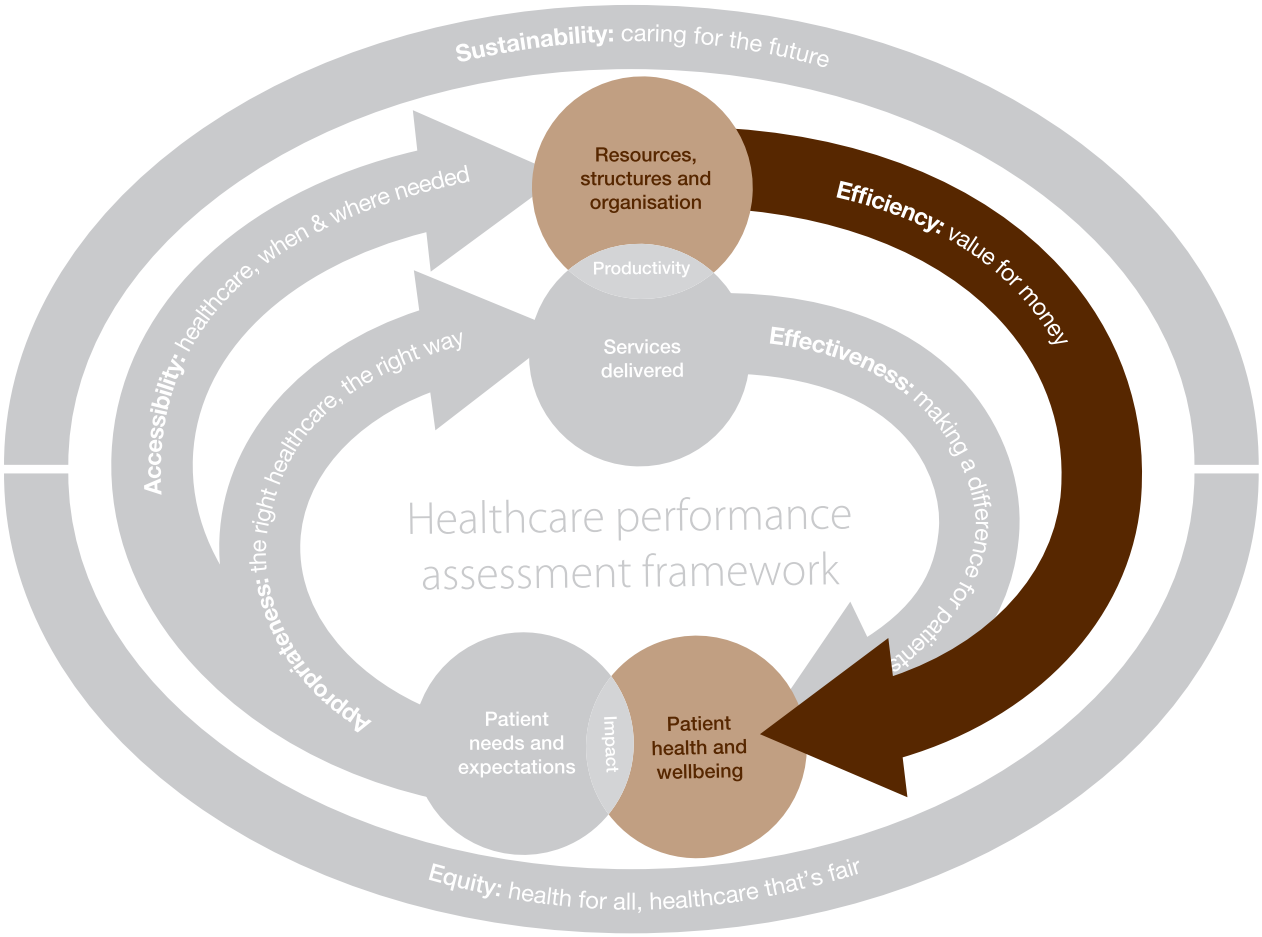
Figure 3.27 Percentage of adult admitted patients who said they had a complication during or shortly after their hospital stay, by perceived level of impact of the complication, NSW public hospitals, 2013



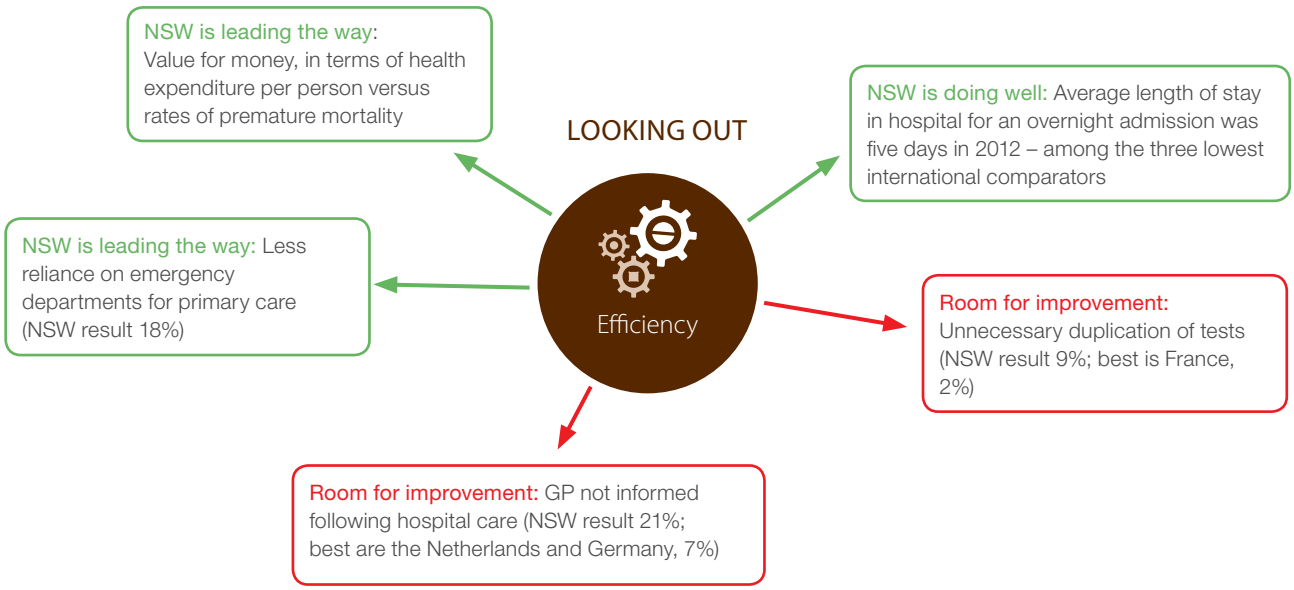
Source: BHI, NSW Patient Survey Program, Adult Admitted Patient Survey 2013

Efficiency

Value for money



Efficiency in an international context



Efficiency refers to the extent to which healthcare makes the best use of available resources. It relates to productivity, which is a measure of goods and services delivered per unit of resource. A productive system or organisation which achieves more valued outcomes for each dollar or human resource invested is performing better than one which produces fewer valued outcomes for the same investment. However, the production of more services is not, of itself, necessarily desirable.

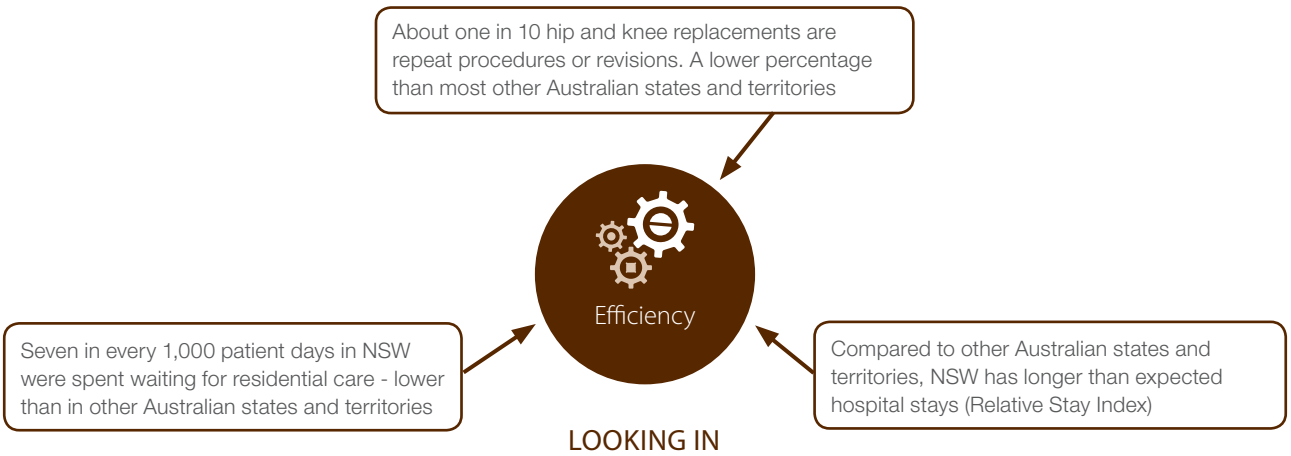
Efficiency can be assessed by measuring volumes of outputs or services delivered, relative to the resources invested. It can also be captured by measures of duplication or waste. At a system level, efficiency reflects health outcomes acheived with the resources invested.

This edition of *Healthcare in Focus* presents a range of measures that help assess the efficiency of healthcare in NSW. Most place NSW results in an international context — using clearly defined and consistently applied performance measures to compare NSW with OECD countries and other Australian states.

The measures of efficiency contained in this report are:

- Total per capita healthcare spending, alongside potential years of life lost
- Costs of hospital care and emergency department care
- Emergency department presentations for conditions that could have been treated in primary care settings
- Hospital bed-days for patients eligible and waiting for residential aged care
- Hospital length of stay
- Gaps in coordination between hospital, specialists and primary care settings
- Duplication of tests or procedures
- Overuse of arthroscopic procedures.

Efficiency in NSW



Value for money

No comparator country spends less and has lower premature mortality than NSW

Rates of premature mortality, as measured here by potential years of life lost before 70 years of age, are widely used as broad-brush indicators of how a system is performing in terms of impact.[1] When viewed in relation to input measures such as health expenditure per capita, these measures can also provide insight into overall system efficiency.

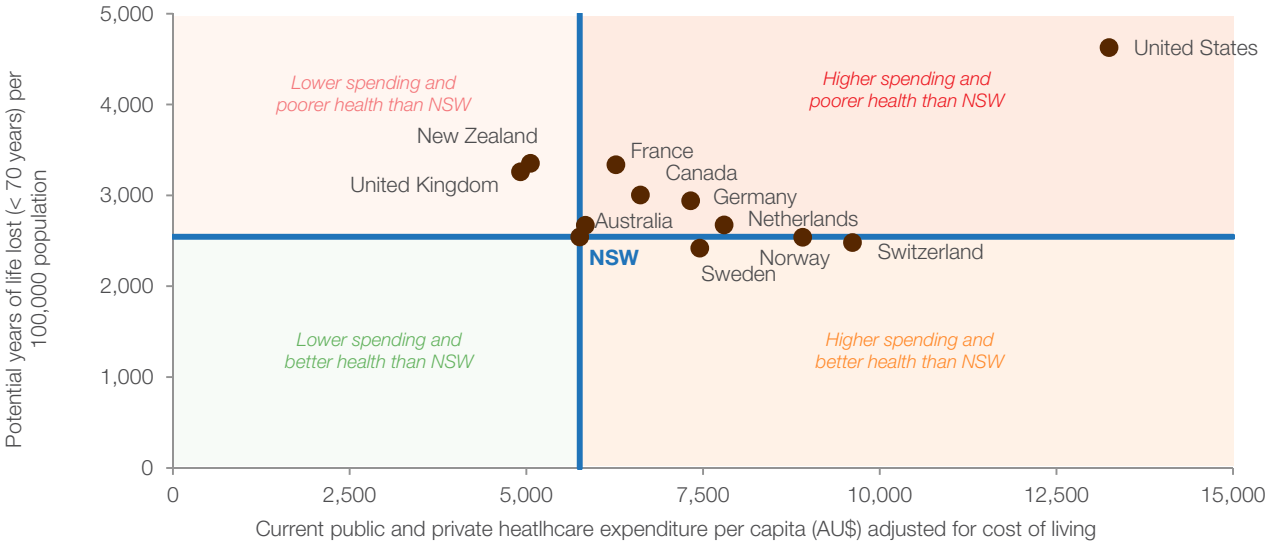
Analysis of outcomes in terms of potential years of life lost[i]) versus inputs in terms of health expenditure per capita reveals that only the United Kingdom and New Zealand, had lower expenditure per person than NSW. No country spent less per person, and had lower rates of premature mortality than NSW (Figure 4.1).

While not measures of performance per se, spending per capita on healthcare overall and more specifically on hospital care provide useful context, particularly when examined in terms of international variation. In 2012–13, the adjusted current total healthcare expenditure per capita in NSW was $5,755.[ii] Across comparator countries, per capita expenditure varied from $4,917 in the United Kingdom to $13,244 in the United States (Figure 4.2).

In NSW, expenditure on hospitals (public or private) was $2,457 per person — or about four of every 10 dollars spent on healthcare (43%). Internationally, there was two-fold variation in hospital spending per capita ($1,975 – $4,437) — and the percentage of total current expenditure going to hospitals ranged from 30% to 43% (Figure 4.3).[iii]

For further information on health care expenditures, funders, services and sectors in NSW, see *Healthcare in NSW: in context, available at www.bhi.nsw.gov.au*

Figure 4.1 Current public and private health expenditure per capita adjusted for cost of living, by potential years of life lost, NSW and comparator countries, 2013 or nearest year



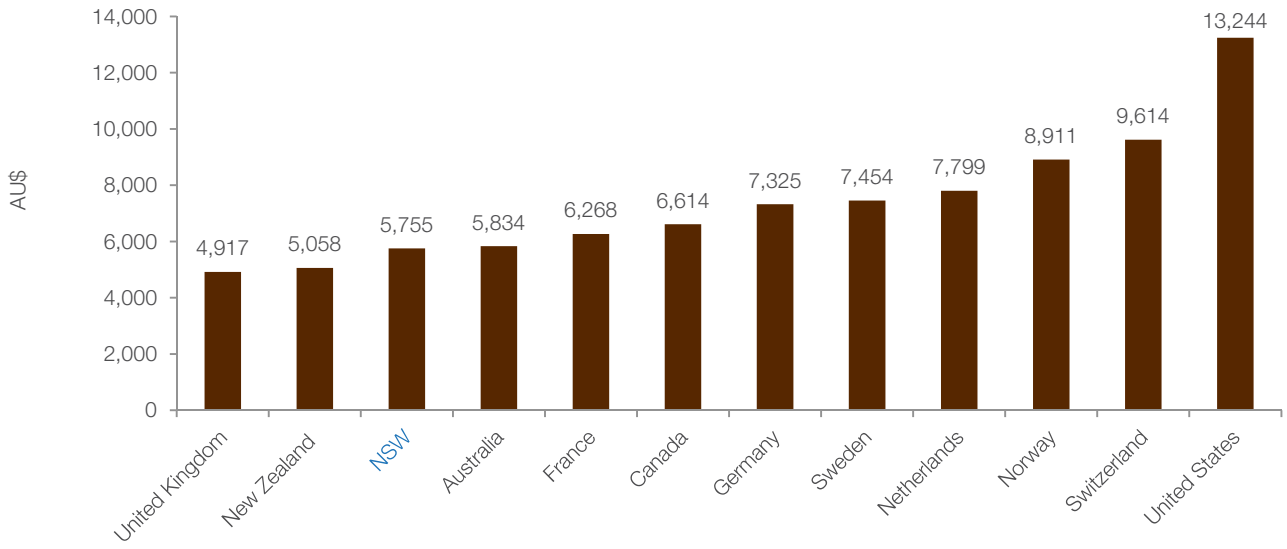
Source: OECD, Health Statistics 2015. Australian Bureau of Statistcs, Cause of Death 2012, (customised request). AIHW. Health expenditures 2012–13 (customised request)

i Potential years of life lost (PYLL) is a summary measure of premature mortality. The calculation of PYLL involves adding up deaths occurring at each age multiplied by the number of years left to live until a selected age (in this case, 70 years). Data for PYLLS is based on 2012 or nearest year.

ii Expenditures are presented in $AU, Australian dollars, for all countries and adjusted using a measure of purchasing power parity that is based on how much similar goods and services would cost across countries. For Australia, expenditure reflects 2012–13 fiscal year.

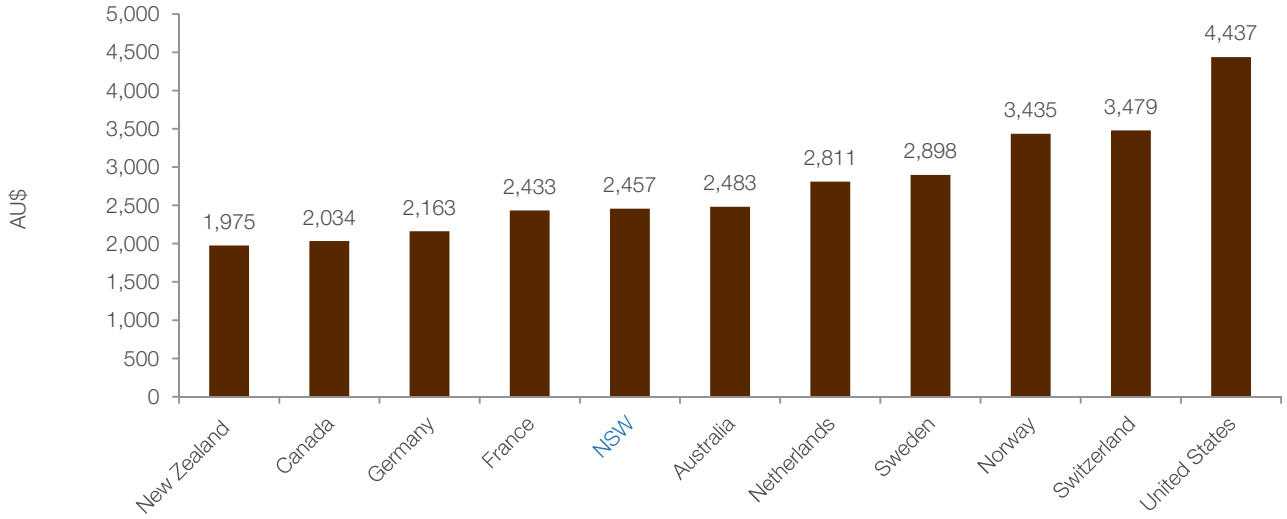
iii The percentages are calculated by dividing total current expenditure per capita by total hospital expenditure per capita. Hospital expenditure data was not available for the United Kingdom.

Figure 4.2 Current public and private health expenditure per capita adjusted for cost of living, NSW and comparator countries, 2013 or nearest year



Source: OECD, Health Statistics 2015. AIHW. Health expenditures 2012–13 (customised request)

Figure 4.3 Current public and private health expenditure on hospitals per capita adjusted for cost of living, NSW and comparator countries, 2013 or nearest year



Source: OECD, Health Statistics 2014 and 2015. AIHW. Health expenditures 2012–13 (customised request). For percentage of expenditure on hospitals, New Zealand most recent data is from 2011, Norway is 2012.

Variation in average costs: Hospital and ED

Cost per hospitalisation in NSW less than half that in the United States

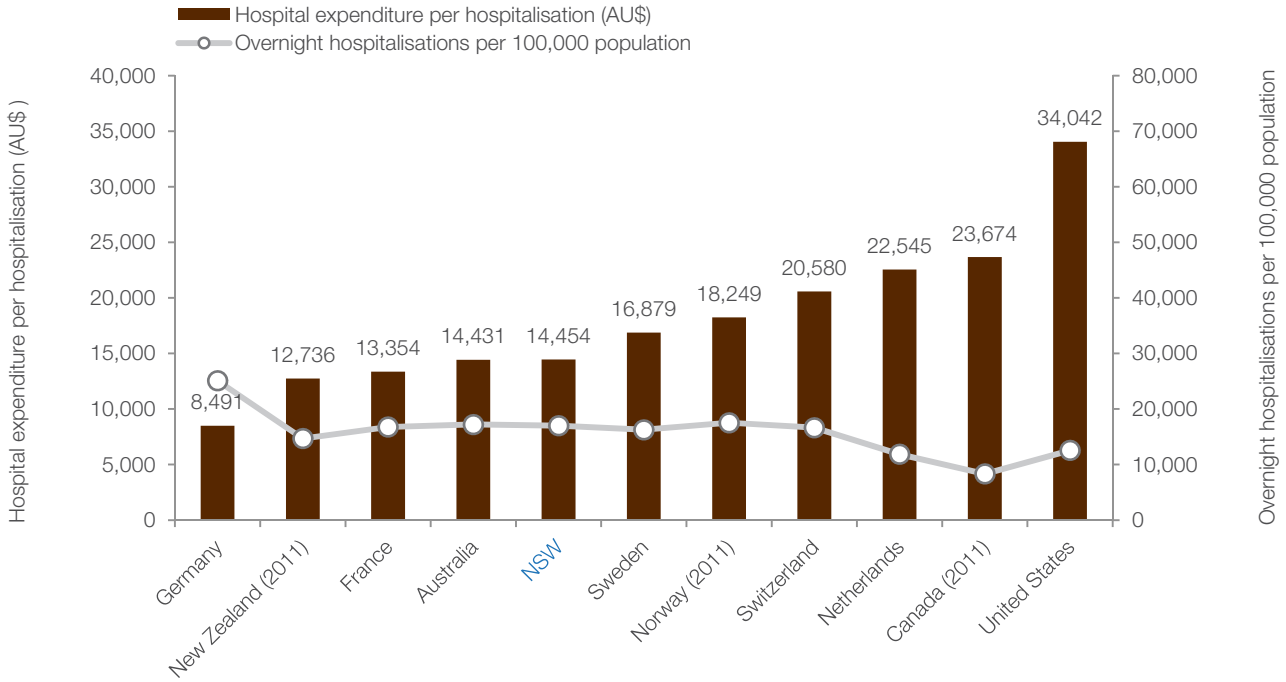
A considerable proportion of total investment in health is spent on hospitals, ranging from 30% to 43% of total current health expenditure across comparator countries.

Average hospital costs per total number of overnight hospitalisations in NSW in 2012–13 was $14,454.[i] After adjusting for differences in cost of living, there was four-fold variation across comparator countries in the average cost of hospitalisation, ranging from $8,491 in Germany to $34,042 in the United States. Viewed alongside the rate of overnight hospitalisations — which ranged from 8,316 per 100,000 population in Canada to 25,093 per 100,000 in Germany, the cost per hospitalisation appears, at least in some part, to reflect economies of scale (Figure 4.4).

Within Australia, more detailed comparisons of average costs in hospitals are adjusted to take into account patient case mix.[ii] In 2011–12, the adjusted average cost of an acute hospitalisation in NSW public hospitals (excluding psychiatric and drug and alcohol services) was $5,280. Across Australia, average costs ranged from $4,693 in Victoria to $6,384 in the ACT (Figure 4.5).

Costs of emergency department (ED) presentations also vary considerably. In 2011–12, the average cost of ED presentations in NSW for which patients were not subsequently admitted was $397, while ED presentations that resulted in admission to hospital had an average cost of $1,163. Across Australian states and territories, there was a two-fold variation in average costs per ED presentation (Figure 4.6).

Figure 4.4 Hospital spending per overnight hospitalisation and rate of overnight hospitalisations, public and private hospitals, NSW and comparator countries, 2012 or nearest year

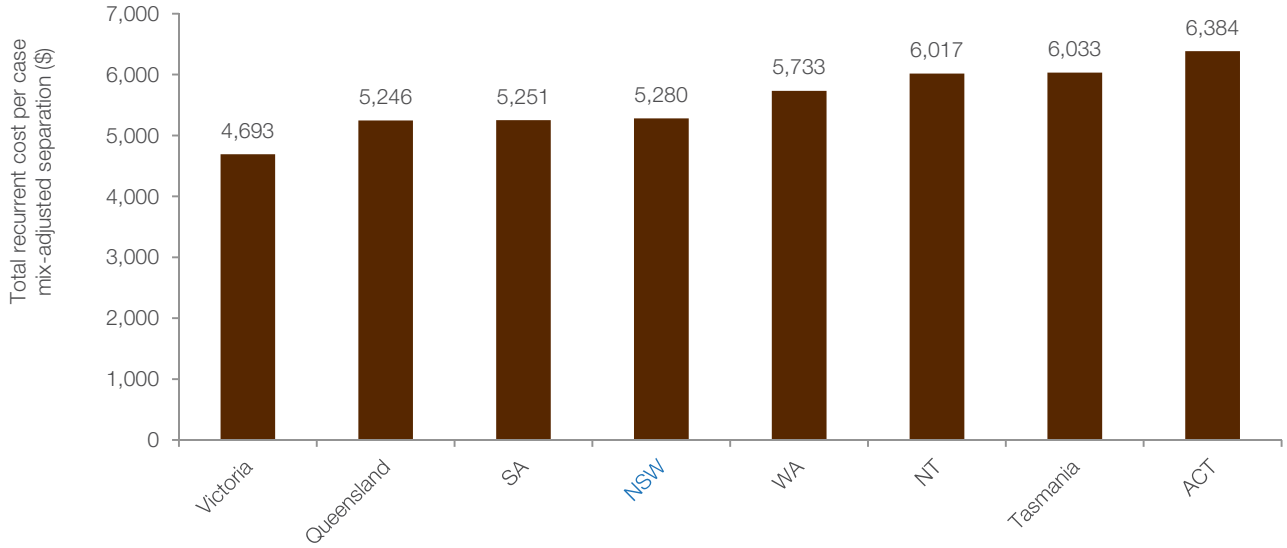


Source: OECD, Health Statistics 2014. AIHW, Health expenditures 2012–13 (customised request). AIHW, Australian Hospital Statistics 2012–13

i Expenditures are presented in $AU, Australian dollars, for all countries and adjusted using a measure of purchasing power parity that is based on how much similar goods and services would cost across countries.

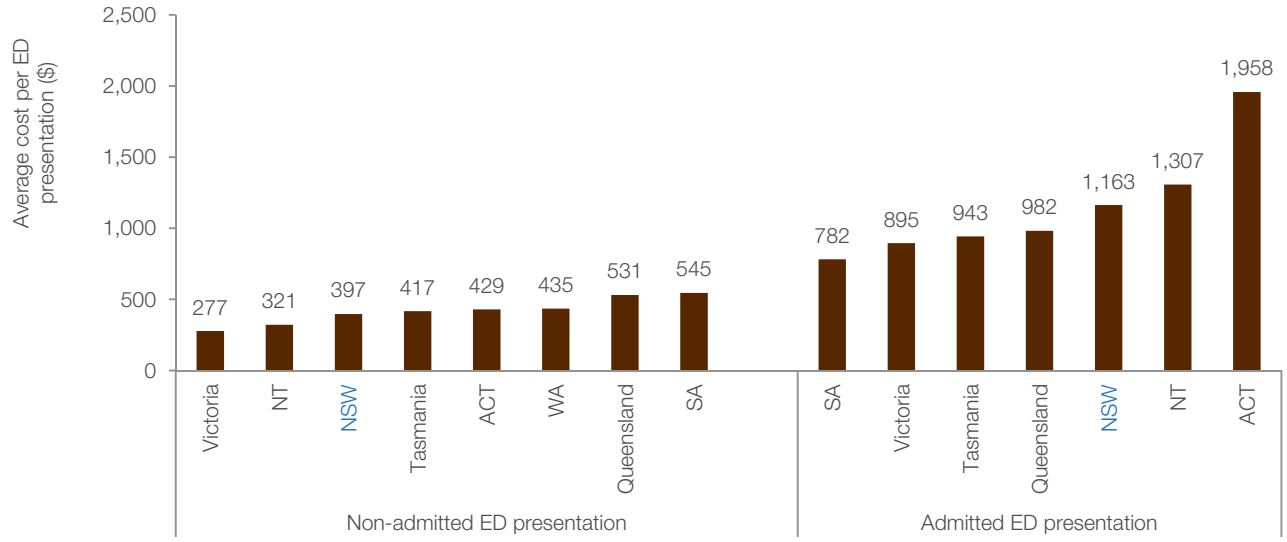
ii Costs include public hospitals and accounted for 97% of separations in public and psychiatric hospitals in 2011–12, and 94% of recurrent expenditure on public hospitals.[2]

Figure 4.5 Recurrent cost per separation adjusting for patient case-mix, selected public acute hospitals, states and territories, 2011–12



Sources: Australian Productivity Commission, Report on Government Services 2015, Volume E: Health.

Figure 4.6 Average cost of an emergency presentation, by admission status, NSW and available states and territories, 2011–12



Source: Independent Hospitals Pricing Authority,National Hospital Cost Data Collection Australian Public Hospitals Cost Report 2011–2012, Round 16.

Substitution in healthcare services

ED used as a substitute for primary care in most systems

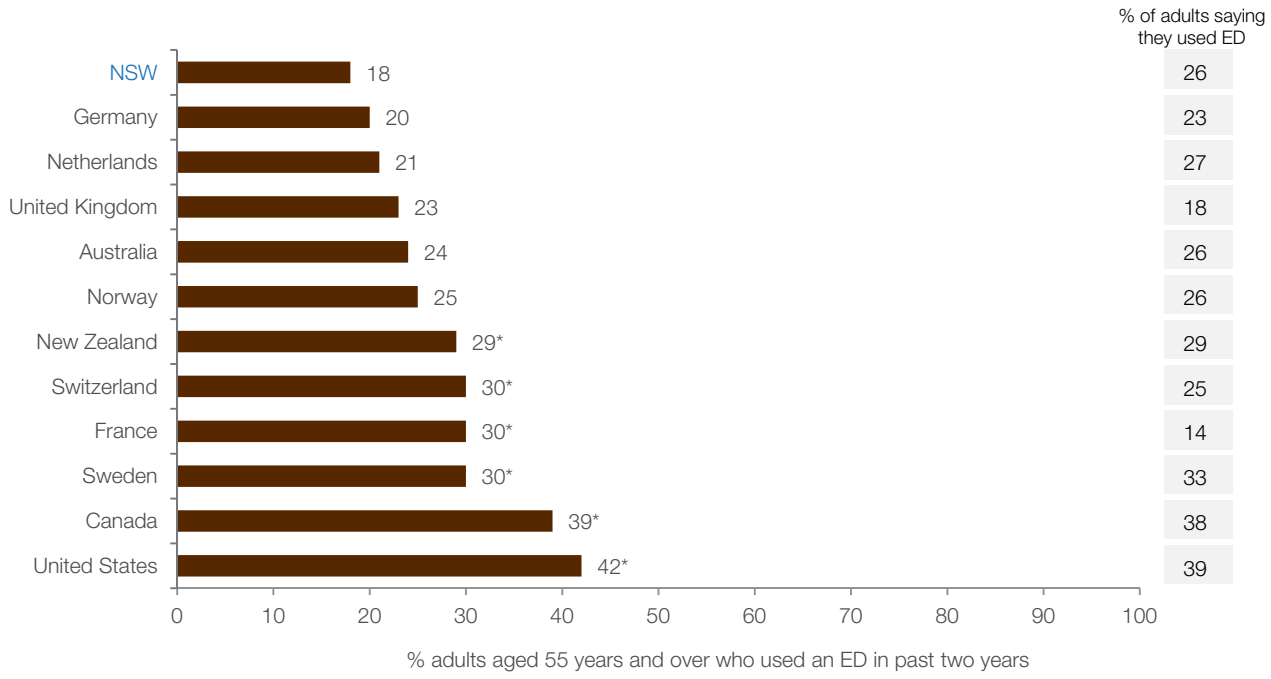
Substitution refers to replacing one configuration of provision with another in the delivery of a particular service. In healthcare, this may improve efficiency if the substitute is less costly and has the same outcomes for patients. Conversely, inefficiencies may occur when more costly configurations are used as substitutes. Such inefficiencies are, in some cases, defensible and necessary in order to increase the accessibility or appropriateness of care.

In 2014, among NSW adults aged 55 years and over who visited an ED, two in 10 (18%) said it was for a condition that could have been treated by their GP had he or she been available. The NSW result was lower than that recorded in six comparator countries, and half that seen in Canada (39%) and the United States (42%). Canada and the United States also had the highest percentage of people who said they visited an ED in the previous two years (Figure 4.7).

The Emergency Department Patient Survey provides more detailed information on this issue in NSW. ED patients who said their condition could have been treated by a GP were asked about their main reason for attending the ED. The most commonly given reason was their GP clinic was closed[i] (Figure 4.8).

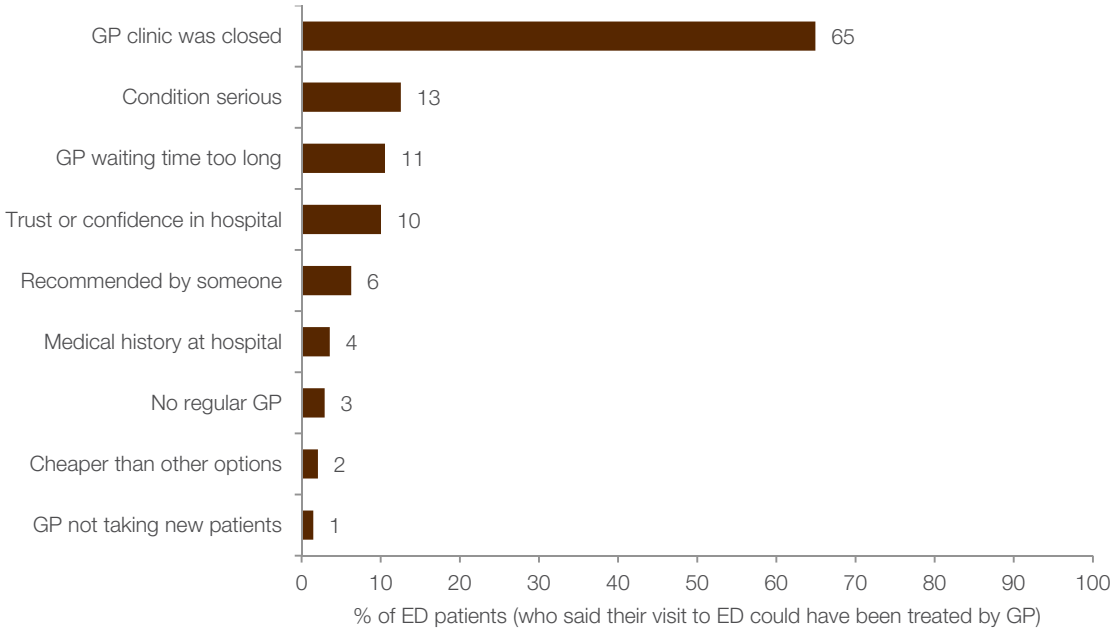
Substitution of care also occurs in the acute hospital setting. For example, in 2012–13, seven out of every 1,000 hospital bed days in NSW were used by patients who were ready for discharge but waiting for residential aged care (often termed maintenance care). This was a relatively low rate in comparison with other Australian states and territories. Lower rates suggest better performance, both in terms of greater efficiency — providing maintenance care in acute settings is not cost-effective — and of more appropriate care, matching services to patient needs (Figure 4.9).

Figure 4.7 Percentage of adults aged 55 years and over who said their recent ED visit was for a condition that recent could have been treated by a regular GP, and percentage of adults who said they visited an ED, NSW and comparator countries, 2014



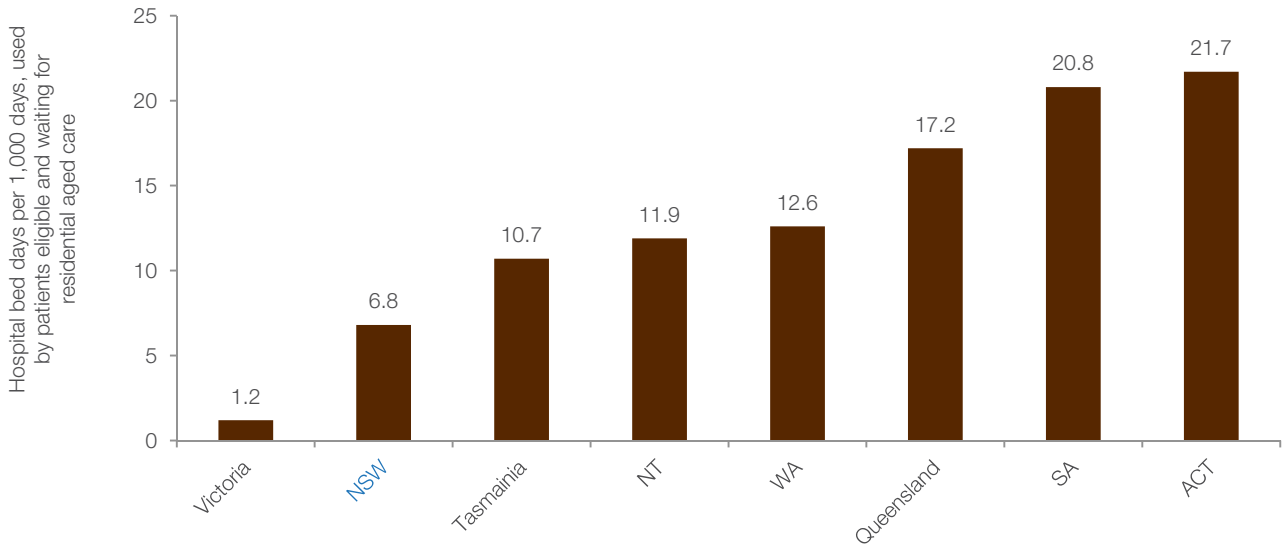
Source : Commonwealth Fund International Health Policy Survey of Older Adults 2014

Figure 4.8 Percentage of ED patients who said visited the ED for a condition that could have been treated by a GP, by reason for ED presentation, NSW, 2013–14



Source: BHI, NSW Patient Survey Program, Emergency Department Patient Survey April 2013 to March 2014

Figure 4.9 Rate of hospital bed days used by patients eligible and waiting for residential aged care, all hospitals, states and territories, 2013–14



Source: AIHW, Admitted patient care 2013–14: Australian hospital statistics

* Estimate statistically significantly different than NSW

i Multiple responses were allowed. Therefore the sum of responses does not total 100% The number of respondents asked this question was 4,500.

Length of stay in hospitals

Average length of stay is shorter in NSW than in many other jurisdictions

Average length of stay can be used as a proxy for efficiency in resource utilisation in hospitals.[1,3] A shorter stay may reduce costs per hospitalisation by shifting care to less costly non-acute settings. Shorter stays may be a sign of greater efficiency but only if they do not result in increased rates of readmission or complications.

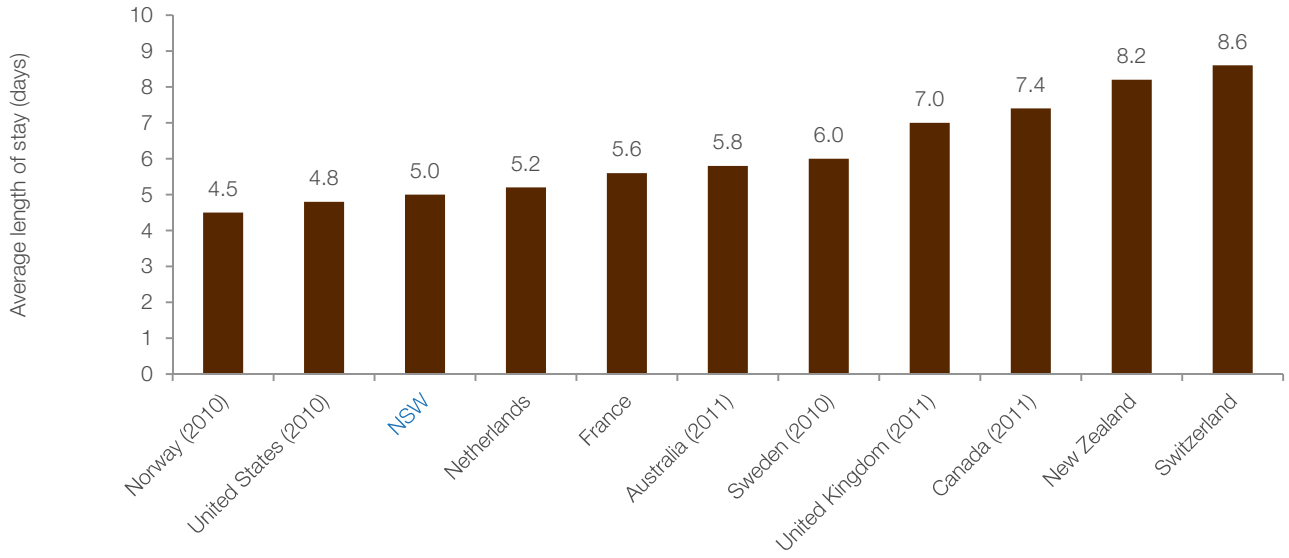
In 2012, the average length of a hospital stay (excluding same day and long-term care stays) in NSW was 5.0 days. This was lower than in most comparator countries (Figure 4.10).

Within Australia, length of stay varies between public and private hospitals. For NSW in 2013–14, the average stay in public hospitals (excluding same day cases but including long term stays) was 5.9 days, while the average stay in private hospitals was 5.5 days (Figure 4.11).

Average length of stay measures are relatively crude in that they are not sensitive to differences in case mix. The relative stay index adjusts for differences in patient characteristics and can be applied to compare performance within Australia. The statewide relative stay index is the average length of stay across the state, compared to the length of stay expected given the patient characteristics (as determined by national data). Assuming service quality and outcomes are not negatively affected, a relative stay index less than one is desirable, and indicates that relative to the national result, the average patient stay in that state is shorter than expected.

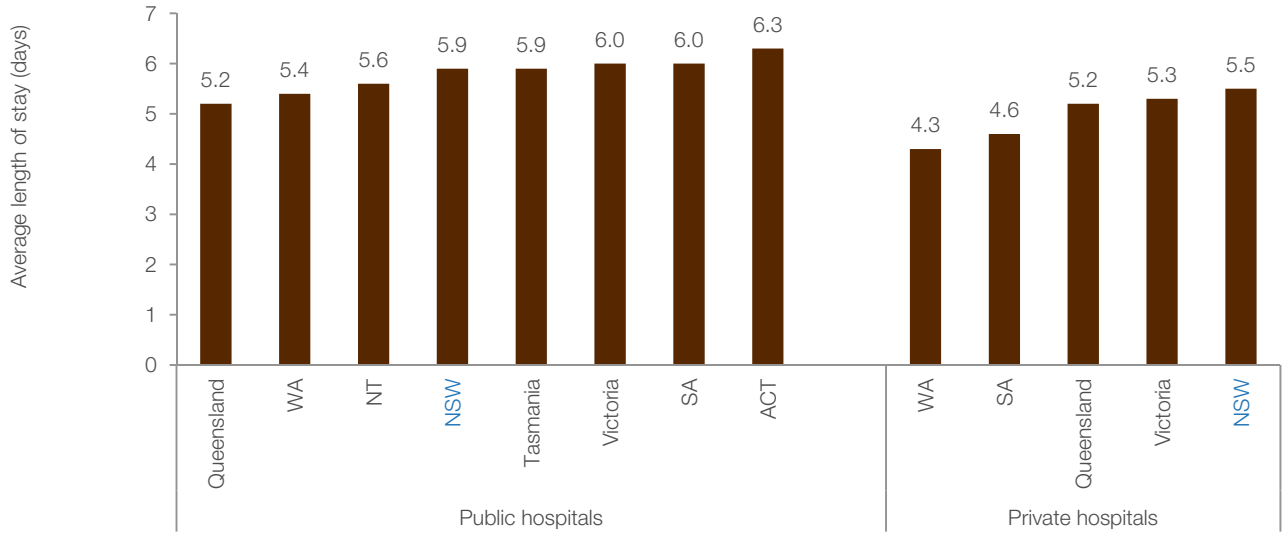
In 2012–13, the relative stay index in NSW showed that length of stay was higher than expected in both public and private hospitals (Figure 4.12).

Figure 4.10 Average length of stay, public and private hospitals (excluding long-term care stays), NSW and comparator countries, 2012 or nearest year



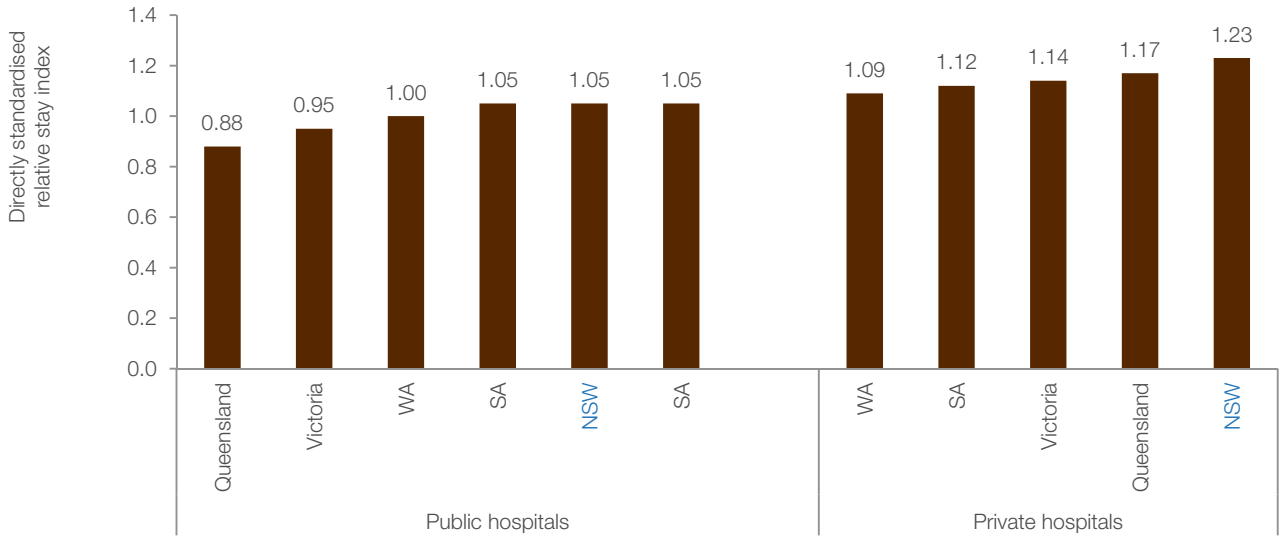
Sources: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis). OECD Health Statistics 2014

Figure 4.11 Average length of stay, available states and territories, 2013–14



Source: AIHW, Admitted patient care 2013–14: Australian hospital statistics

Figure 4.12 Directly standardised relative stay index, available states and territories, 2013–14



Source: AIHW, Admitted patient care 2013–14: Australian hospital statistics

Inefficiencies: Coordination problems

NSW patients report gaps in communication with GPs following hospitalisation

Efficiency is a complex and multifaceted concept that can be difficult to measure at a system or an organisational level. It is however, sometimes possible to explore efficiency through the measurement of inefficiencies, such as poor coordination.

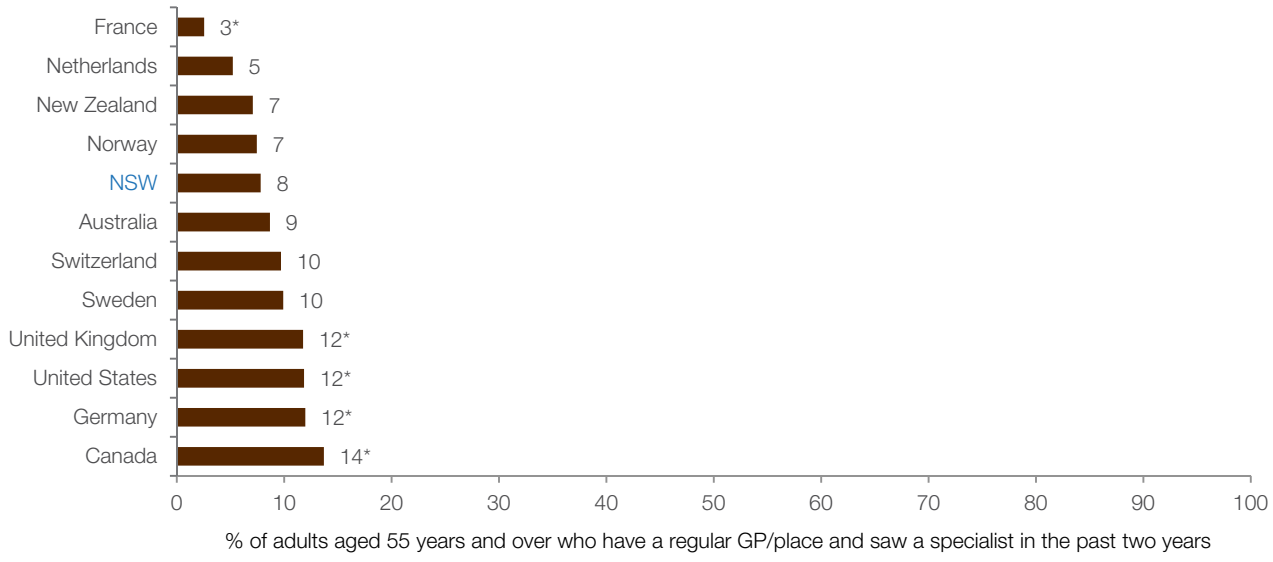
Care coordination and communication among clinicians can be assessed by patients, particularly through their experiences of failures or gaps in information flow.[4] These types of inefficiencies are also associated with wider issues such as lack of appropriate follow-up care, increased risk of errors and complications, and less responsive care.

In 2014, among NSW adults aged 55 years and over who had seen a specialist in the past two years, one in 10 (8%) said they felt the specialist did not have their basic information or results from their GP. The United Kingdom, the United States, Germany and Canada all had higher reported levels of these coordination problems (Figure 4.13).

At the end of the specialist visit, communication flows were more problematic. In NSW, two in 10 adults aged 55 years and over who saw a specialist (17%) said that their regular GP did not seem informed and up-to-date about the care they received. This pattern of better information flows from GP to specialist compared with flows from specialist to GP was found in most comparator countries (Figure 4.14).

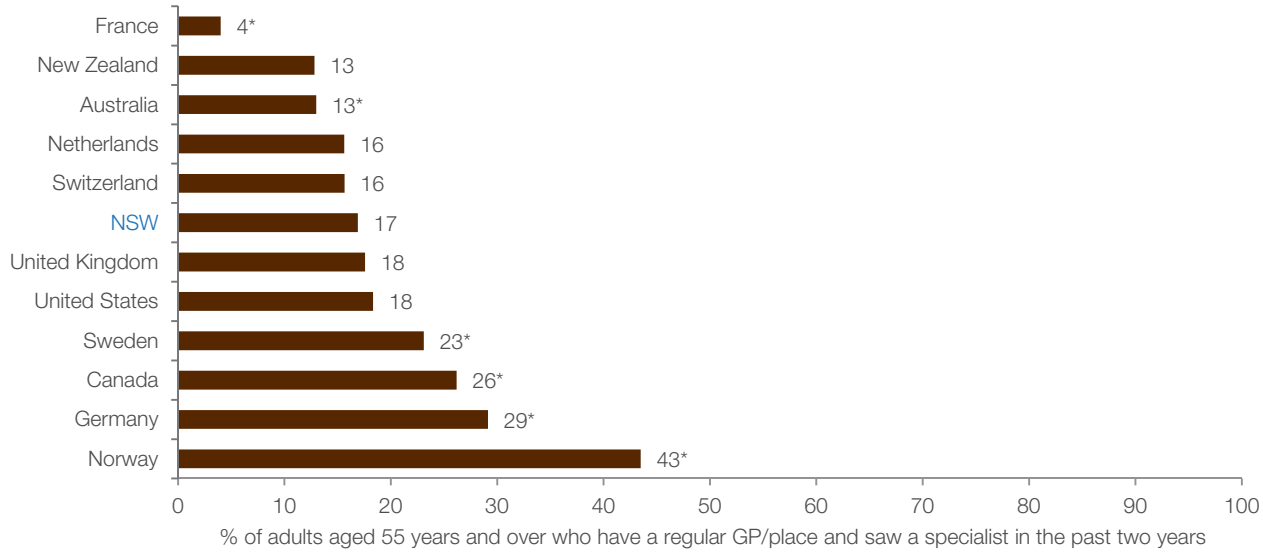
Similarly, in terms of coordination between hospitals and primary care, two in 10 NSW adults aged 55 years and over (21%) said their regular place of care was not always informed and up-to-date about the care they received in the hospital. Most comparator countries outperformed NSW on this measure (Figure 4.15).

Figure 4.13 Percentage of adults aged 55 years and over who had seen a specialist and said that information from their GP was not available at the time of specialist appointment, NSW and comparator countries, 2014



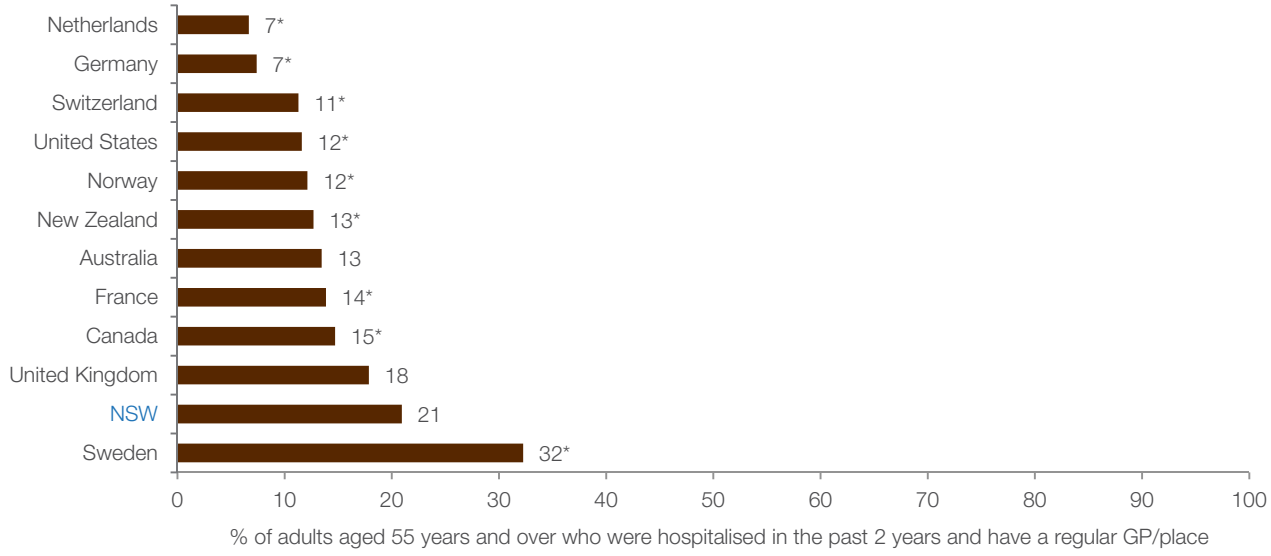
Source : Commonwealth Fund International Health Policy Survey of Older Adults 2014

Figure 4.14 Percentage of adults aged 55 years and over, who had seen a specialist, and said their regular GP did not seem up-to-date, NSW and comparator countries, 2014



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

Figure 4.15 Percentage of adults aged 55 years and over who were hospitalised and said their regular GP was not informed about the hospital care received, NSW and comparator countries, 2014



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

* Estimate is statistically significantly different from NSW

Inefficiencies: Duplication of processes

One in 10 people in NSW report unnecessary tests or duplication of tests

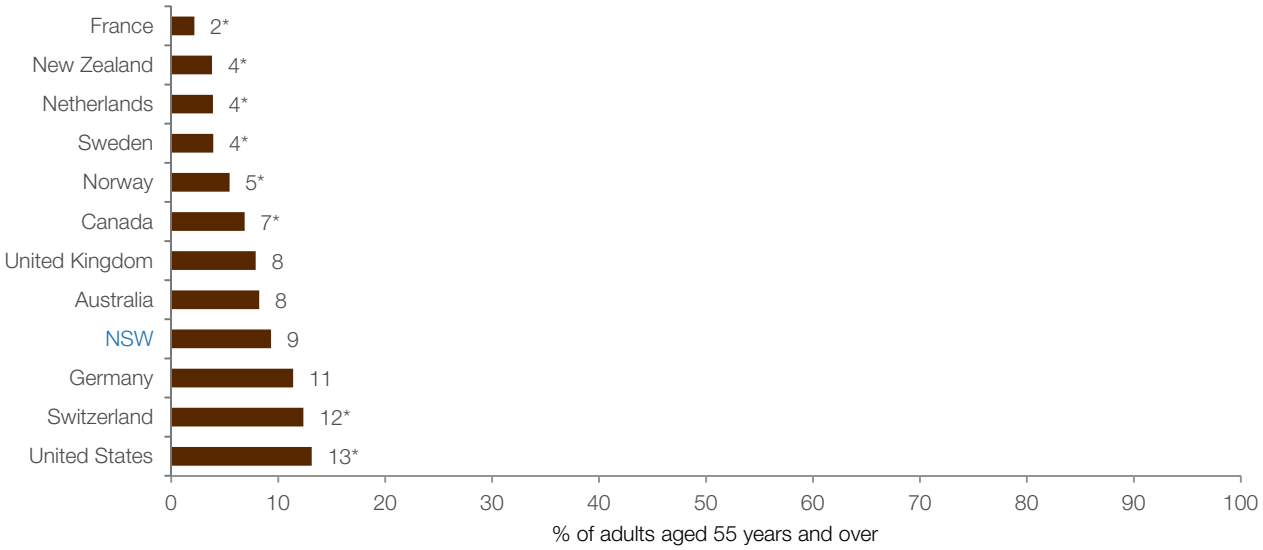
Efficiency, or more precisely inefficiency, can be measured in terms of waste. In the context of healthcare, waste can include duplication of services, errors, and poor coordination.[5] In 2014, one in 10 NSW adults aged 55 years and over (9%) said there was a time in the past two years when a doctor ordered a medical test that was unnecessary because it had already been done. Six comparator countries had a lower percentage reporting this type of duplication or inefficiency (Figure 4.16).

A similar percentage of NSW adults aged 55 years and over (8%) said that in the past two years their test results were not available at the time of an appointment. There was a five-fold variation across the survey jurisdictions: from 3% in France to 16% in the United States (Figure 4.17).

Revision rates for joint replacement surgery (the percentage of hip and knee replacement surgeries that are repeated due to prosthesis failure) can also be used as a measure of inefficiency. While some revisions may be required, high revision rates can in some cases be considered to be duplicative. In 2012–13, 10.3% of hip replacements and 6.7% of knee replacements in NSW were revisions – a lower percentage than in most other Australian states and territories (Figure 4.18).

Rates were similar to those observed in Canada (9.4% for hips, 6.7% for knees) and the United Kingdom (12.0% for hips, 6.5% for knees).[6,7] Both hip and knee revision rates in NSW improved slightly in 2012–13 compared with 2011–12 figures (12.0 and 6.8 respectively).[8]

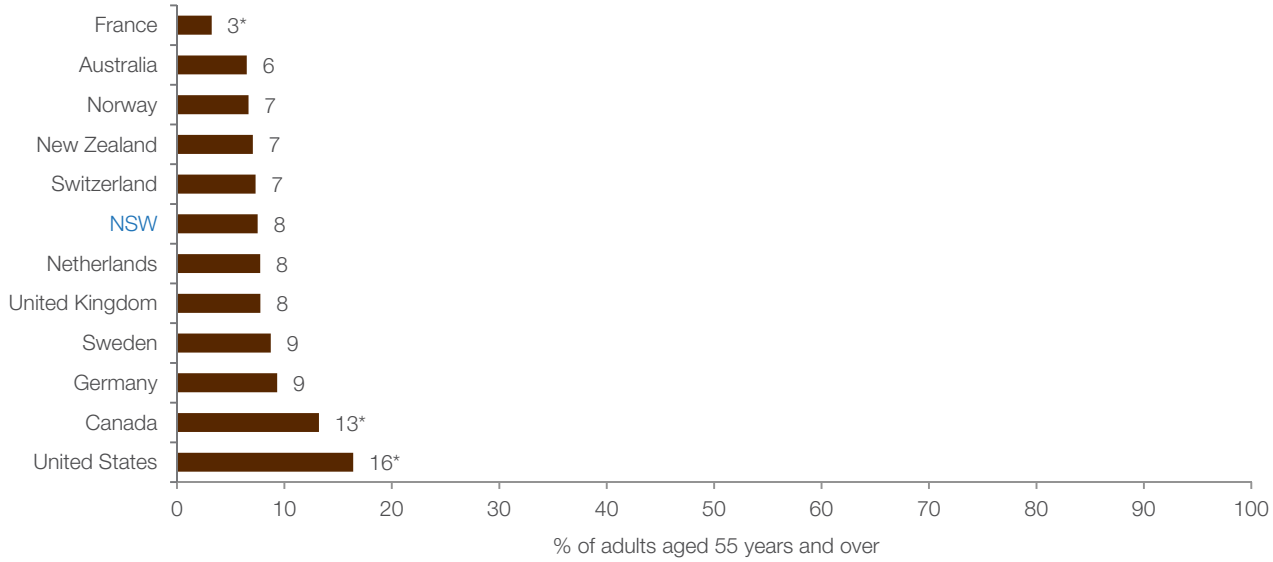
Figure 4.16 Percentage of adults aged 55 years and over who said doctors ordered a medical test they felt was unnecessary because it had already been done, NSW and comparator countries, 2014



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

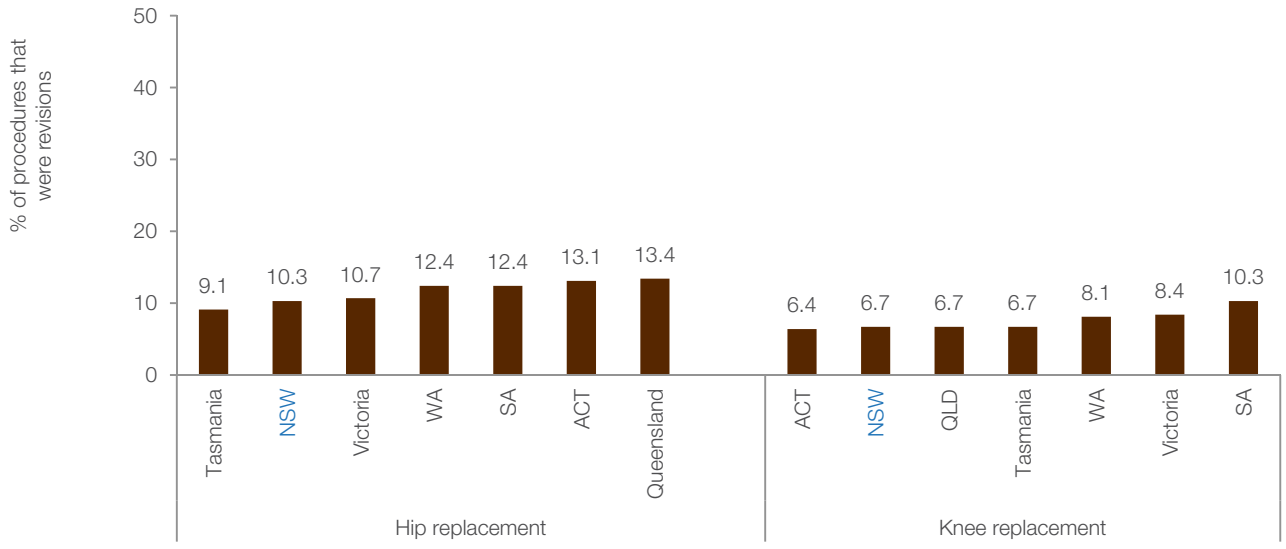
* Estimate is statistically significantly different from NSW

Figure 4.17 Percentage of adults aged 55 years and over who said their medical records or results were not available at the time of their appointment, NSW and comparator countries, 2014



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

Figure 4.18 Revision rates for hip and knee replacement surgery, public and private hospitals, states and territories, 2012–13



Source: Australian Orthopedic Association, Analysis of State and Territory Health Data All Arthoroplasty, Supplementary report 2013

Inefficiencies: An example of overuse of procedures

Knee arthroscopy is provided to patients who may not benefit

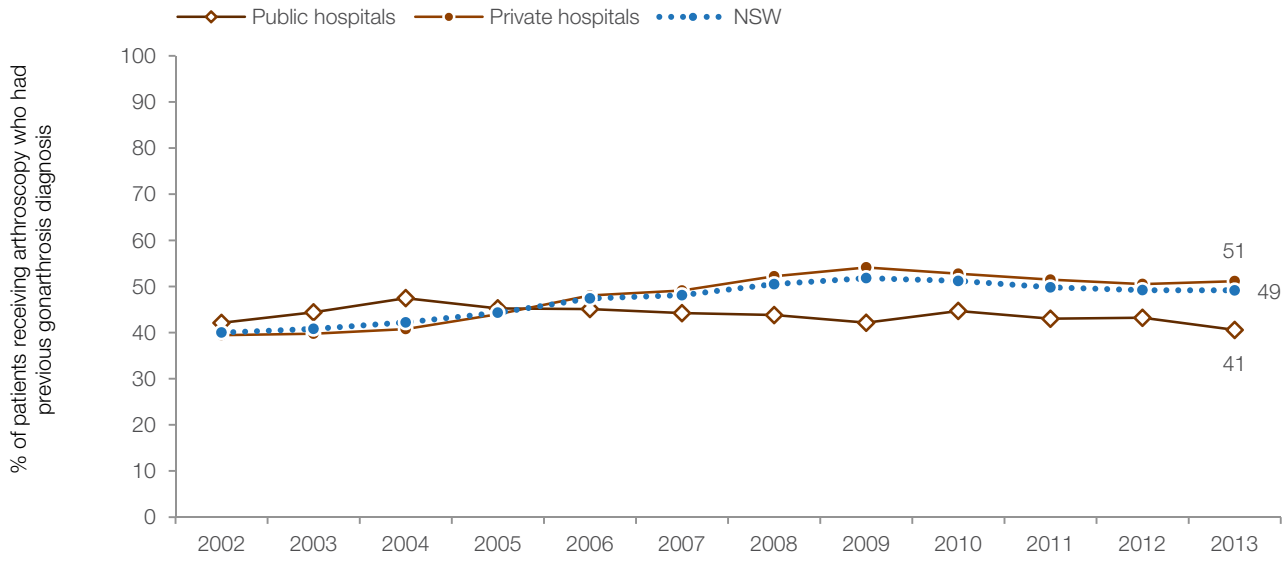
There is a growing concern in healthcare systems regarding inappropriate use or overuse of unnecessary treatments and procedures. Knee arthroscopy is one such procedure.[9]

Although arthroscopic surgery has been in widespread use for osteoarthritis of the knee, there is little scientific evidence to support its efficacy — and it has not been shown to improve pain or ability to function.[10,11] In 2010–11 across Australian Medicare Local regions, procedure rates varied more than three-fold — from 239 to 726 per 100,000 population.[9]

In 2013, there were 17,660 knee arthroscopy procedures performed on patients aged 15 years and over in NSW. Of these, 3,340 (19%) were performed in public hospitals.

In 2013, half of all knee arthroscopies in NSW (8,680 or 49%) were provided to patients who had a diagnosis of gonarthrosis (osteoarthritis of the knee) noted on their hospital medical record in the year up to and including the hospitalisation for arthroscopy. In NSW public hospitals, 41% of patients undergoing arthroscopy had a diagnosis of gonarthrosis, compared to 51% of patients in private hospitals (Figure 4.19).

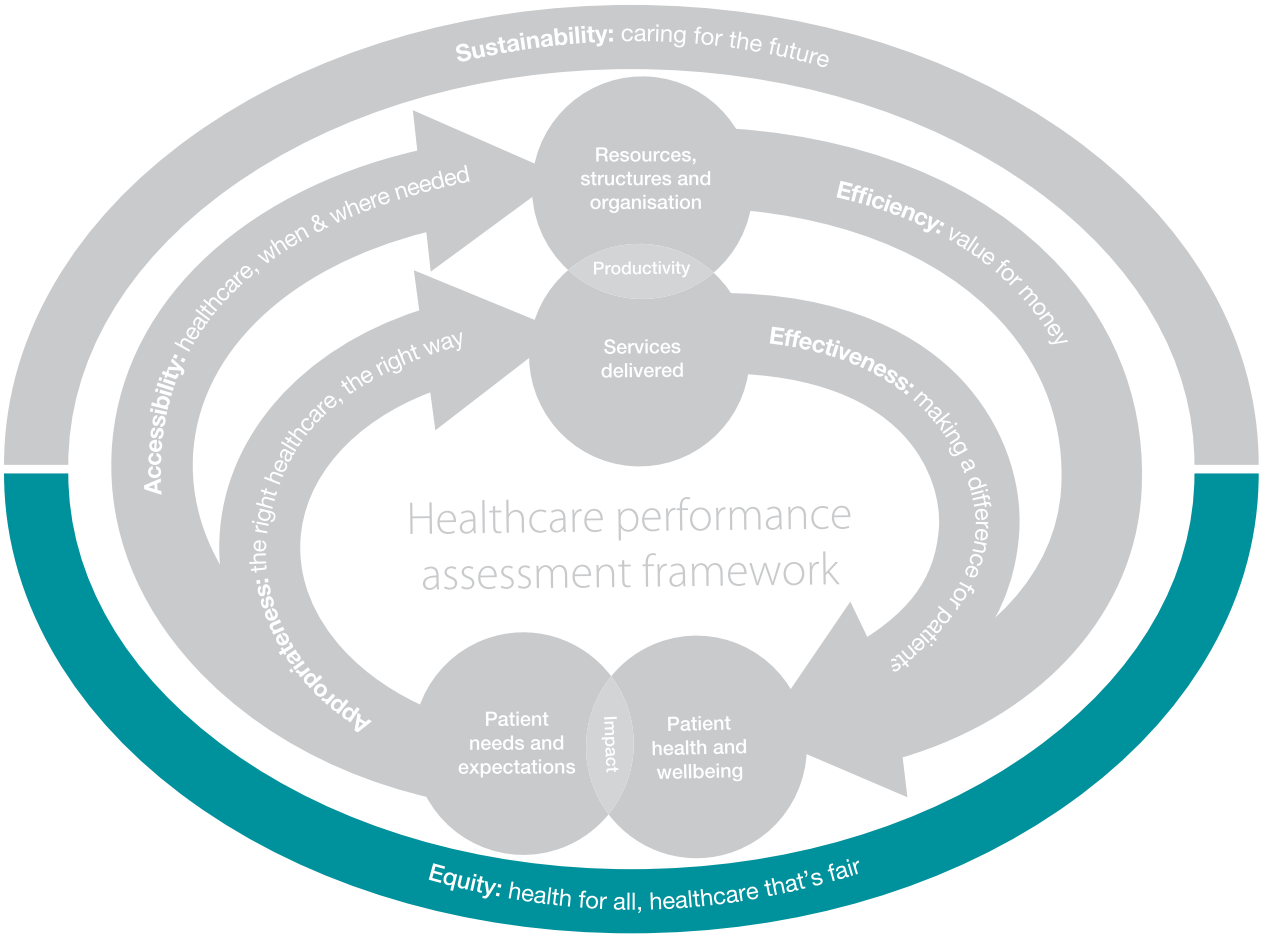
Figure 4.19 Percentage of knee arthroscopy procedures provided to patients with an osteoarthritis diagnosis, public and private hospitals, NSW 2002 to 2013



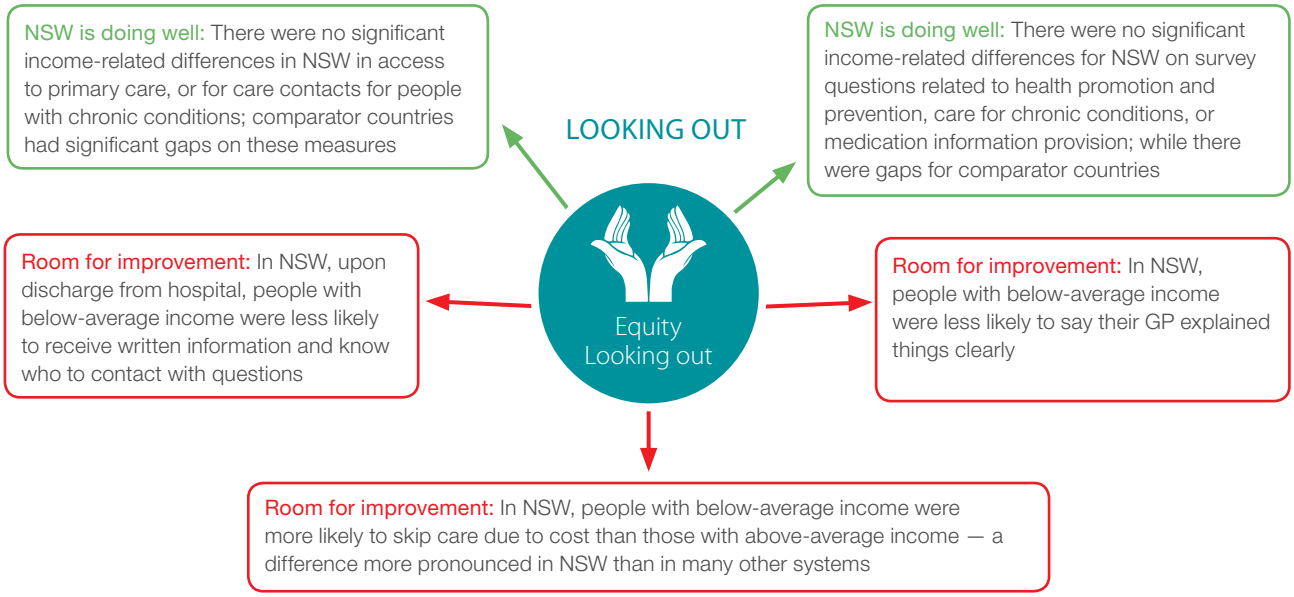
Source: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence, NSW (BHI Analysis).

Equity

Health for all, healthcare that's fair



Equity in an international context



Equity in health refers to the extent to which health and healthcare is distributed fairly across society. It considers whether everyone in a population has the opportunity to reach their full health potential.

Equity in healthcare encompasses four distinct elements:

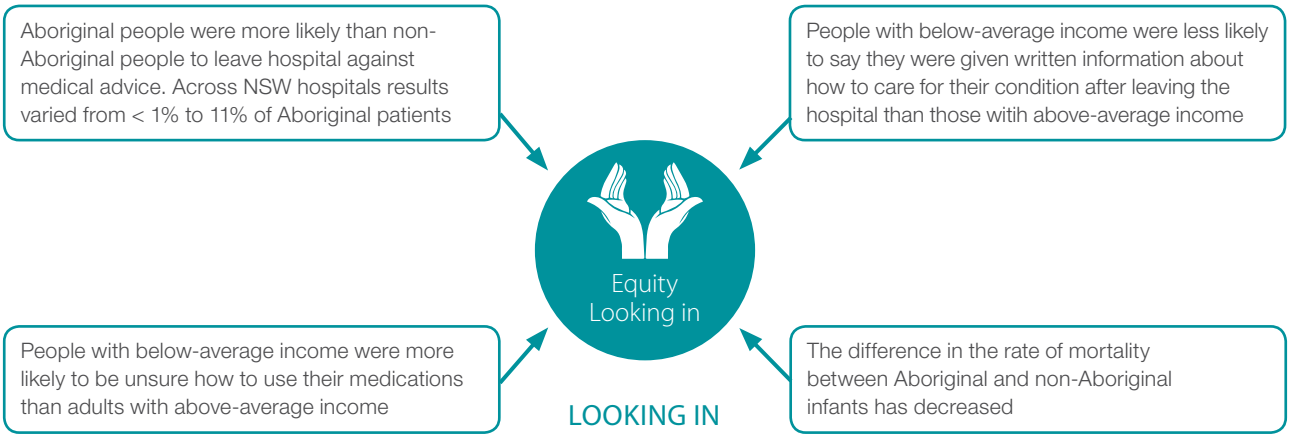
1. Whether people with more needs receive more care
2. Whether people with equal needs receive equal amounts of care, with no discrimination on the basis of gender, age, race etc.
3. Whether people have an equal chance for health (that is, do public health systems ameliorate existing health problems or disabilities?)
4. Whether relative financial contributions to the funding of healthcare are in proportion to wealth.

Equity in health — and its counter, disparity in health — can be assessed though differences across population sub-groups in measures of health status or quality of life. Equity in healthcare can be assessed by measuring differences across population sub-groups in terms of healthcare accessibility and appropriateness; health outcomes; relative financial contribution; and the economic consequences of ill health.

Many population groups, including those with mental health problems, older people and people living in rural areas, can experience disparities in healthcare. This year, *Healthcare in Focus* addresses disparities in healthcare on the basis of income and Aboriginality, examining:

- Differences in healthcare performance between above- and below-average income groups; comparing disparities within NSW and comparator countries
- Differences in healthcare performance between Aboriginal and non-Aboriginal people; describing disparities within NSW.

Equity in NSW



The NSW Ministry of Health provides more detailed information on the health of Aboriginal people in:

The Health of Aboriginal People of NSW: Report of the Chief Health Officer 2012 (www.health.nsw.gov.au)

Health Statistics NSW also has wide-ranging sets of statistics, stratified by socioeconomic status, rurality and Aboriginality (available at www.healthstats.nsw.gov.au)

Equity in accessibility: Differences between income groups

Within NSW, lower income groups are more likely to forego care due to cost

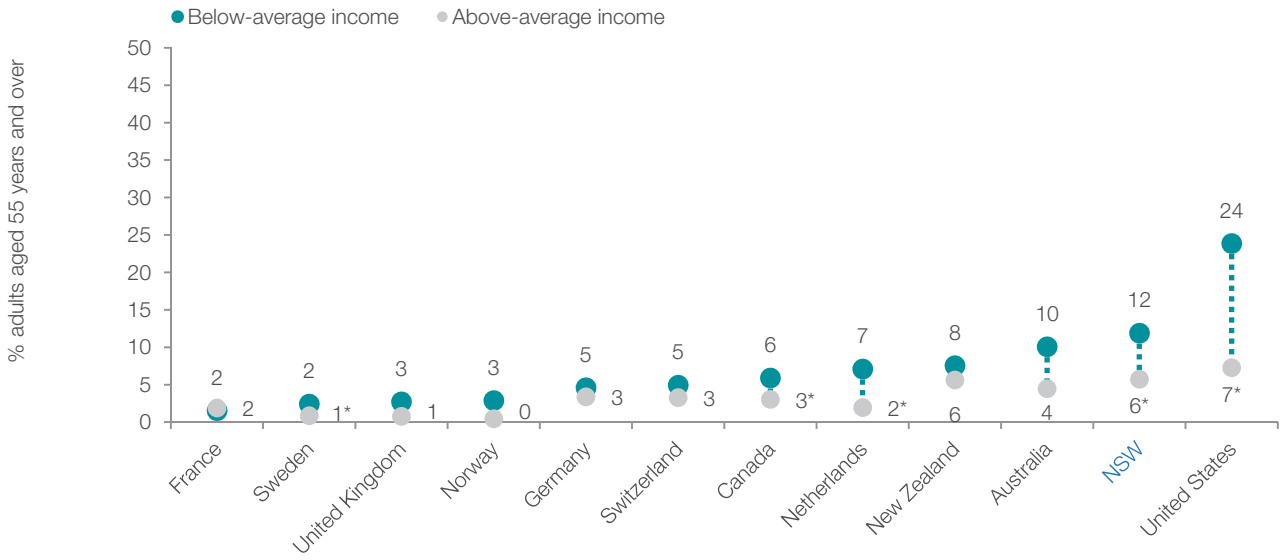
When compared internationally, the people of NSW have high levels of health and wellbeing. Within NSW however, there are disparities, both in health and in the services provided to different population sub-groups. These disparities are rooted in a wide range of factors both within and outside the control of the healthcare system.[1]

The analyses shown here explore healthcare accessibility among adults aged 55 years and over, comparing within each jurisdiction those with below-average and above-average income.[i]

Cost concerns are an important barrier to accessing care, and encompass both direct and indirect costs of care such as transportation, taking time off work or accommodation expenses.[2] When compared with people with above-average income, those with below-average income were twice as likely to say they skipped a test, treatment or follow-up due to cost as those with above average income (6% vs 12%). Only the United States had a more pronounced percentage-point difference (7% vs 24%) (Figure 5.1).

Figure 5.2 summarises where there are differences between income groups within each jurisdiction for accessibility questions. A red dot indicates that people with above-average income group had more favourable results than those with below-average income within the state or country. A green dot indicates the below-average income group had more positive responses.

Figure 5.1 Percentage of adults aged 55 years and over who said they skipped a medical test, treatment or follow-up due to cost, by income group, NSW and comparator countries, 2014



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

*Estimate statistically significantly different than below-average income group in the same jurisdiction

i For NSW the average household income cited in the survey question was $75,000.

Figure 5.2 Summary of income-related disparities within each jurisdiction for accessibility questions, NSW and comparator countries, 2014

● Below-average income group significantly lower than above-average income group in jurisdiction

● Below-average income group significantly higher than above-average income group in jurisdiction

		NSW	Australia	Canada	France	Germany	Netherlands	New Zealand	Norway	Sweden	Switzerland	United Kingdom	United States
Primary care related	Has a medical home			●	●	●							●
	Very easy to get medical care in the evenings, on weekends, or holidays without going to the ED	●		●				●					
	Can get an appointment to see a GP or a nurse the same day			●	●								●
	Can always get an same-day answer to a call to GP clinic during office hours.					●		●					
Chronic conditions	A healthcare professional contacts you to see how things are going with your condition							●					
	Between doctor visits, there is a healthcare professional you can easily contact to ask a question about your condition				●					●			●
Specialist care	Waited less than four weeks for an appointment (of those who saw a specialist in past two years)				●	●		●					●
Affordability	Did not fill a prescription or skipped medication dose due to cost	●		●						●			●
	Had a medical problem but did not visit a doctor due to cost			●			●			●			●
	Skipped a recommended medical test or treatment due to cost	●		●			●			●			●

Notes: Where there is no marking the was no statistically significant difference between income groups.

For affordability questions, red indicates below-average income group was higher than above-average income group. These are the only responses for which higher result is less favourable.

When comparing income group results, there is more power to detect statistically significant differences in jurisdictions with larger samples. For more information on methods and sample size see Healthcare Observer and the *Healthcare in Focus 2014 Technical Supplement.*

Source: Commonwealth Fund International Health Policy survey of Older Adults, 2014

Equity in appropriateness: Differences between income groups

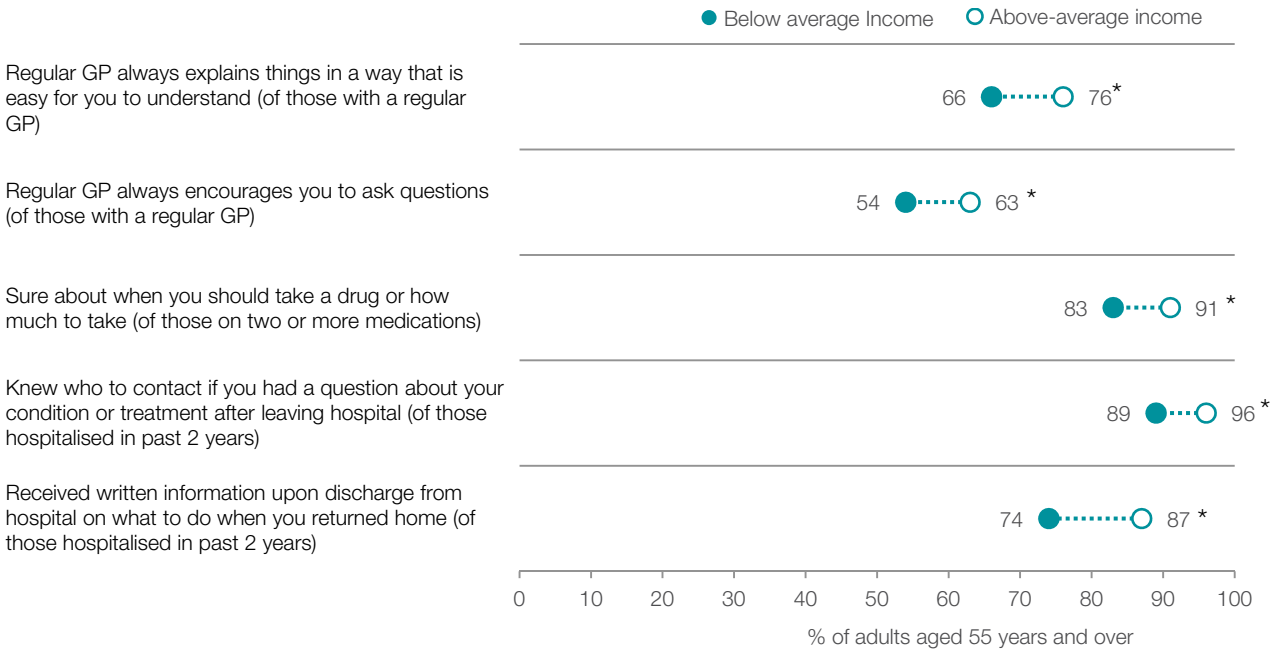
Lower income group is less likely to receive information at hospital discharge

Measures of appropriateness consider whether services are delivered in technically proficient ways that minimise mistakes; and whether they are provided in ways that are responsive to patient expectations and needs.

In NSW, among adults aged 55 years and over, there were five Commonwealth Fund survey questions related to healthcare appropriateness for which there were significant differences between above-average and below-average income groups. Two of these address aspects of discharge planning when leaving hospital and two address communication with GPs. A fifth question is concerned with medication safety, and was asked only within NSW. Results show that among people on multiple medications, those with below-average income were less likely (83%) to feel sure about how much of their medication to take, or when compared to those with above average-income (91%) (Figure 5.3).

The appropriateness questions for which the greatest number jurisdictions showed a significant income-related difference involved primary care provider communication. Compared to people with above-average income, those with below-average income were less likely to report their regular GP encouraged them to ask questions or explained things in a way that was easy for them to understand (Figure 5.4).

Figure 5.3 Percentage of adults aged 55 years and over reporting selected appropriateness question responses, by income group, NSW, 2014



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

Figure 5.4 Summary of income-related disparities within jurisdictions on measures of healthcare appropriateness, NSW and comparator countries, 2014

● Below-average income group significantly lower than above-average income group in jurisdiction

● Below-average income group significantly higher than above-average income group in jurisdiction

		NSW	Australia	Canada	France	Germany	Netherlands	New Zealand	Norway	Sweden	Switzerland	United Kingdom	United States
Preventive health services	Has a medical home		●		●					●			
	Health professional discussed exercise			●									●
	Health professional discussed worries or stresses				●					●			
Care for chronic condtition	Health professional discussed main goals in caring for your condition			●						●			
	Health professional gave clear instructions about when to seek further care		●										
	Health professional gave you a written plan to help you manage your care		●										
Medical information	Healthcare professional has reviewed, explained and given you a list of all medications				●			●		●			
Primary care communication	Regular GP or medical staff you see always knows about your medical history				●						●		●
	GP always encourages you ask questions	●		●		●		●					
	GP always explains things in a way that is easy to understand	●		●	●		●			●			●
Hospital discharge	Received written information on what to do when you returned home	●					●		●			n/a	
	Knew who to contact with questions about condition or treatment	●	●							●		n/a	

*Estimate statistically significantly different than above-average income group

n/a – Sample size too small (<30) to report for the United Kingdom by income group for hospitalisation related questions.

Source: Commonwealth Fund International Health Policy survey of Older Adults, 2014

Equity in effectiveness: Differences between income groups

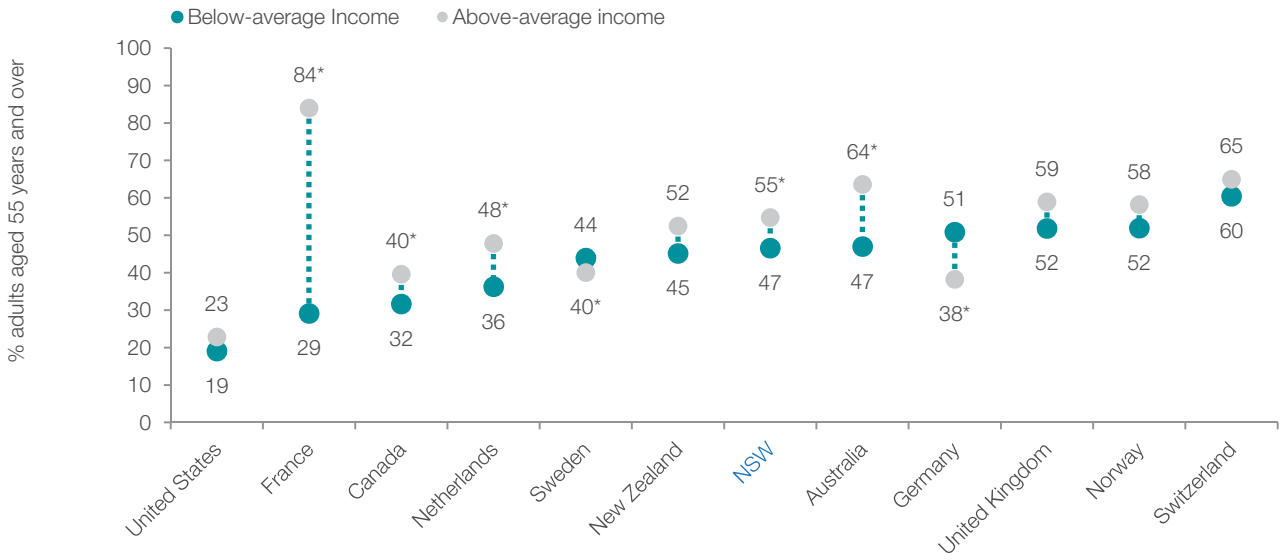
Lower income group is less likely to feel helped by a chronic care plan

Effectiveness measures assess whether the healthcare services provided to patients achieve the benefits expected. At a system level, effectiveness can be reflected in people's overall views and judgements about how well the healthcare system achieves its stated goals. At a patient level, effectiveness can be assessed using measures such as changes in health status, quality of life, potentially avoidable hospitalisations, complication rates and adverse events.

In terms of differences in measures of effectiveness across income groups, for most jurisdictions people with below-average income were less likely to report that the system in their country overall works well and only minor changes are needed. In 2014, there was a significant difference between below- and above-average income groups in NSW for this measure. There were also significant gaps in Australia, France, the Netherlands and Canada. In contrast, in Sweden and Germany, people with below-average were more positive about their healthcare system and were more likely to say that only minor changes were needed (Figure 5.5).

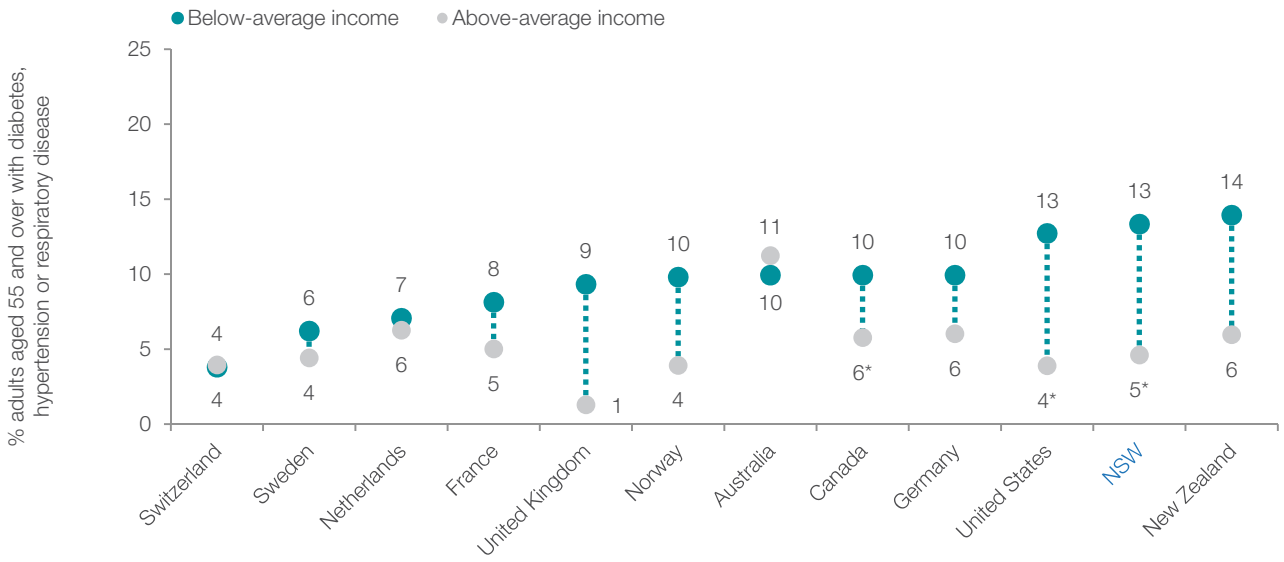
One measure of effectiveness is hospitalisations or emergency department (ED) visits among people with chronic conditions such as asthma, diabetes or hypertension. These conditions can often be effectively managed in a community setting. In 2014, among NSW adults aged 55 years and over with one of these conditions, people with below-average income were more than twice as likely as those with above-average income to say they were hospitalised or visited the ED for their condition in the previous year (13% vs 5%) (Figure 5.6).

Figure 5.5 Percentage of adults aged 55 years and over saying the healthcare system in their country works well and only minor changes are needed, NSW and comparator countries, 2014



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

Figure 5.6 Percentage of adults aged 55 years and with a select chronic condition who stayed overnight in a hospital or visited the ED because of their condition, NSW and comparator countries, 2014



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

* Estimate is statistically significantly different from below-average income group within the same jurisdiction

Equity in accessibility: Differences for Aboriginal people

Two in 10 Aboriginal people report unmet need for GP services

Differences in health and wellbeing between Aboriginal and non-Aboriginal people in NSW are well-known. Problems with accessing healthcare are thought to be one contributor to poor health outcomes.[3]

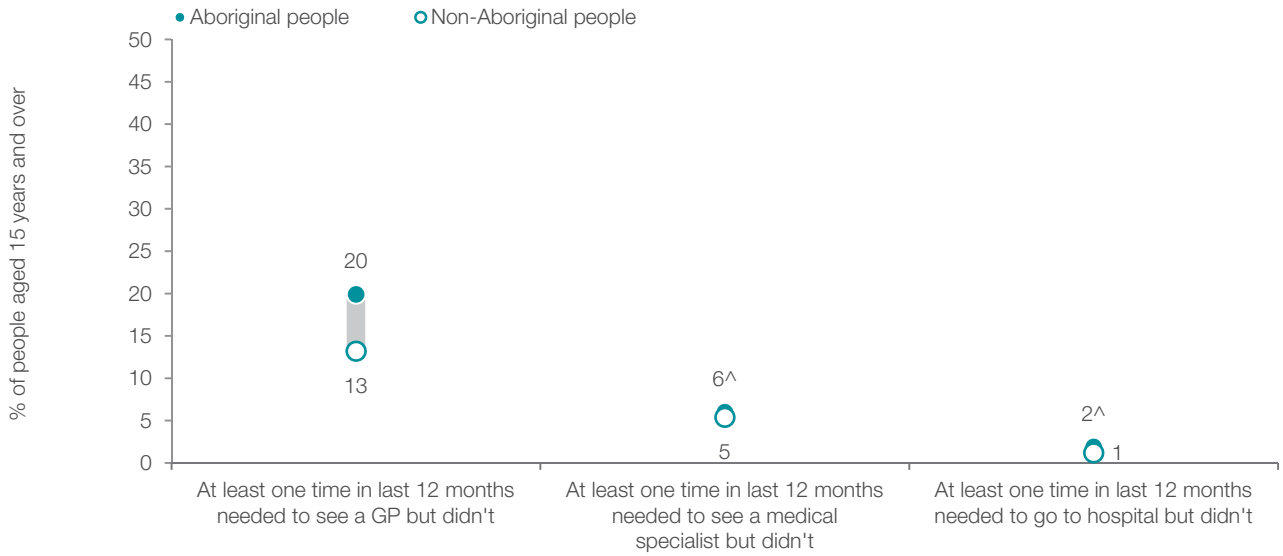
The ABS Patient Experience Survey 2013–14 found that Aboriginal people were more likely to say they needed healthcare but did not receive it, particularly in primary care settings. Two in 10 Aboriginal adults (20%) reported needing to see a GP but not accessing care at least once in the previous year (Figure 5.7).

Reasons for difficulty accessing services cited by Aboriginal people in a 2008 study included: long waiting times, limited availability of services when and where needed, transport and distance issues and affordability. Reasons, such as lack of engagement, cultural appropriateness or fear of discrimination, were also, although less commonly, cited.[4]

Aboriginal people have higher rates of eye disease such as glaucoma and cataracts, but are less likely than non-Aboriginal people to receive cataract surgery.[5] In 2012–13, Aboriginal people were less likely to have cataract surgery than non-Aboriginal people across all local health districts in NSW (Figure 5.8).

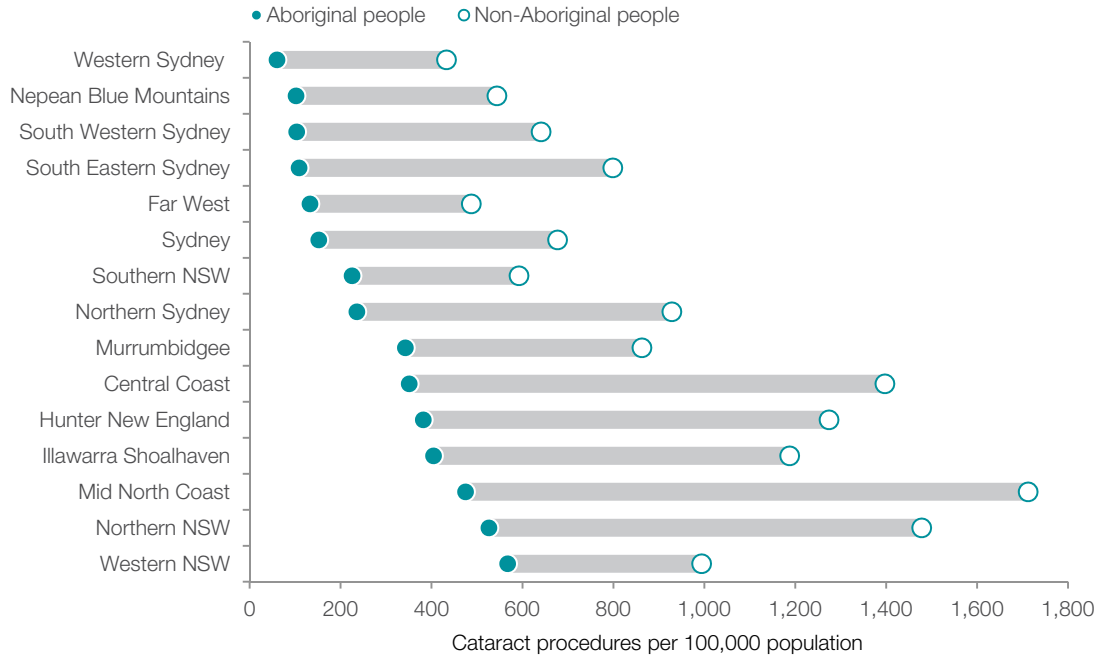
There are also differences for Aboriginal people in measures of timely access to elective surgery. In 2013–14, median waiting times in NSW public hospitals were higher for Aboriginal people (54 days) than for non-Aboriginal people (49 days) (Figure 5.9).

Figure 5.7 Percentage of people aged 15 years and over reporting needing care but not receiving it, by type of care and Aboriginality, NSW, 2013–14



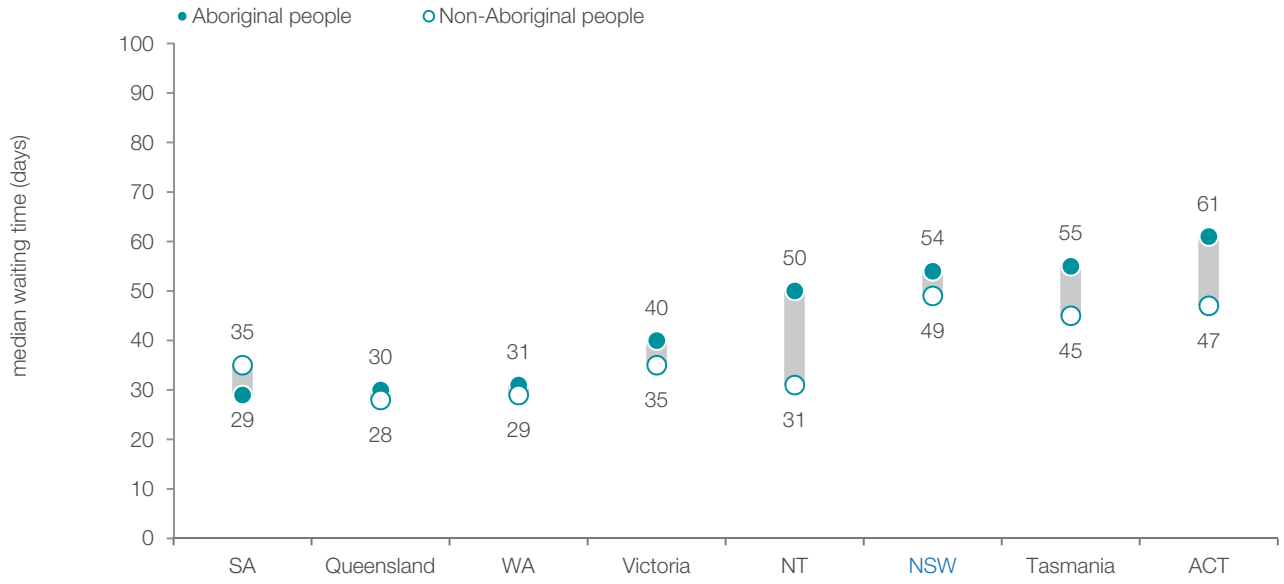
Source: ABS, Austrailian patient experience survey 2013–14 (customised request)

Figure 5.8 Rate of cataract procedures, public and private hospitals, by Aboriginality and local health district, NSW 2012–13



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

Figure 5.9 Median waiting time for elective surgery, public hospitals, by Aboriginality, states and territories 2013–14



Source: AIHW, Australian hospital statistics 2013–14 Elective surgery

^estimate has a high level of variation and should be used with caution.

Note: Patient experience data does not represent the views of the entire Aboriginal population and the results provide a comparison of responses of Aboriginal and non-Aboriginal people surveyed only.

Equity in appropriateness: Differences for Aboriginal people

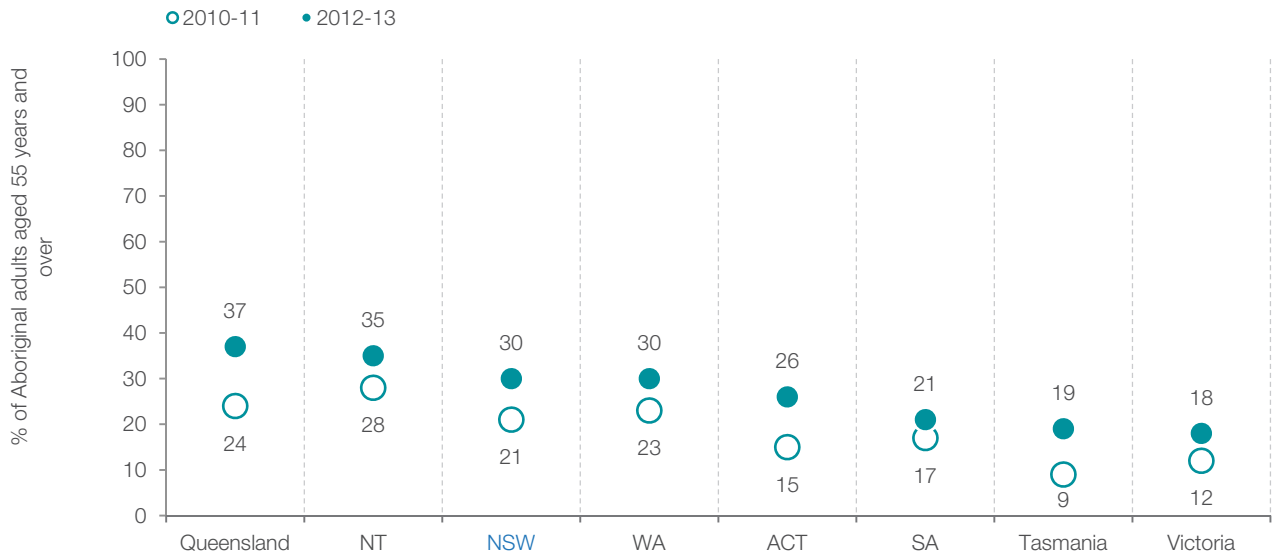
Aboriginal patients more likely to leave hospital against medical advice

All Aboriginal people are eligible for a free annual health check. The health check is intended to address health risks and includes an assessment of patients' physical, psychological and social wellbeing.[6] In NSW in 2012–13, three in 10 Aboriginal adults aged 55 years and over had a health check (30%) – an improvement over the 2010–11 result of 21% (Figure 5.10).

The Council of Australian Government's National Action Plan for Mental Health identified follow-up within seven days of discharge from mental health inpatient services as a key area for improvement for all patients.[7] In NSW in 2012–13, just over half of mental-health related hospital discharges for Aboriginal people were followed up in the community within a week (54%), compared to six in 10 (60%) for non-Aboriginal people (Figure 5.11)

Patients who leave the hospital against medical advice are more likely to be readmitted and have poorer health outcomes.[1] Physician, hospital and patient factors all contribute to patients leaving against advice. Patients leaving hospital against medical advice may be an indication they do not find care appropriate to address their needs. In 2013–14 in NSW, 0.7% of hospitalisations resulted in patients leaving against medical advice. For Aboriginal patients, this figure is 2.6%. The percentage of Aboriginal patients leaving against advice varied across public hospitals in NSW from <1% to 11% (Figure 5.12).

Figure 5.10 Percentage of Aboriginal adults aged 55 years and over who had an annual health check, states and territories, 2011–12 and 2012-13[i]

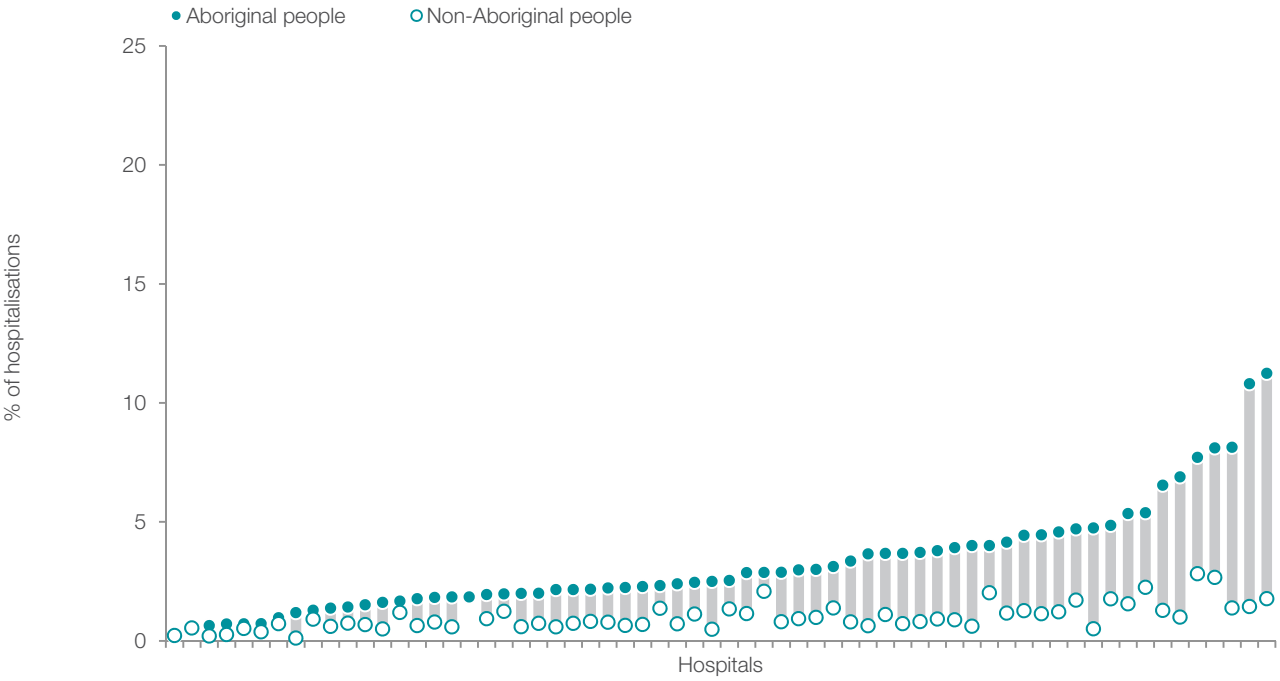


Source: Australian Government Productivity Commission, Report on Government Services 2015, Volume E: Health

Figure 5.11 Percentage of patients who had community follow-up within seven days of discharge for a mental health related hospitalisation, by Aboriginality, states and territories, 2012–13[i]

Source: Australian Government Productivity Commission, Report on Government Services 2015, Volume E: Health

Figure 5.12 Percentage of hospitalisations ending with patients leaving against medical advice, by Aboriginality, NSW public hospital variation, 2013–14 [ii]



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

i Rates for Aboriginal populations should be interpreted with caution due to the varying and, in some instances, unknown quality of Aboriginal identification across jurisdictions. Excludes people for whom demographic information was missing or not reported.

ii Percentage of hospitalisations ending with patient leaving against advice is shown for hospitals that admitted at least 200 Aboriginal patients and 200 non-Aboriginal patients.

Equity in effectiveness: Differences for Aboriginal people

Closing the gap for infant mortality

Measures of effectiveness of healthcare can reflect long-term outcomes (such as life expectancy), medium term outcomes (such as infant mortality), or shorter term outcomes (such as complications of care or adverse events).

Long-term outcomes are generally affected by factors both within and outside the healthcare system, and so often are an indirect reflection of performance.

Life expectancy at birth is an important long-term outcome measure. Aboriginal males who were born in 2010–12 can expect to live, on average, for 70.5 years while non-Aboriginal males can expect to live for 79.8 years. Aboriginal females who were born in 2010–12 can expect to live for 74.6 years while non-Aboriginal females can expect to live for 83.1 years. The gaps in life expectancy for babies born in 2010–12 are 9.3 years for males and 8.5 years for females. These gaps are wider than those for babies born in 2005-07 when the gap was 8.6 years for males and 7.4 years for females.[8]

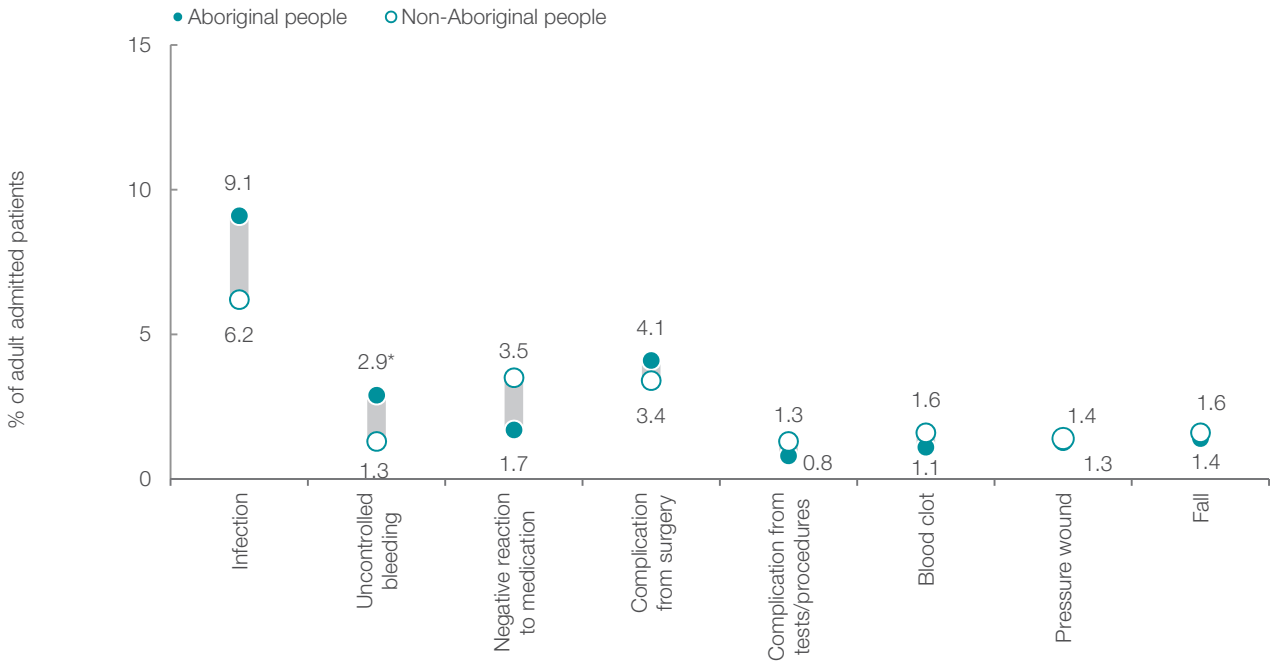
Infant mortality is a medium-term outcome measure. It refers to deaths that occur among live-born babies in their first year of life. Rates of infant mortality are particularly affected by complications of pregnancy and delivery, and premature births. Infant mortality can be minimised by good access to appropriate antenatal and obstetric services. In 2010–12, the infant mortality rate in NSW was 3.8 deaths per 1,000 live births for Aboriginal people and 3.5 per 1,000 for non-Aboriginal people. The gap has decreased markedly since 2004 (Figure 5.13).

Short-term outcomes of health care include measures of complications of care. Patient survey data on patient-reported complications of care show differences between Aboriginal and non-Aboriginal patients, particularly for infections contracted during or shortly after hospitalisation (Figure 5.14).

Figure 5.13 Rates of infant mortality, by Aboriginality, NSW, 2004–06 to 2010–12

Source: Australian Government Productivity Commission, Report on Government Services 2014, Volume E: Health. Indigenous Compendium

Figure 5.14 Percentage of patients saying they had a complication during hospital stay or shortly after, by Aboriginality and type of complication, NSW public hospitals, 2013

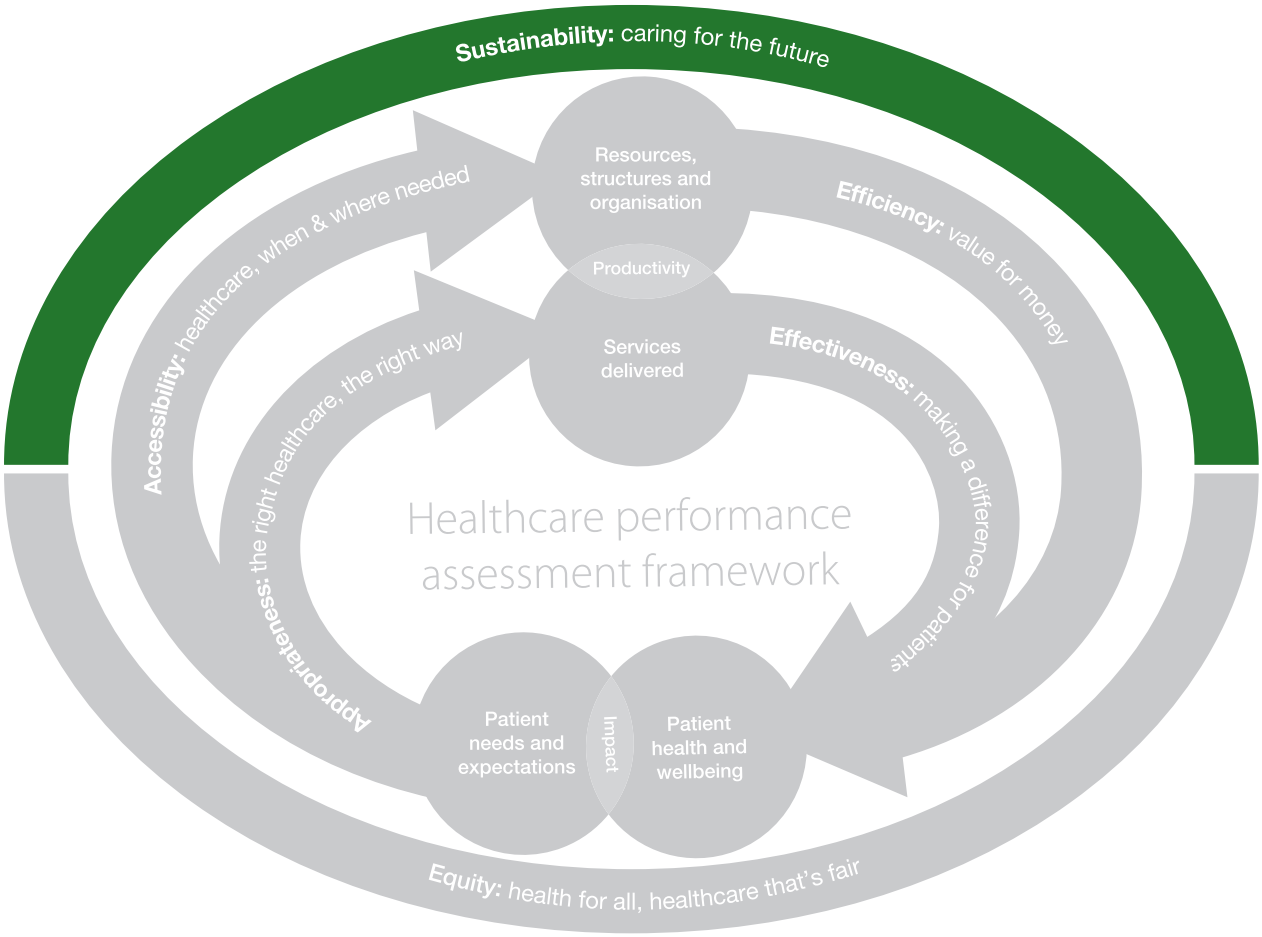


Source: BHI, NSW Patient Survey Program, Adult Admitted Patient Survey 2013

*Estimate is statistically significantly different from non-Aboriginal people.

Sustainability

Caring for the future



Sustainability in NSW

Sustainability refers to the extent to which healthcare systems function in ways that are adaptive and responsive to changing population needs, and in ways that can be maintained in the future.

Sustainability in healthcare requires long-term planning to enable a system to respond to emerging needs. Such plans may include: adapting services to community expectations; managing the health and satisfaction of the health workforce; and adopting cost-effective innovations and improvements in care delivery models, systems structures and resourcing.

There are few agreed and well-developed metrics available to measure sustainability. Measures that are available include: rates of adoption and use of new technologies and treatments, human resource-based indicators such as rates of sick leave and staff turnover, and rates of cost-effective substitution of goods and services.

This edition of *Healthcare in Focus* presents different measures that help assess healthcare sustainably in NSW. The measures of sustainability contained in this report include:

- Use of 'Hospital in the Home' and telehealth consultations as alternate levels of care
- Sick leave hours per full-time equivalent staff
- Non-casual staff turnover
- Investments in public health services and in health research.

Flexibility and adaptability

Increased use of 'Hospital in the Home' and telehealth services in NSW

Sustainability measures assess the capacity of a healthcare system to adapt and meet changing health needs — for example through substitution and flexible use of resources.

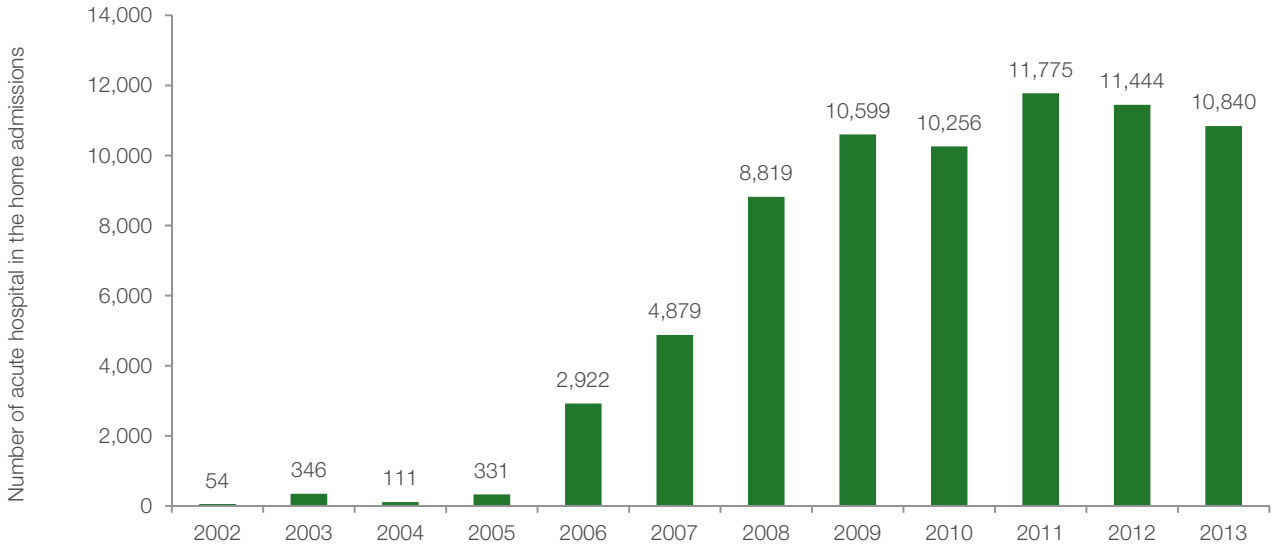
'Hospital in the Home' (HITH) is an example of adaptability and substitution. It occurs in the patient's place of residence as a substitute for hospital accommodation and within an episode of care for an admitted patient.[1]

Most Australian states and territories have HITH programs. HITH care has been shown to be substantially less expensive than inpatient care — with studies estimating that costs for HITH are, on average, between 64% and 74% of the cost of equivalent care provided in a hospital setting.[2,3] In NSW, the use of these programs has increased in the past decade. Since 2009 there have been more than 10,000 acute admissions annually for HITH programs (Figure 6.1).

Similarly, information and communication technologies offer huge potential for substitution of face-to-face services. Telehealth is particularly useful for providing access to specialist care for patients who live outside major cities, and ongoing support to people with chronic conditions.

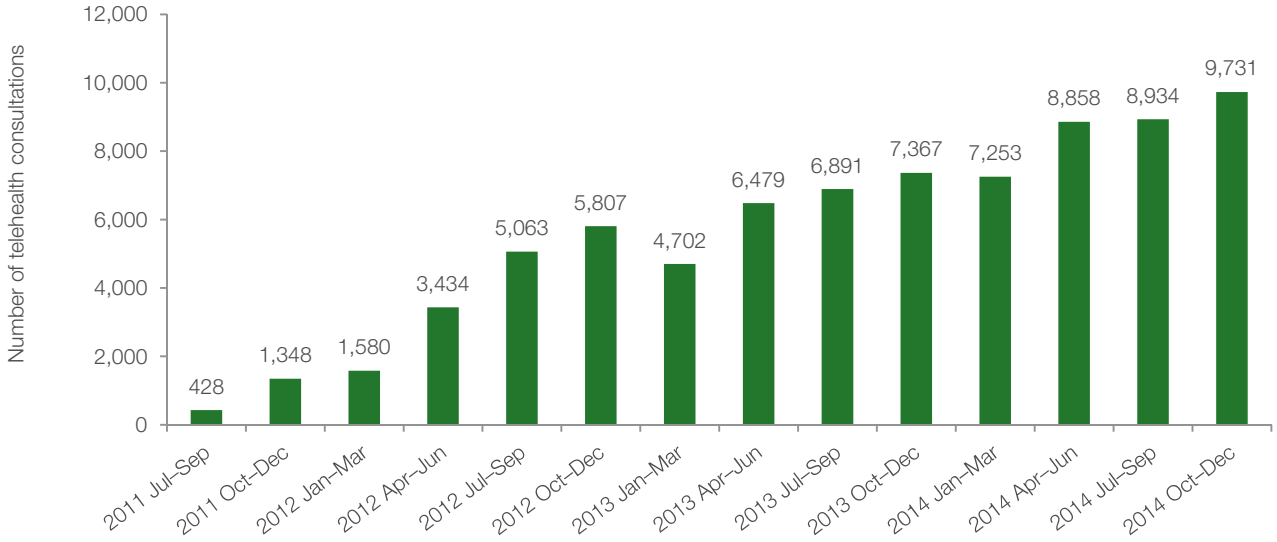
Specific Medicare Benefits Schedule (MBS) items have been introduced to provide rebates for telehealth consultations with medical specialists in other locations. While MBS claims only capture a portion of overall telehealth usage across the state, these data give an indication of the technology's increasing use. Between July 2011 and December 2014, there was a 22-fold increase in number the of MBS claims for telehealth consultations (Figure 6.2).

Figure 6.1 Acute admissions to public hospitals for Hospital in the Home, NSW 2002–2013



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

Figure 6.2 Medicare Australia processed telehealth consultations, NSW by quarter, 2011–2014



Source: Medicare Australia website: Medicare Item Reports (accessed online March 5, 2015)

Workforce-related sustainability

Staff turnover lower in NSW than in England

Workforce-related sustainability in healthcare is a pressing issue. A workforce that is 'age-imbalanced' with a disproportionately high number of staff approaching retirement age will, without appropriate remedial action, result in future staff shortages. In 2011, two in 10 medical practitioners (19%) in NSW were aged 60 years and over — a similar proportion as in 2002. In contrast, the proportion of the nursing workforce aged over 60 years doubled between 2003 and 2012, from 5% to 11%.[4]

Sustainability is also shaped by staff turnover rates. High rates of staff turnover can profoundly affect healthcare organisations in terms of time, money and ongoing viability. In the NSW public healthcare system, non-casual staff turnover was 8% in 2013.[i]

This varied considerably across the state's local health districts (Figure 6.3). To place this is a broader context, similar data for England shows a staff turnover rate of 12%.[5]

High rates of sick leave or absenteeism can also be indications of staffing vulnerabilities. Across the state's public healthcare system, the total average sick leave was 58 hours (around seven days) per full-time equivalent (FTE) staff members per year. There was modest variation across local health districts (Figure 6.4).

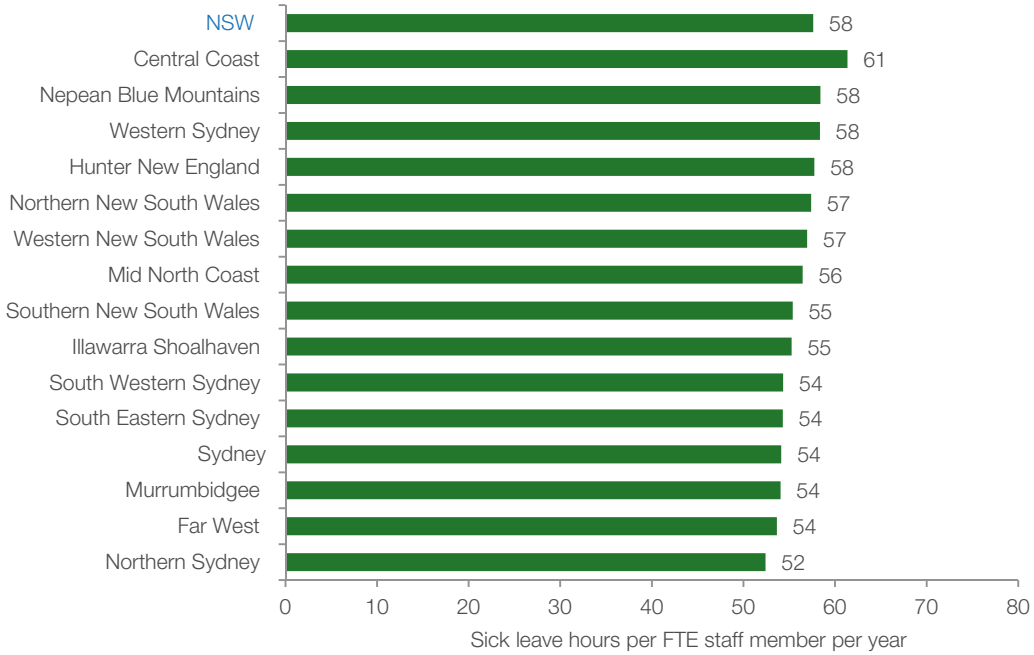
Figure 6.3 Non-casual staff turnover rates, by local health district, NSW, 2013

Source: NSW Ministry of Health, Health Information Exchange, Premier's Workforce Profile Data Collection. a) Far West LHD's apparent high turnover rate may be due to coding issues

Notes: Sick leave data excludes casual employees, sessional (including Visiting Medical Officers), seasonal and retained staff, Affiliated Health Organisations staff and Southern NSW LHD staff engaged through ACT Health. FTEs are composed of productive and non-productive hours excluding overtime. Sick leave is inclusive of Family and Community Leave and cannot be uniquely identified.

i Turnover data exclude: Junior Medical Staff and Visiting Medical Officers, Affiliated Health Organisations, Albury Hospital (due to unavailability in 2013), and Southern NSW LHD staff engaged through ACT Health. NSW average is inclusive of all Health Services, Ministry of Health, Health Pillars, HealthShare NSW, Justice Health & Forensic Mental Health Network, NSW Health Pathology and NSW Ambulance. Far West LHD's turnover is larger due to coding issues with StaffLink.

Figure 6.4 Sick leave hours per FTE staff per year, by local health district, NSW, 2013



Source: NSW Ministry of Health, Health Information Exchange

Investment and disinvestment

Share of total expenditure invested in R&D is increasing in NSW

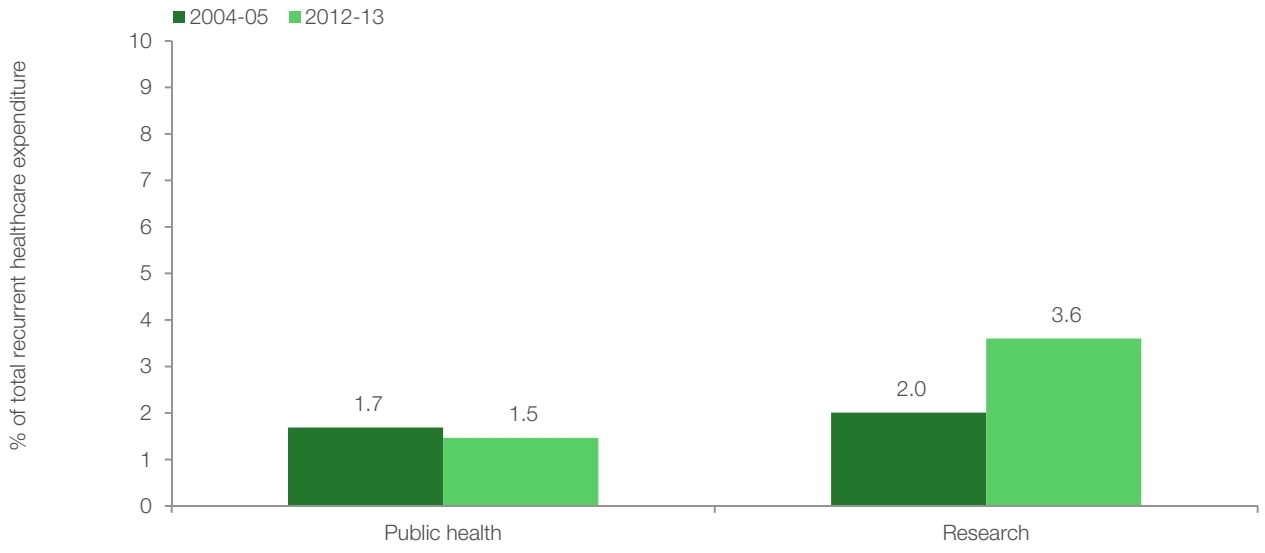
In 2012–13, the total expenditure on healthcare in NSW was $47.0 billion, an increase of $20.1 billion over the 2004–05 figure. Over the same period, the population increased from 6.7 to 7.4 million. Expenditure per person (in constant dollars) increased from $3,914 to $5,977 per year with an average increase of 3.4% per year.[6]

Financial indicators that gauge sustainability include measures of investment that reduce the burden of disease or achieve early disease detection (prevention); investigate ways to deliver better healthcare (research and development); and improve service efficiency. Between 2004–05 and 2012–13, the percentage of recurrent health expenditures dedicated to public health decreased by 0.2 percentage points, and investment in research increased by 1.6 percentage points (Figure 6.5).

Current rates of population growth and ageing, alongside increasing levels of multimorbidity, mean that in the absence of significant change, current levels of investment will not be sufficient to provide healthcare. One way that systems are responding to this challenge to sustainability is to focus on disinvesting in low value treatments, procedures and activity.

For example, 'Choosing Wisely' is a campaign that engages physicians and patients in conversations about unnecessary tests, treatments and procedures. The campaign began in the United States in 2012, followed by Canada in 2014, and now many countries have implemented the approach, adapting it to their local context. In Australia, the campaign has identified a range of tests, treatments and procedures that shoul be chosen wisely (see Box).[7,8]

Figure 6.5 Percentage of expenditure in healthcare on public health and research, NSW, 2004–05 and 2012–13



Sources: AIHW, Healthcare Expenditure Australia 2012-13, Healtcare Expenditure Australia, 2004-05

Selected tests, treatments, and procedures for clinicians and consumers to question from Choosing Wisely Australia

In general practice:

- Do not prescribe proton pump inhibitors (PPIs) long term in patients with uncomplicated gastroesophageal reflux disease (GORD) without regular attempts at reducing dose or ceasing
- Do not commence therapy for hypertension (high blood pressure) or hyperlipidaemia (high cholesterol) without first assessing the absolute risk of a cardiovascular event
- Do not advocate routine self-monitoring of blood glucose for people with type 2 diabetes who are on oral medication only
- Do not screen asymptomatic, low-risk patients (<10% absolute 5-year cardiovascular risk) using ECG, stress test, coronary artery calcium score, or carotid artery ultrasound.

In emergency departments (EDs):

- Avoid requesting computed tomography (CT scan) imaging of kidneys, ureters and bladder in otherwise healthy emergency department patients, aged less than 50 years, with a known history of kidney stones, presenting with symptoms and signs consistent with uncomplicated renal colic
- Avoid coagulation studies in ED patients unless there is a clearly defined specific clinical indication, such as for monitoring of anticoagulants, in patients with suspected severe liver disease, coagulopathy, or in the assessment of snakebite envenomation
- Do not order blood cultures in ED patients unless they are systemically septic, have a clear source of infection and in whom a direct specimen for culture (e.g. urine, wound swab, sputum, cerebrospinal fluid, or joint aspirate) is possible
- For ED patients approaching end-of-life, ensure clinicians, patients and families have a common understanding of the goals of care
- Do not request imaging of the cervical spine in trauma patients, or CT scans of head trauma in patients with a head injury, unless indicated by a validated clinical decision rule.

In diagnostic tests and imaging

- Do not perform imaging for non-specific acute back pain
- Do not request imaging for acute ankle trauma unless indicated by the Ottawa Ankle Rules (localised bone tenderness or inability to bear weight)
- Do not perform population-based screening for Vitamin D deficiency
- Do not routinely test and treat hyperlipidemia in those with a limited life expectancy
- Do not perform surveillance urine cultures or treat bacteria in elderly patients in the absence of symptoms or signs of infection
- Do not perform PSA testing for prostate cancer screening in men with no symptoms and whose life expectancy is less than 7 years
- Alternative/unorthodox methods should not be used for allergy testing or treatment
- Food specific IgE testing should not be performed without a clinical history suggestive of IgE-mediated food allergy.

Source: Royal Australian College General Practitioners; Australasian College Emergency Medicine; Royal Australian New Zealand College Radiologists; Australasian Society Clinical Immunology; The Royal College of Pathologists of Australasia.

For more information see www.choosingwisely.org.au.

Appendices

Where NSW stands, where to look to improve

Healthcare in Focus 2014 presents data relevant to six dimensions of performance, covering 11 different countries, from 10 major data sources.

Altogether it draws on the views of almost 65,000 people in NSW who responded to various surveys (both international and state-based), and summarises information on the 2 million emergency department visits, 1.2 million hospitalisations and 700,000 surgical procedures that occurred in NSW hospitals over the course of a year.

It captures elements of performance of primary and secondary care providers — doctors, nurses, teams, hospitals and local heath districts — and shows glimpses of how well care is integrated across sectors and providers.

It provides snapshots of current performance as well as time series, that detail performance across six dimensions of performance: acessibility, appropriateness, effectiveness, efficiency, equity and sustainability.

An assessment of this level of detail is needed to build a comprehensive and rounded picture of performance. However when the system is compared, it can be difficult to decipher and to ascertain clear messages about where NSW stands and where to look to improve.

This section aims to synthesise the varied information available in the report across the various dimensions of performance, summarising the findings into four 'at a glance' figures. The figures summarise:

- Overall views of the people of NSW regarding their healthcare system
- The Commonwealth Fund International Health Policy Survey results
- Data from the OECD and comparable administrative data sets
- Data based on state- and territory-level comparisons and variation within NSW.

At a glance: Overall views of healthcare

Over half in NSW said the healthcare system is working well

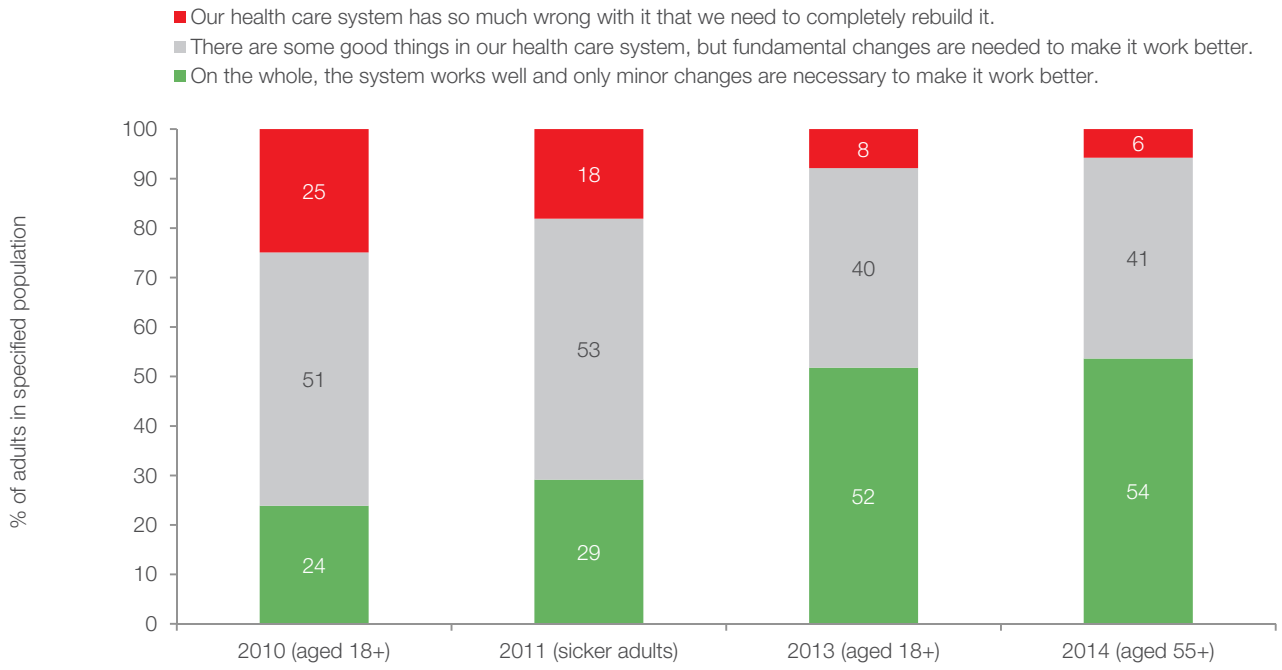
The 2014 Commonwealth Fund International Health Policy Survey of adults aged 55 years and over included a question about overall views of the healthcare system in their country. This question was also asked in the 2010 and 2013 surveys, which covered the adult population aged 18 years and over, and in the 2011 survey, which focused on sicker adults.

In NSW in 2014, more than half of adults aged 55 years and over (54%) said that the healthcare system worked well and only minor changes were needed. Results for the 2014 and 2013 cycles were more positive than findings from the 2010 and 2011 surveys (Figure 7.1).

Internationally, Switzerland and the United Kingdom had consistently positive results across survey years and population groups (Figure 7.2).

Positive views can be interpreted as overall trust or satisfaction with the system. In contrast, a high percentage of adults saying their health care system needed a complete rebuild may be a sign of perceived challenges to sustainability. In NSW in 2014, about one in 20 adults aged 55 years and over (6%) said the system needs to be completely rebuilt — a low percentage relative to international comparators (Figure 7.3).

Figure 7.1 Percentage of selected population group by perceived views of Australia's healthcare system, NSW, 2010–14

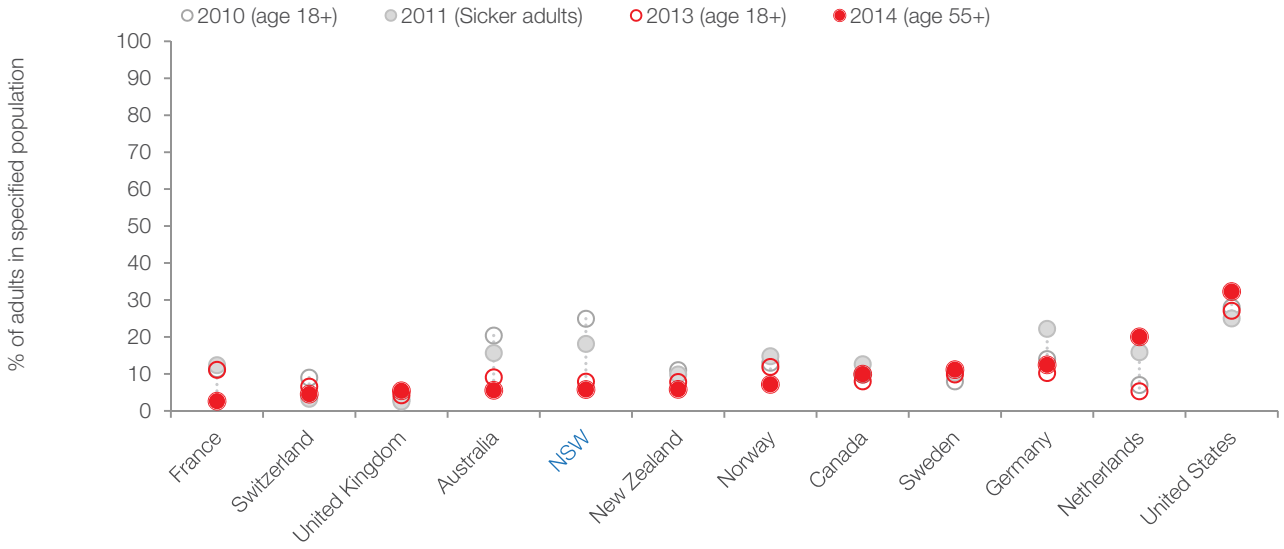


Sources: 2010 and 2013 Commonwealth Fund International Health Policy Survey, 2011 Commonwealth Fund International Health Policy Survey of sicker adults, 2014 Commonwealth Fund International Health Policy Survey of older adults.

Figure 7.2 Percentage of adults in specified population saying that on the whole the healthcare system works well, NSW and comparator countries, 2010–14

Sources: 2010 and 2013 Commonwealth Fund International Health Policy Survey, 2011 Commonwealth Fund International Health Policy Survey of sicker adults, 2014 Commonwealth Fund International Health Policy Survey of older adults.

Figure 7.3 Percentage of adults in specified population saying that the healthcare system needs to be completely rebuilt, NSW and comparator countries, 2010–14



Sources: 2010 and 2013 Commonwealth Fund International Health Policy Survey, 2011 Commonwealth Fund International Health Policy Survey of sicker adults, 2014 Commonwealth Fund International Health Policy Survey of older adults.

Note: estimates may not add up to 100% due to rounding

At a glance: International survey results

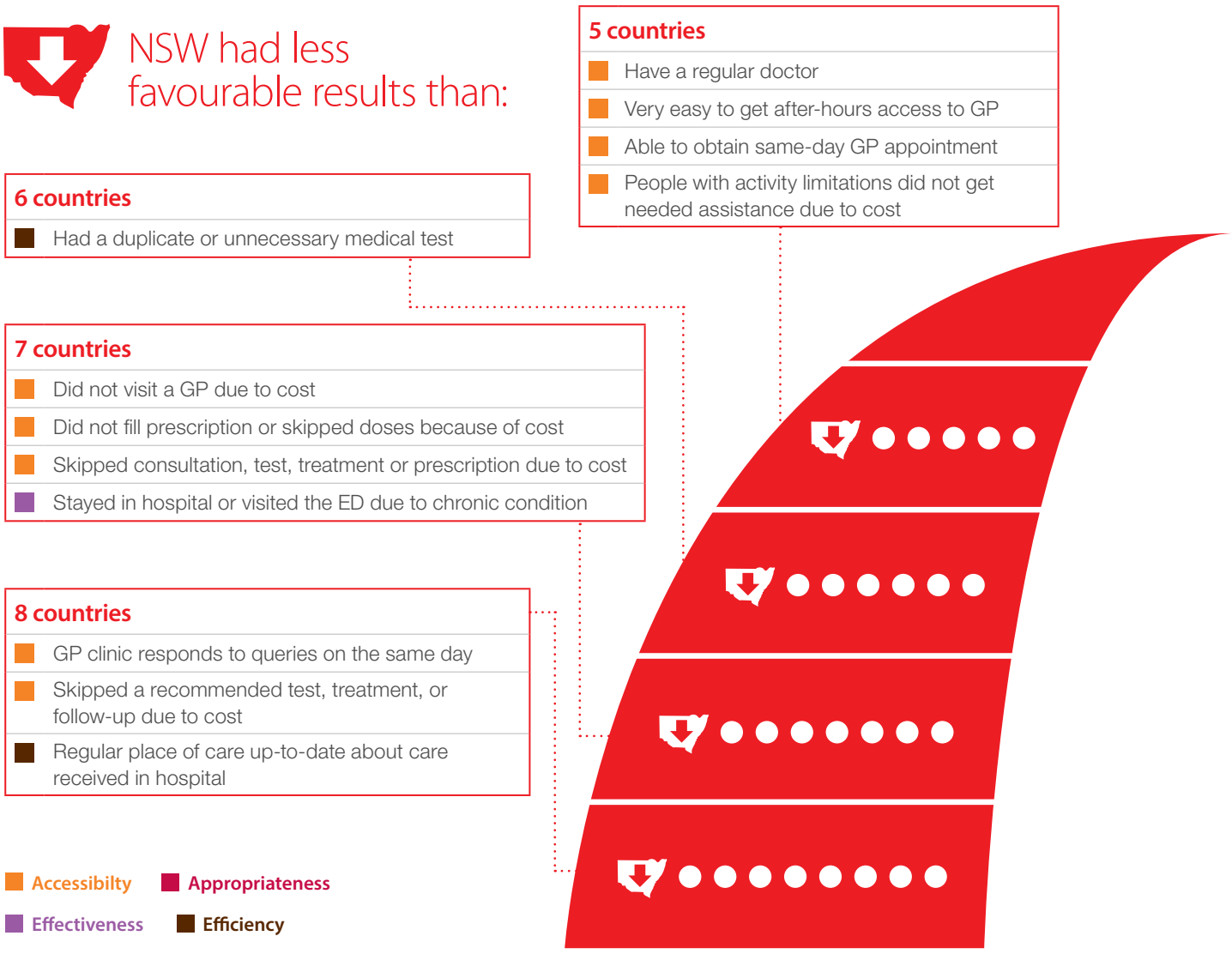
Appropriateness measures are a relative strength in NSW

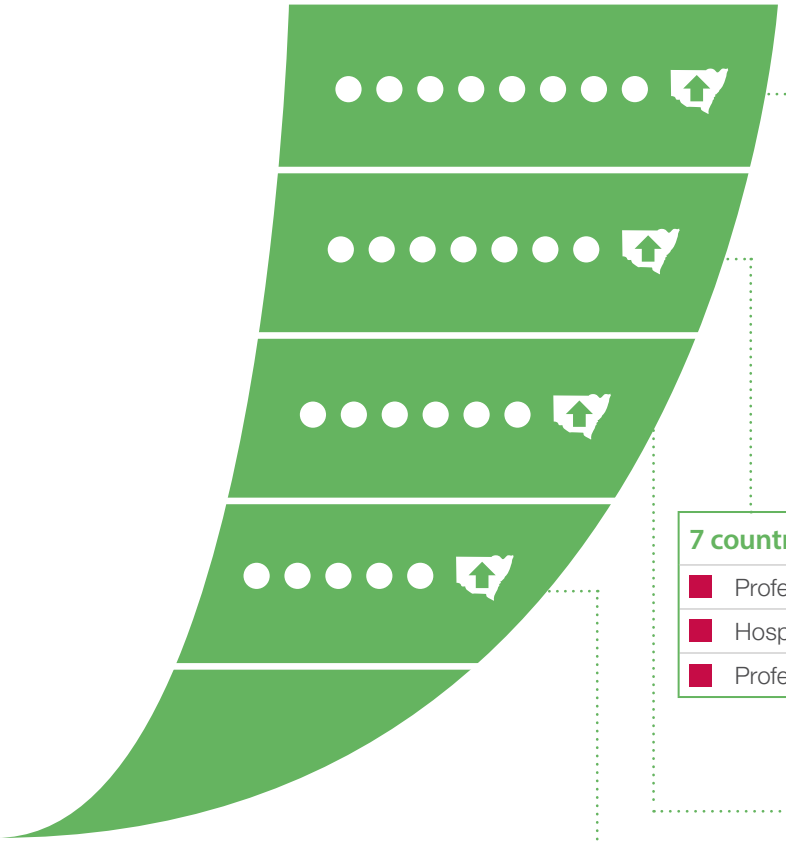
The Commonwealth Fund International Health Policy Survey, which in 2014 focused on adults aged 55 years and over, provides a range of measures of healthcare performance in NSW. Figure 7.4 shows for all measures included in this report, the concentration of countries that had less favourable and more favourable results than NSW.

NSW had more favourable results than five or more countries for 15 measures. NSW performed relatively strongly on questions regarding appropriateness of care — such as communication and information for people with chronic conditions.

Conversely, NSW had less favourable results than five or more countries on 12 measures. Relative results for questions focused on accessibility of care — such as primary care access and cost barriers to care — point to potential areas for improvement for NSW.

Figure 7.4 Survey questions for which NSW results were significantly higher or lower than five or more comparator countries, by performance dimension and number of comparators that were different, 2014





NSW had more favourable results than:

8 countries

- Professional discussed stressors or worries
- Professional gave a written plan to help manage chronic condition
- Professional was in contact to see how things were going with chronic condition care

7 countries

- Professional gave clear instructions for chronic condition
- Hospital ensured follow-up arrangements were made
- Professional discussed main goals in caring for chronic condition

6 countries

- Professional discussed exercise
- Professional reviewed, explained and provided a list of all medications
- Healthcare system in this country works well and only minor changes needed
- Visited ED for a condition that could have been treated by a GP
- Easy to contact a professional to ask questions regarding chronic condition care

5 countries

- Professional reviewed all medications
- Professional discussed healthy eating
- Professional explained the medication side effects
- GP always encourages questions

Accessibilty **Appropriateness**

Effectiveness **Efficiency**

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

Note: Overall, 42 questions were compared: 13 on accessibility, 20 on appropriateness, 3 on effectiveness and 6 on efficiency. See Appendix B for these, and the full list of questions used in the report.

At a glance: OECD indicator results

NSW has room for improvement on patient safety measures

Drawing on internationally developed methods of synthesising performance information,[1,2] Figure 7.5 summarises NSW results for Organisation for Economic Cooperation and Development (OECD) indicators for measures presented in this report.

In order to compare measures on multiple scales, the summary figure compares NSW values for each measure against a standardised score across all available countries. The standardised OECD average is positioned at 0 for each of the included measures. The vertical scale represents the relative distance of NSW from the OECD country average.

The grey range represents the interquartile range (IQR), or the area between the 25th and 75th percentile values. The lowest point of the IQR is the value for which 25% of counties had poorer performance; and the highest point in the IQR is the value for which 25% of countries had better performance (Figure 7.5).

The NSW results are among the best on measures of rates of post-operative wound dehiscence, potential years of life lost; and are relatively low for average length of stay.

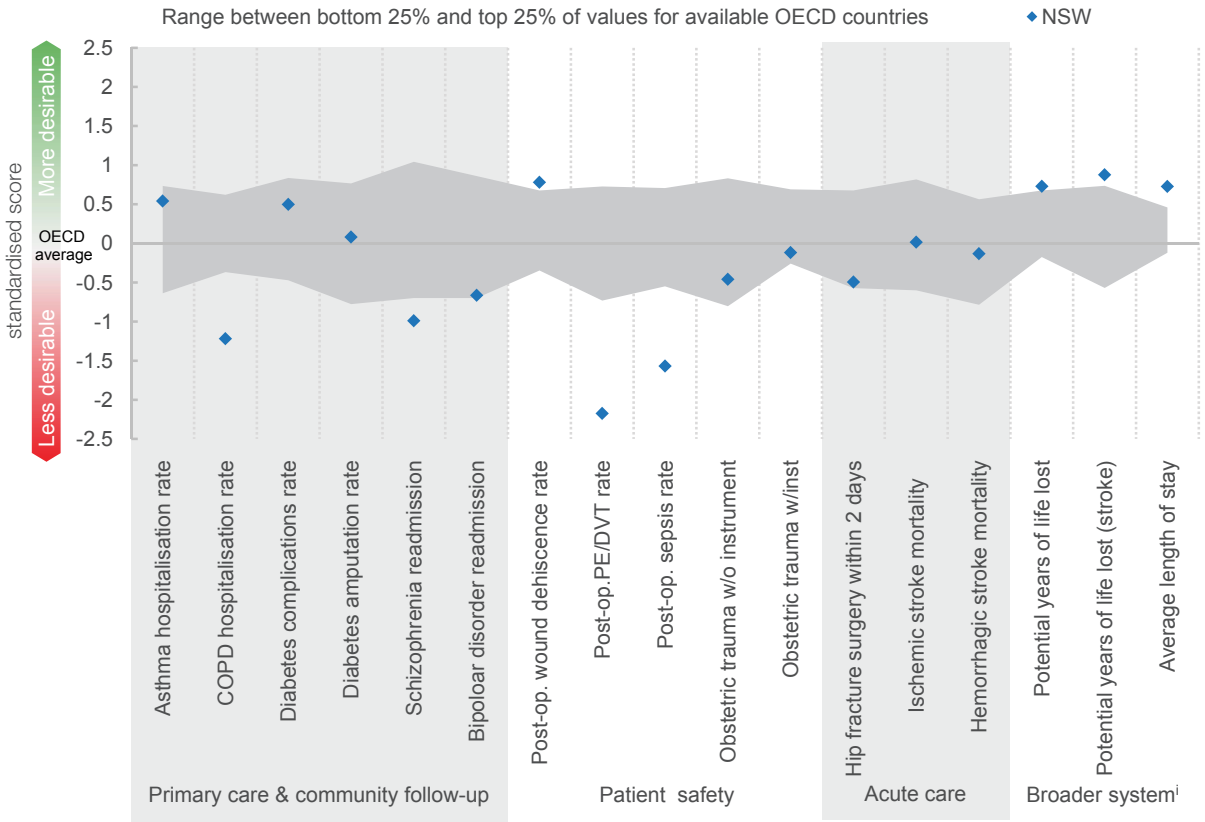
Conversely, for COPD hospitalisation rates, rates of post-operative deep vein thrombosis and pulmonary embolism, and sepsis, NSW results show room for improvement — falling in the bottom quarter of all countries.

This approach is useful for comparing a range of measures at a glance. However, only relative performance is provided. A summary of the NSW values for the year closest to internationally comparable data is provided below for context and fuller explanation of the measures.

NSW results for included measures (2011, unless specified)

- Age-sex standardised asthma hospitalisation rate: 60 per100,000 population aged 15 years and over (Figure 3.10)
- Age-sex standardised chronic obstructive pulmonary disease hospitalisation rate: 300 per 100,000 population aged 15 years and over (Figure 3.11)
- Age-sex standardised hospitalisation rates for diabetes complications: 120 per 100,000 populations (Figure 3.8)
- Age-sex standardised rate of lower limb amputation: 9 per 100,000 (Figure 3.9)
- Same hospital age-sex-standardised 30-day readmission rate for schizophrenia: 14.5 per 100 patients (Figure 3.13)
- Same hospital age-standardised 30-day readmission rate for bipolar disorder: 14.7 per 100 patients (Figure 3.14)
- Rates of post-operative pulmonary embolism and deep vein thrombosis, among patients aged 15 and over: 1,328 per 100,000 surgical hospitalisations with length of stay of two or more days (2012) (Figure 3.19)
- Rates of post-operative wound dehiscence complications among patients aged 15 years and over: 114 per 100,0000 surgical hospitalisations with length of stay of two or more days (Figure 3.20)
- Rate of post-operative sepsis among patients aged 15 years and over: 1,440 per 100,000 surgical hospitalisations with length of stay of three days or more (Figure 3.21)
- Rate of obstetric trauma among vaginal deliveries with and without instrument: 2.1 per 100 deliveries, and 6.6 per 100 deliveries respectively (Figures 3.22 and 3.23)
- Percentage of hip fracture hospitalisations for patients aged 65 years and over initiated within two days: 67% (Figure 2.23)
- Standardised 30-day mortality rate for ischaemic stroke, and haemorrhagic stroke for adults aged 45 and over: 11.5 and 29.6 per 100 patients, respectively (Figure 3.17)
- Potential years of life lost (under age 70) due to stroke: 63 years per 100,000 population (Figure 3.16)
- Average length of a hospital stay (excluding same-day and long-term care stays): 5 days (Figure 4.10)

Figure 7.5 Standardised scores for selected indicators and NSW relative position to OECD average, NSW and range of available OECD comparators, 2011 or nearest year



Source: OECD Health Statistics 2014. NSW values are based on several data sources; see specific figures and the report technical supplement for more detail, including all values and data years for NSW and all countries.

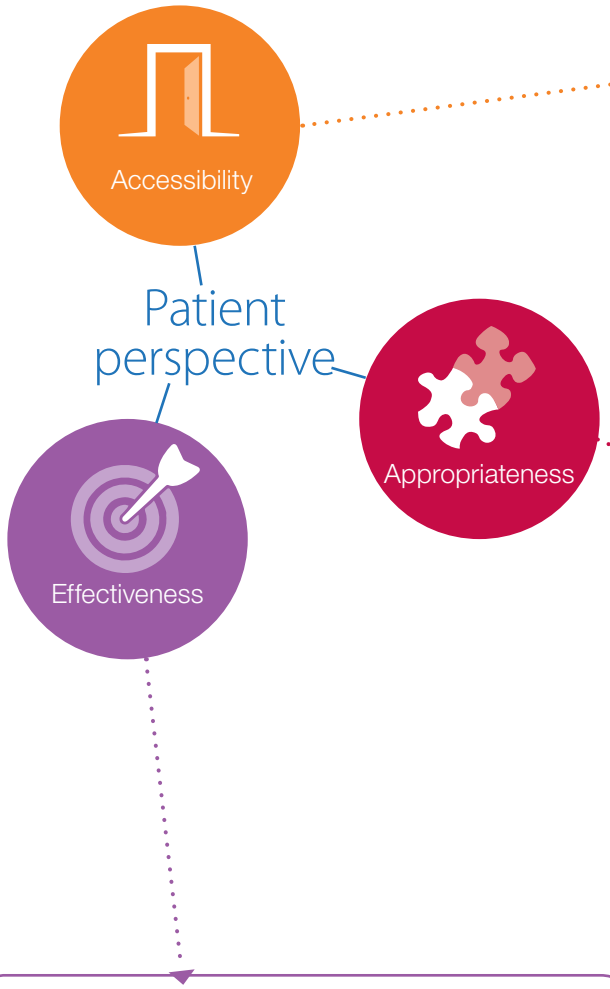
Notes: For this summary, a wider range of up to 34 OECD countries was used where results were available. In some cases, such as mortality measures, only 15 country values were available.

For all measures, country performances have been ordered so that more favourable performances are higher on the y-axis. For most measures, higher levels mean poorer performance, with the exception of hip fracture surgery within two days. For average length of stay, shorter stays may be a sign of greater efficiency provided they do not lead to more readmissions or complications, and the service intensity is similar.

At a glance: NSW snapshots

NSW has room for improvement on patient safety measures

For a number of important measures, international data are not available to contextualise NSW performance. In order to provide measures that reflect the complexity of the healthcare system, *Healthcare in Focus* also includes some measures that are NSW-specific, showing variation within NSW, or that are presented in terms of time trends or national benchmarks.

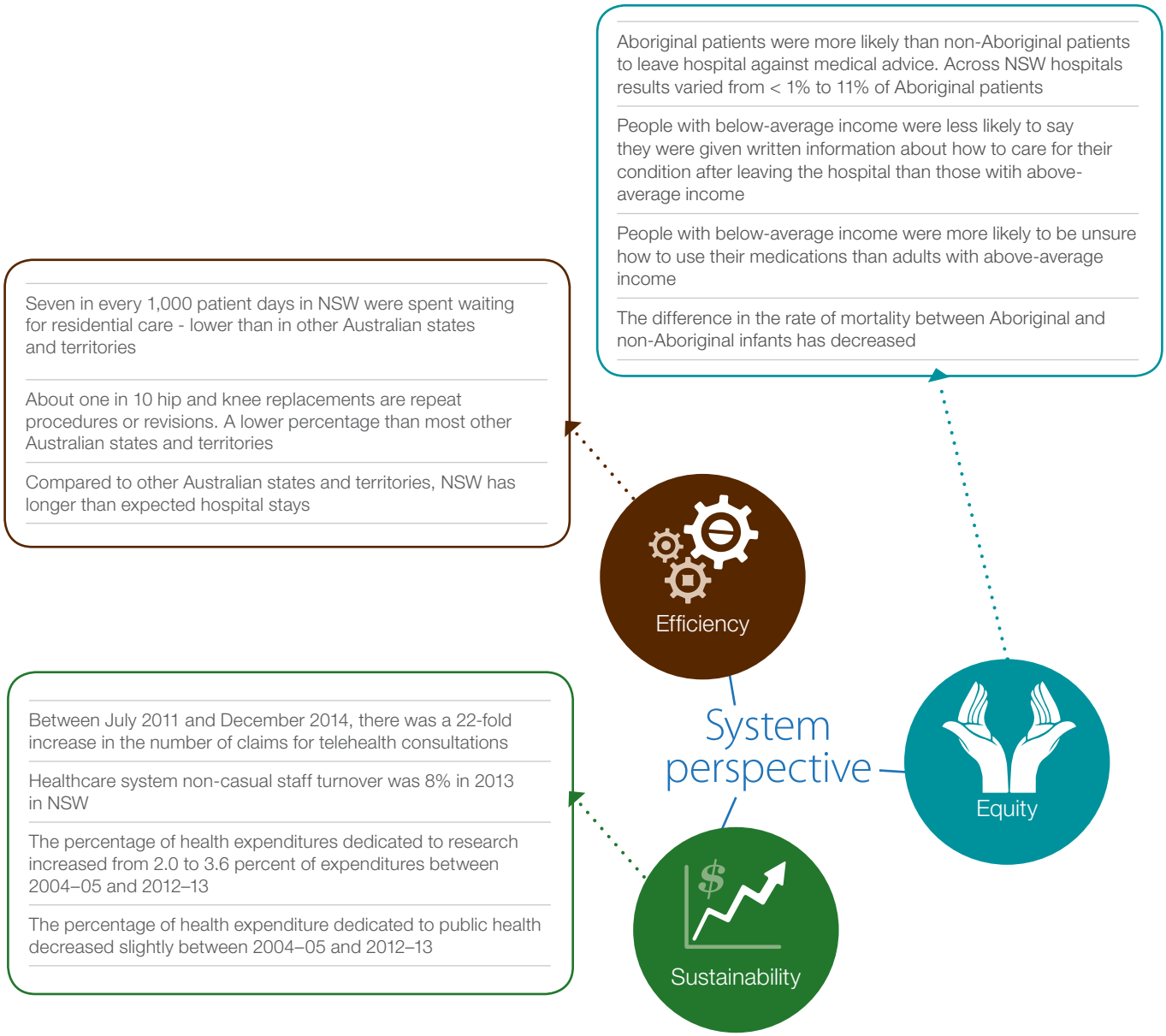


- For emergency department patients, 81% of visits had treatment starting within recommended times (a higher percentage than other Australian states and territories)
- In NSW public hospitals, 97% of elective surgical procedures are perfomed within clinically recommended times
- One in 10 people said they did not see a GP when they needed to at least once in the previous year
- One in 10 people did not see a specialist when they needed to. The most common reason was cost concerns

- Almost all public hospital patients said they had their identity checked before a surgical procedure
- 60% of public hospital patients said they were always as involved as they wanted to be in their care; hospital results range from 51% – 80%
- Upon discharge, 70% of NSW public hospital patients had completely adequate arrangements made for follow-up care; hospital results range from 69% – 90%
- Nine in 10 public hospital patients said they always had their identity checked before being given a medication, treatment or test
- 14% of adults aged 55 years and over on multiple medications have been unsure about when or how much of their medication to take

- 64% of NSW public hospital and 52% of emergency department patients rated the care they received as 'very good'
- Hospitalisation rates for respiratory conditions decreased between 2003 and 2012
- Mortality within 30 days following hospitalisation for stroke decreased between 2003 and 2013
- One in 20 adult admitted patients said they contracted an infection during or shortly after discharge from a public hospital in 2013–14

Organised according to two perspectives that underpin the dimensions of BHI's Healthcare Performance Assessment Framework, the measures reflect, from a patient point of view, how well the system provides care when and where needed; whether it delivers the right healthcare, in the right way; and how it makes a difference for patients. From a broader perspective, the measures reflect whether the system provides value for money, if it provides health for all and fairness in delivering services, and, how it ensures that there is capacity to provide healthcare services into the future.



Appendices

Acronyms

ABS – Australian Bureau of Statistics

ACT – Australian Capital Territory

ALOS – Average Length of Stay

APDC– Admitted Patient Data Collection

EDDC – Emergency Department Data Collection

AIHW – Australian Institute of Health and Welfare

COPD – Chronic Obstructive Pulmonary Disease

DVT – Deep vein thrombosis

ED – Emergency department

GP – General practitioner

GSP – Gross State Product

HIE – Health Information Exchange

ICD – International Classification of Disease

MBS– Medical Benefits Schedule

NSW – New South Wales

NT – Northern Territory

OECD – Organisation for Economic Cooperation and Development

PBS – Pharmaceutical Benefits Scheme

PE – Postoperative pulmonary embolism

PPH – Potentially preventable hospitalisations

PROM – Patient reported outcome measures

PYLL – Potential years of life lost

RACGP – Royal Australian College of General Practitioners

SA – South Australia

SAPHaRI – Secure Analytics for Population Health Research and Intelligence

UK – United Kingdom

US – United States

WA – Western Australia

WLCOS – Waiting List Collection On-line

Appendix A: International survey data

Comparing common questions across Commonwealth Fund surveys for NSW

The 2014 Commonwealth Fund International Health Policy Survey of Older Adults focused on the population aged 55 years and over.

This summary presents the results for the 2013 survey, representative of all adults aged 18 years and over in NSW (sample size of 1,524) compared to the results for the 2014 survey of Older Adults, representative of adults aged 55 years and over in NSW (sample size of 2,800).

On the whole, results were quite consistent between populations, suggesting using the population aged 55 years and over provided a good basis of overall comparison of healthcare performance across jurisdictions. For most questions, the differences were within 3% for the two periods.

Therefore overall, the survey data for 2014 seems to provide a good basis for comparison to a broader population.

Responses that differed by more than 10 percentage points included:

- Used an emergency department for a condition that could have been treated by a GP
- GP or care provider knew medical history
- Healthcare professional explained things in a way that was easy to understand
- GP coordinated care
- Healthcare professional explained medication.

Figure 8.1 Percentage of NSW adults responding to accessibility-related questions, by age group and survey specified, 2013 and 2014

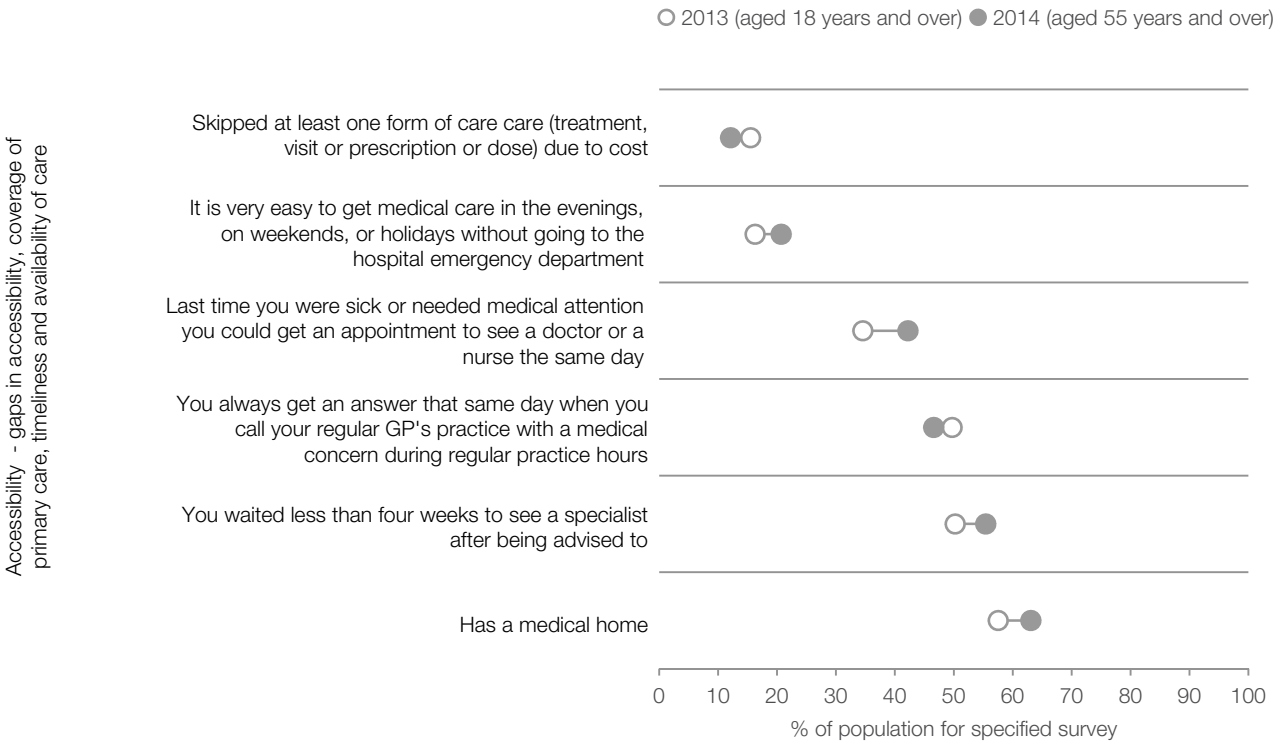
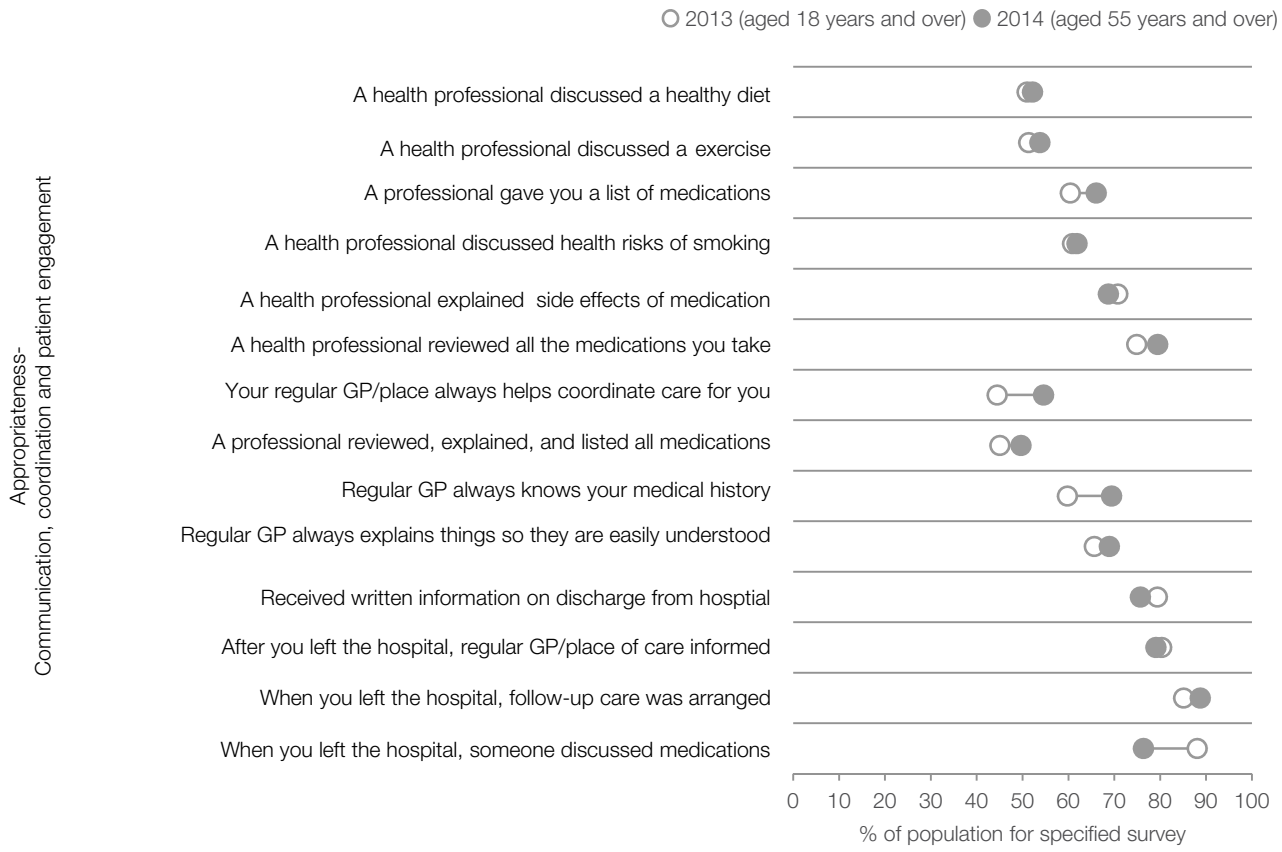
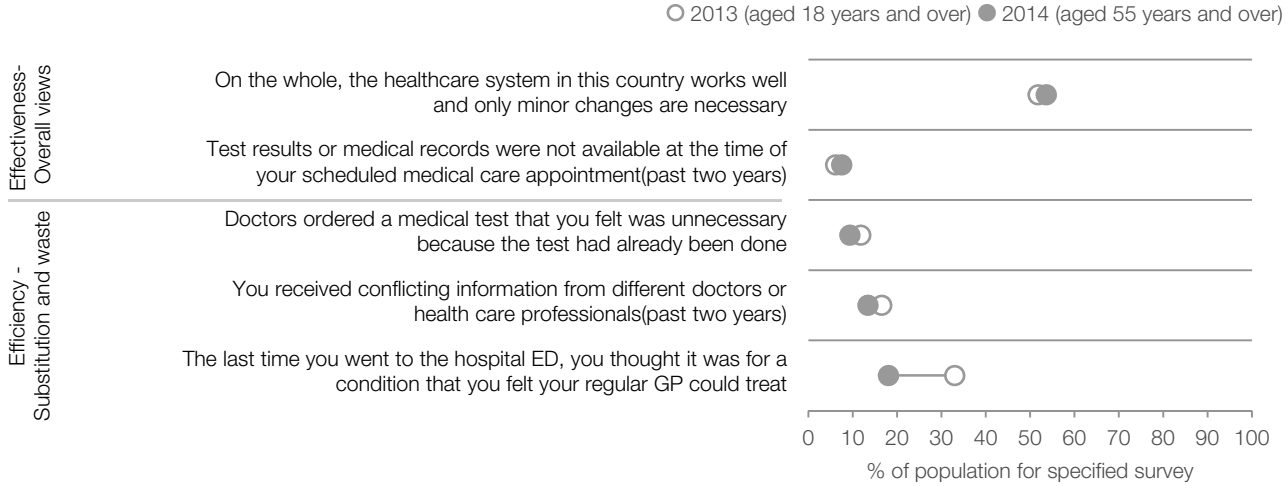


Figure 8.2 Percentage of NSW adults responding to appropriateness-related questions, by age group and survey specified, 2013 and 2014



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

Figure 8.3 Percentage of NSW adults responding to questions on effectiveness and efficiency, by age group and survey specified, 2013 and 2014



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

Appendix B: International survey questions

List of questions from the international survey used in the report

A summary of questions from the 2014 Commonwealth Fund International Health Policy Survey of Older Adults used in this report is provided below. For each question with a range of responses, full responses are provided in the graphs in the report. For questions with yes or no responses, only one or the other is shown. All responses categories, as well as sample sizes, is available on Healthcare Observer (http://bhi.nsw.gov.au/healthcare_observer).

Accessibility

1. During the past 12 months, was there a time when you did not fill a prescription for medicine, or you skipped doses of your medicine because of the cost?
2. During the past 12 months, was there a time when you had a medical problem but did not visit a doctor because of the cost?
3. During the past 12 months, was there a time when you skipped a medical test, treatment, or follow-up that was recommended by a doctor because of the cost?
4. During the past 12 months, was there a time when you skipped care (either treatment, visit or prescription) due to cost? (Based on combined responses of questions 1 to 3)
5. How easy or difficult is it to get medical care in the evenings, on weekends, or holidays without going to the hospital emergency department?
6. Last time you were sick or needed medical attention, how quickly could you get an appointment to see a doctor or a nurse? Please do not include a visit to the hospital ED.
7. Is there one doctor you usually go to for your medical care?
8. After you were advised to see or decided to see a specialist, how long did you have to wait for an appointment?
9. In the past year, was there a time you did not receive the help you needed because of the cost?
10. Between doctor visits, is there a health care professional who contacts you to see how things are going?
11. Between doctor visits, is there a health care professional you can easily contact to ask a question or get advice about your health condition(s)?
12. In the past 12 months, about how much have you and your family spent out-of-pocket for medical treatments or services that were not covered by insurance?
13. When you call your regular GP's practice with a medical concern during regular practice hours, how often do you get an answer that same day?
14. Medical home. This is an internationally defined measure based on four questions. People have a 'medical home' if: they have a regular doctor or GP practice; and their regular doctor knows about their medical history; and they are able to get a same- or next-day appointment or the GP practice gives a same-day response to telephoned medical questions; and their GP practice always or often helps coordinate care received from other doctors or places. If a respondent answered negatively to any of these questions they do not have a medical home.

Appropriateness

1. When you need care or treatment, how often does your regular doctor or medical staff you see know important information about your medical history?
2. When you need care or treatment, how often does your regular doctor or medical staff you see encourage you to ask questions?
3. When you need care or treatment, how often does your regular doctor or medical staff you see explain things in a way that is easy for you to understand?
4. When you have received care or treatment from specialists, how often did they involve you as much as you want to be in decisions about your treatment or care?
5. In the past 12 months, has a health care professional reviewed with you all the medications you take?
6. In the past 12 months, has a health care professional explained the potential side effects of any medication that was prescribed?
7. In the past 12 months, has a health care professional given you a written list of all your prescribed medications?
8. When you left the hospital, did you receive written information on what to do when you returned home and what symptoms to watch for?
9. When you left the hospital, did the hospital make arrangements or make sure you had follow-up care with a doctor or other health care professional?
10. When you left the hospital, did someone discuss with you the purpose of taking each of your medications?
11. When you left the hospital, did you know who to contact if you had a question about your condition or treatment?
12. During the past year, when you received care, has any health care professional you see for your chronic condition discussed with you your main goals or priorities in caring for this condition?
13. During the past year, when you received care, has any health care professional you see for your condition given you clear instructions about symptoms to watch for and when to seek further care?
14. During the past year, when you received care, has any health care professional you see for your condition given you a written plan to help you manage your own care?
15. During the past two years, has any health professional talked with you about a healthy diet and healthy eating?
16. During the past two years, has any health professional talked with you about exercise or physical activity?
17. During the past two years, has any health professional talked with you about things in your life that worry you or cause stress?
18. During the past two years, has any health professional talked with you about the health risks of smoking or using tobacco and ways to quit?

Effectiveness

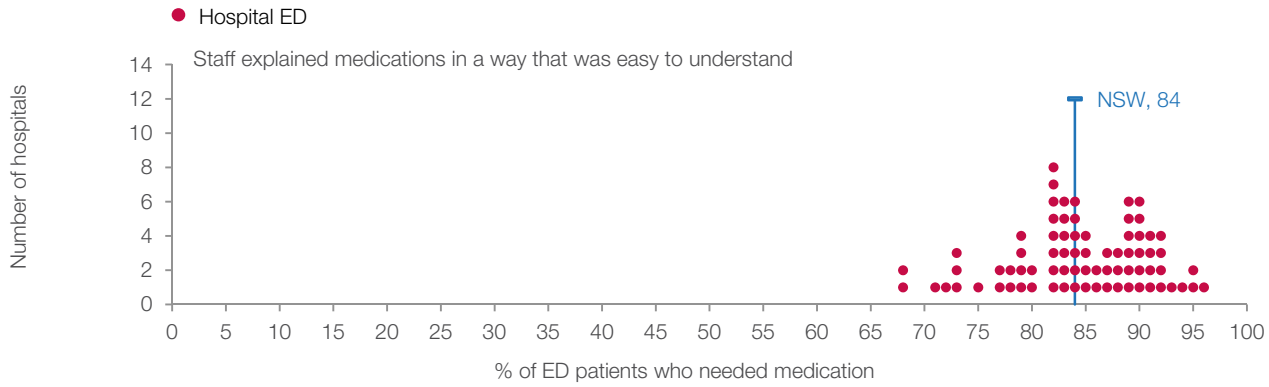
1. Has this plan (chronic care treatment plan) helped you control or manage your condition?
2. In the past year, have you stayed overnight in a hospital or visited the ED because of your condition (hypertension, diabetes or asthma)?
3. Which of the following statements comes closest to expressing your overall view of the health care system in this country?

Efficiency

1. Now thinking about the past two years, when receiving care for a medical problem, was there ever a time when test results or medical records were not available at the time of your scheduled medical care appointment?
2. And, was there ever a time in the past two years when doctors ordered a medical test that you felt was unnecessary because the test had already been done?
3. In the past two years, was there a time when a specialist did not have basic medical information or test results from your regular doctor about the reason for your visit?
4. In the past two years, was there a time after you saw the specialist, that your regular doctor did not seem informed and up-to-date about the care you received?
5. After you left the hospital, did the doctors or staff at the place where you usually get medical care seem informed and up-to-date about the care you received in hospital?
6. The last time you went to the hospital ED was it for a condition that you thought could have been treated by the doctors or staff at the place where you usually get medical care?

Appendix C: Interpreting select figures

Example 1 **NSW hospital variation graph example**

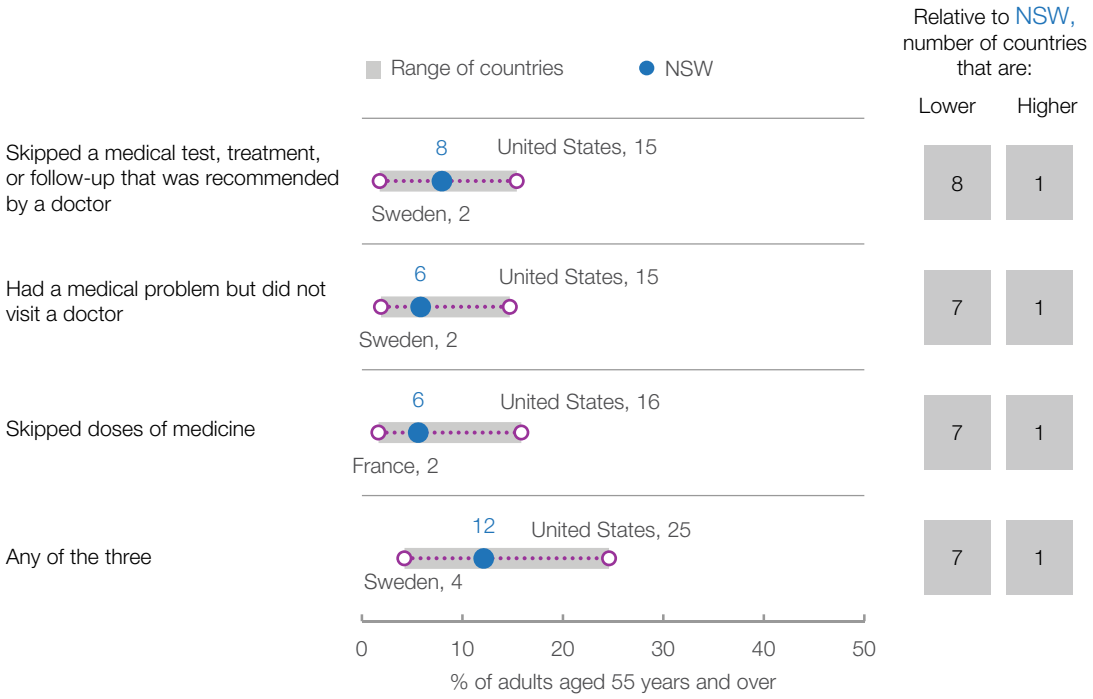


In Example 1, public hospital variation in a selected survey question is displayed. Each dot represents a public hospital or hospital emergency department (ED). The horizontal axis reflects the level (it could be percentage, or rate or median waiting time for example) for a given measure. The vertical axis reflects the number of hospitals or hospital emergency departments with estimated values at each level. The NSW average value is also presented. Only public hospitals are presented in these figures.

In this example, 68% of patients reported medications were explained in a way they could understand in two hospital emergency departments. The NSW average is 84%, and the highest level reported was for one hospital that had 96% of patients reporting clear medication explanations.

Example 2

Commonwealth Fund survey international comparison range of values and significant differences from NSW graph example



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

In Example 2, the range of values across international comparators is shown. It includes the maximum and minimum percentages and countries, along with the NSW value for a group of survey questions. This approach is only used for groupings of questions, with yes or no responses. This approach masks the number of comparators with significantly different values from NSW based on statistical testing and how NSW stands compared with others. Therefore, the number of comparator countries for which NSW is higher or lower is shown. These responses are synthesised for measures where NSW is above or below five comparator countries in the introductory section.

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Setting the Scene

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Summary of results: at a glance

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bureau of health information

About the Bureau of Health Information

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

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

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

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

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

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

www.bhi.nsw.gov.au