



Australian Government

Australian Institute of Health and Welfare

National Key Performance Indicators for Aboriginal and Torres Strait Islander primary health care

Results from December 2013



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We thank the Aboriginal and Torres Strait Islander primary health care organisations that provided data for, or feedback on, this report, and the OCHREStreams Advisory Group for their constructive suggestions.

Abbreviations

ABS	Australian Bureau of Statistics
ACIR	Australian Childhood Immunisation Register
ACR	albumin/creatinine ratio
ACT	Australian Capital Territory
AHW	Aboriginal Health Worker
AIHW	Australian Institute of Health and Welfare
BMI	body mass index
COPD	chronic obstructive pulmonary disease
CQI	continuous quality improvement
CVD	cardiovascular disease
FTE	full-time equivalent
eGFR	estimated glomerular filtration rate
GP	general practitioner
GPMP	General Practitioner Management Plan
HbA1c	glycosylated haemoglobin
IF	Improvement Foundation
MBS	Medicare Benefits Schedule
METeOR	Metadata Online Registry
mmHg	millimetres of mercury
NATSIHS	National Aboriginal and Torres Strait Islander Health Survey
nKPIs	National Key Performance Indicators for Indigenous primary health care
NPDC	National Perinatal Data Collection
NSW	New South Wales
NT	Northern Territory
OSR	Online Service Reporting
PIRS	Patient Information Record System
Qld	Queensland
SA	South Australia
T2D	type 2 diabetes
Tas	Tasmania
TCA	Team Care Arrangement
Vic	Victoria
WA	Western Australia



Symbols

—	nil or rounded to zero or no trend data
..	not applicable
n.a.	not available
↔	no change
↑	increased
↓	decreased
<	less than
≤	less than or equal to
>	greater than
≥	greater than or equal to



Summary

This is the second national report on the Indigenous primary health care national Key Performance Indicators (nKPIs) data collection. Data for this collection are provided to the AIHW by primary health care organisations who receive funding from the Department of Health to provide services to Aboriginal and Torres Strait Islander people.

The purpose of the nKPIs is to improve the delivery of primary health care services by supporting continuous quality improvement (CQI) activity among service providers. The nKPIs also support policy and planning at the national and state and territory level by monitoring progress and highlighting areas for improvement.

The report presents data on 19 indicators (and 24 indicator measures) collected for 4 reporting periods over 2 years: June 2012, December 2012, June 2013 and December 2013. The number of organisations reporting increased substantially over the 4 reporting periods, from 90 in June 2012 to 207 in December 2013.

The indicators focus on chronic disease prevention and management, and on maternal and child health. There are 19 'process of care' measures and 5 'health outcomes' measures. The former are largely under the control of organisations and are therefore used to assess practices in primary health care. Health outcomes, on the other hand, are influenced by a wide range of factors beyond the immediate control of primary health care organisations.

The data show that there were improvements in most of the 'process of care' indicators (Table S1). In particular, national proportions for Indigenous Australians increased for the following 7 measures:

- proportion of babies with birthweight recorded
- Medical Benefits Schedule health assessments for children
- Medical Benefits Schedule health assessments for adults
- clients with type 2 diabetes who received an MBS GP Management Plan
- clients with type 2 diabetes who received an MBS Team Care Arrangement
- recording of smoking status
- recording of alcohol use status.

There were mixed results in the health outcomes indicators, with only minor improvements for some indicators, however, large changes in outcome indicators would not be expected over an 18 month period.

The results varied across jurisdictions, with organisations in Queensland and the Northern Territory continuing to perform better than other jurisdictions in most process-of-care indicators.

Table S1: Overview of trends in nKPIs, Indigenous primary health care, June 2012 to December 2013^(a)

Indicator	Change in national proportion, Indigenous Australians Jun 2012 – Dec 2013
Process indicators	
First antenatal visit (at <13 weeks) ^(b)	↑
Birthweight recorded by the organisation	↑
MBS health assessment	
Children aged 0–4	↑
Adults aged 25+	↑
Cervical screening ^(b)	↑
Immunised against influenza	
Clients aged 50+ ^(b)	↔
Clients with type 2 diabetes ^(b)	↔
Clients with COPD ^(b)	↑
General Practitioner Management Plans—clients with type 2 diabetes	↑
Team Care Arrangements—clients with type 2 diabetes	↑
HbA1c result recorded—clients with type 2 diabetes	↓
Kidney function test	
Clients with type 2 diabetes ^(b)	↓
Clients with CVD ^(b)	↔
Blood pressure recorded—clients with type 2 diabetes	↓
Smoking status recorded	↑
Alcohol consumption status recorded	↑
Child immunisation	
1 year	↑
2 year	↓
5 year	↑
Outcome indicators	
Birthweight result (normal)	↑
HbA1c result—clients with type 2 diabetes ($\leq 7\%$)	↑
Blood pressure result—clients with type 2 diabetes ($\leq 130/80$ mmHg)	↑
Smoking status result (never smoked) ^(b)	↑
Overweight and obese ^(c)	↑

(a) Number of organisations reporting in each period: 90 in June 2012, 173 in December 2012, 206 in June 2013 and 207 in December 2013.

(b) Indicator has data for 2 time periods only, June 2013 and December 2013.

(c) For this measure, an increase indicates an unfavourable trend.

Note: See 'Abbreviations' and 'Symbols' sections of this report for an explanation of abbreviations and symbols used.



Implications

The Department of Health noted the following implications of the results outlined in this report.

Trend data are now available on all nKPIs, with at least 2 data points for all indicators and 4 data points for 11 indicators:

- They show that improvements have occurred across most process-of-care indicators. These improvements should result in better health outcomes for Aboriginal and Torres Strait Islander people.
- Data show an increasing use of risk factor monitoring as well as increasing use of health checks and care planning by organisations.
- Of particular note is the finding that the organisations with better performance are spread across diverse geographic and service delivery environments. Small organisations can and often do perform well, as do a number of larger organisations.
- Wide variation within and between indicators indicate improvement possibilities across some organisations.
- The nKPI data is now robust enough to be used to identify areas of improvements. The need for continued good quality data provided by organisations is paramount to this.
- There is a range in performance across indicators. Service providers can compare their results with analysis on each indicator to inform areas for improvement. Prompt action can identify the reasons for poor results and then allow the development of strategies to improve quality of service.
- A number of key opportunities require further investigation and/or development to inform the continuing improvement of the nKPI system itself. These include the possible development of benchmarks, and investigation of data gathering and recording processes in areas such as immunisation and kidney function tests.
- The report highlights the need to further develop a national Continuous Quality Improvement (CQI) approach that supports organisations in improving primary health care delivery for Aboriginal and Torres Strait Islander people.

Chapter 1

Introduction

This is the second report on the Indigenous primary health care **national Key Performance Indicators** (nKPIs) data collection and includes data for the period ending 31 December 2013. The data were collected from 207 primary health care organisations (Aboriginal Community Controlled as well as those with other governance arrangements) that receive funding from the Australian Government Department of Health to provide primary care services primarily to Aboriginal and Torres Strait Islander people. These data are collected by the AIHW and reported back to the health organisations providing data to help improve the delivery of primary health care for Aboriginal and Torres Strait Islander people, to improve health outcomes and to support progress towards the Council of Australian Government's Closing the Gap targets.

Altogether 24 nKPIs received in-principal approval from AHMAC for reporting and these focus on chronic disease risk factors, prevention and management, and maternal and child health (Appendix 1). These are the key focus areas to achieve the objective of closing the gap in life expectancy between Aboriginal and Torres Strait Islander people and non-Indigenous Australians and halving the gap in child mortality by 2018. Presently data are collected on 19 indicators that are included in this report. Of the remaining 5 indicators, 2 will be added to the data collection in December 2014 ('Regular clients who gave birth in the previous 12 months with a smoking status of smoker, ex-smoker or never smoked' and 'eGFR results for clients with type 2 diabetes'). One will be added in June 2015 ('Patients who had the necessary risk factors assessed to enable cardiovascular assessment') and 2 in December 2015 ('Risk of harm from alcohol consumption' and 'Absolute cardiovascular risk result').

The nKPIs build on a body of work in Australia that integrates primary health care performance data with quality improvement methods. This work includes the Australian Primary Care Collaboratives, the Audit and Best Practice for Chronic Disease program, the Northern Territory Aboriginal Health Key Performance Indicators project, the Queensland Aboriginal and Islander Health Council Health Information System, and the Healthy for Life program.


There is sound evidence to support the contribution that performance indicator systems can play in the delivery of effective primary health care when they are integrated with sound continuous quality improvement (CQI) strategies (Baillie et al. 2007). CQI is one component of a broader health system response that is required to improve primary health care delivery. The nKPIs make a vital contribution for organisations' CQI processes by providing standardised data and indicator-based reporting for continuous monitoring and consequent improvement of organisational performance.

On their own, the nKPI data will not lead to positive change, improvements in service delivery or improved outcomes. However, nKPIs and other data sets can make an important contribution when they are used by health service providers at the local level as part of broader CQI processes to identify opportunities and to measure progress towards achieving change. For some organisations, getting the most value out of the nKPIs will require substantial change to their internal management and clinical systems and processes in place to collect high-quality data. The process of taking the time to review, make sense of the data and adopt CQI practices requires organisational commitment, capability and capacity.

Potentially important factors influencing organisation performance on the nKPIs are the level of funding each organisation receives relative to the size of the population it serves, the level of need in the population, and the geographic context in which the organisation works. This report does not analyse performance in relation to resources. It works on the assumption that there is room for improvement regardless of the level of resourcing, while acknowledging that the level of resourcing may constrain how much improvement is possible.

This report is designed to highlight the major areas of achievement of primary health care providers as well as the areas where improvements are needed by organisations in the delivery of services to their clients. These findings need to be understood in the context of the constraints within which organisations operate, for example, resources, and the possibility that some results may relate to data collection issues rather than to service delivery issues.

National reports such as this one also highlight areas where underlying data collection systems need to be further refined and developed, as well as where enhancements to the processes of analysis, reporting and communication are needed.



In view of the wide variation in the results found in our previous nKPI report, for the June 2012 to June 2013 period (AIHW 2014), and in response to stakeholder perceptions about aspects of the data collection process, the Department of Health engaged independent analysts in March 2014 to review the quality of the nKPIs dataset, find any sources of potential error in the data collection process and provide advice on strategies to eliminate any errors. The review was conducted in consultation with key stakeholders, and these stakeholders have since been informed of the findings of this project.

Overall the review found that the data set is of high quality and fidelity, and confirmed the value of publishing and disseminating the findings captured in the report. While the review named some areas for possible improvement in future nKPI data collections, it did not find any evidence of system-wide technical problems affecting nKPI data quality.

nKPI data

As with any data collection, there are some limitations in the nKPI data that should be taken into account when interpreting the information provided in this report. These limitations include the fact that data are captured as part of service delivery processes, and there may be double-counting of clients who attend more than 1 service regularly. Additionally, we noted internal inconsistencies in some data for some organisations. These data were excluded from the national analysis.

A detailed description of the data collection processes, and associated data interpretation issues, is presented in Chapter 2.

Clients

The population of interest in the nKPIs is the regular client population of those primary health care organisations that are required to report against the nKPIs. A regular client is defined as a person who has an active medical record—that is, a client who attended the primary health care organisation at least 3 times in the last 2 years.

This definition, while nationally consistent and in line with the Royal Australian College of General Practitioners definition of a patient with an active medical record, has limitations, including for clients who attend multiple health organisations. Organisations in metropolitan and regional centres are likely to have larger transient client populations due to temporary mobility between remote communities and urban centres (Kainz et al. 2012). Although these visiting Indigenous people may meet the ‘regular client’ criteria in a particular organisation, they may not receive the majority of their healthcare from that organisation.

Two indicators covered in this report do not involve regular clients (as defined): babies whose birthweight was recorded; and birthweight result. This is because many babies will not have visited a health service 3 times in the last 2 years.

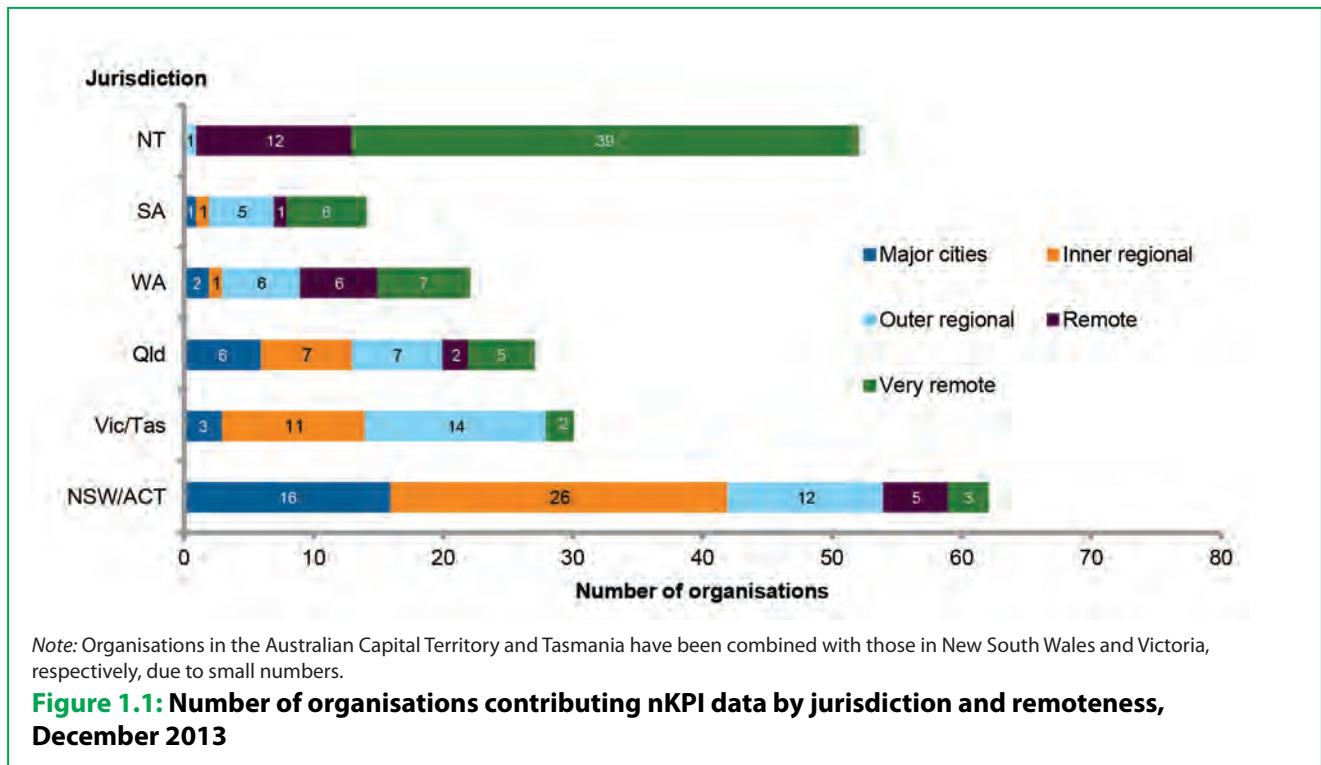
Organisations contributing nKPI data

The nKPI data have been collected for 4 reporting periods, after an initial trial involving about 80 organisations with previous data collection experience. The number of participating organisations increased from 90 in June 2012 to 173 in December 2012, then to 206 in June 2013 and 207 in December 2013 (Appendix Table A3.2 shows organisations reporting in each period by indicator). This means the national averages reported are based on differing numbers of organisations, which could limit comparability for some purposes.

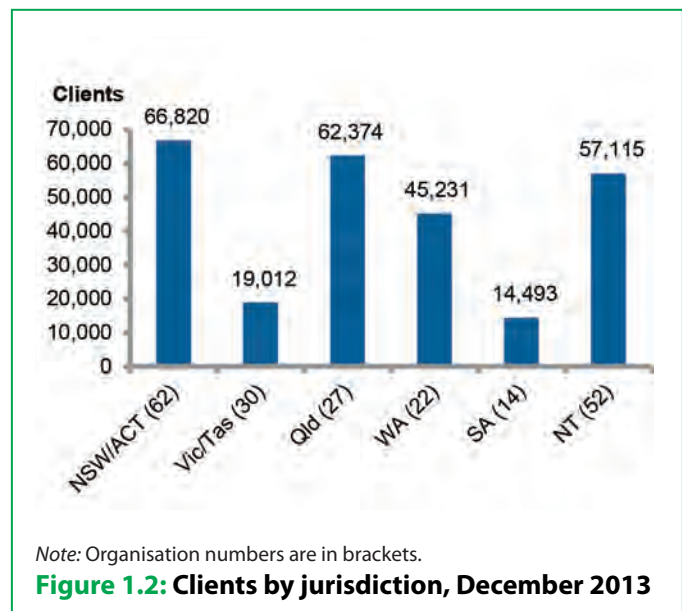
Organisations reporting include Aboriginal Community Controlled Health Organisations, organisations that are not community controlled, state and territory and local government organisations, non-government organisations, auspiced organisations and Medicare Locals. An auspiced organisation is an independent or semi-independent body that has been funded by an Australian Government funded organisation to provide health services. Organisations may report nKPI data directly to OCHREStreams, a web portal designed to reduce reporting burden through which organisations submit data to the AIHW. Other organisations may report through an intermediary—for example, where organisations are funded to deliver services by Medicare Locals, data can be reported through Medicare Locals (the fundholder organisation).

Main characteristics

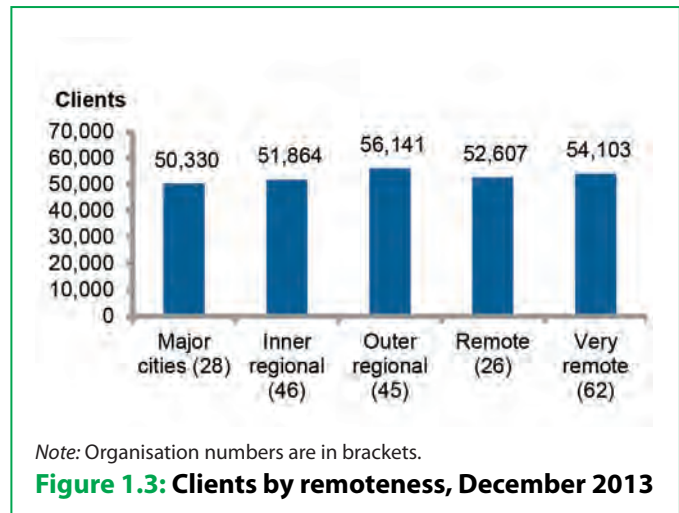
- Most organisations are located in NSW/ACT followed by NT (Figure 1.1).
- Most NT organisations are located in *Very remote* areas while most NSW/ACT organisations are in *Inner regional* areas and *Major cities*.



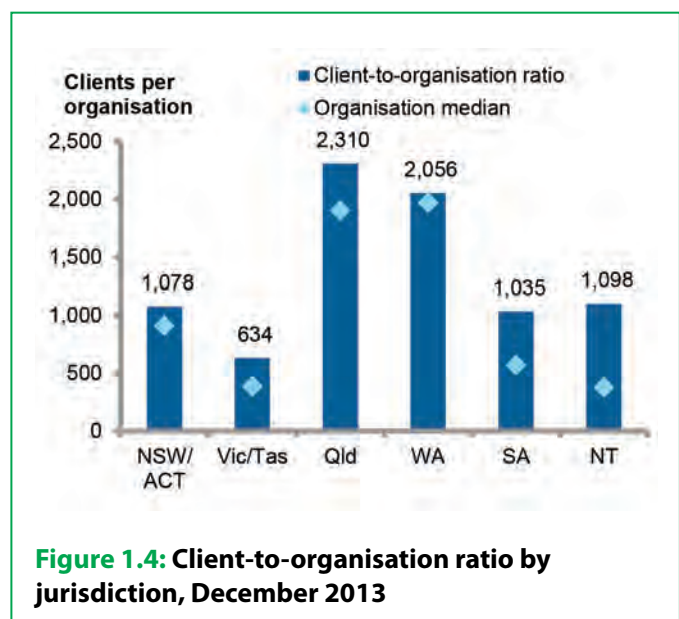
- NSW/ACT, Queensland, and NT organisations have more Aboriginal and Torres Strait Islander regular clients than other jurisdictions (Figure 1.2).
- Indigenous regular clients represent 40% of Indigenous people nationally. Clients of NT organisations represent 83% of the NT Indigenous population.



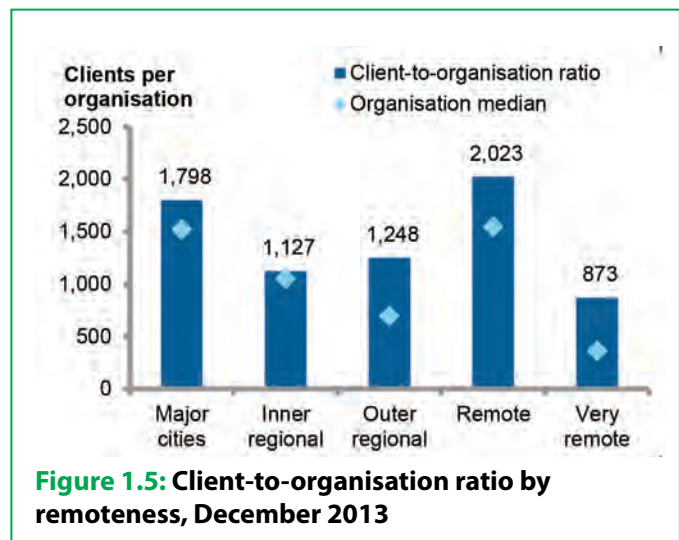
- The number of Aboriginal and Torres Strait Islander regular clients was highest in organisations in *Outer regional* areas (Figure 1.3).
- Clients who were seen at *Outer regional* organisations represented about 38% of the total Aboriginal and Torres Strait Islander population in *Outer regional* areas.



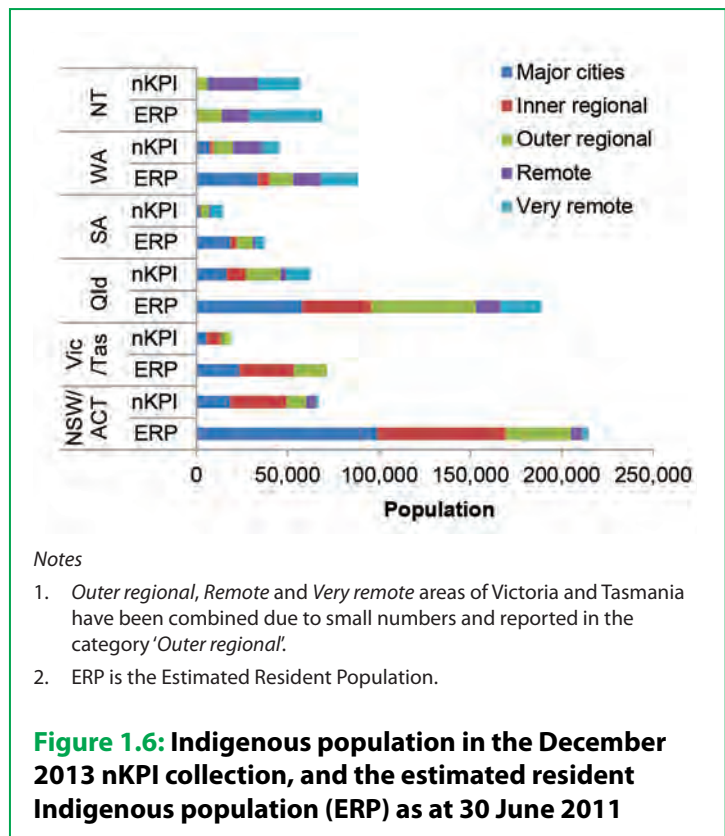
- The number of Aboriginal and Torres Strait Islander regular clients per organisation was highest in Queensland (Figure 1.4).
- 50% of organisations in NT have fewer than 379 clients per organisation, while 50% of organisations in WA have more than 1,971 clients per organisation.



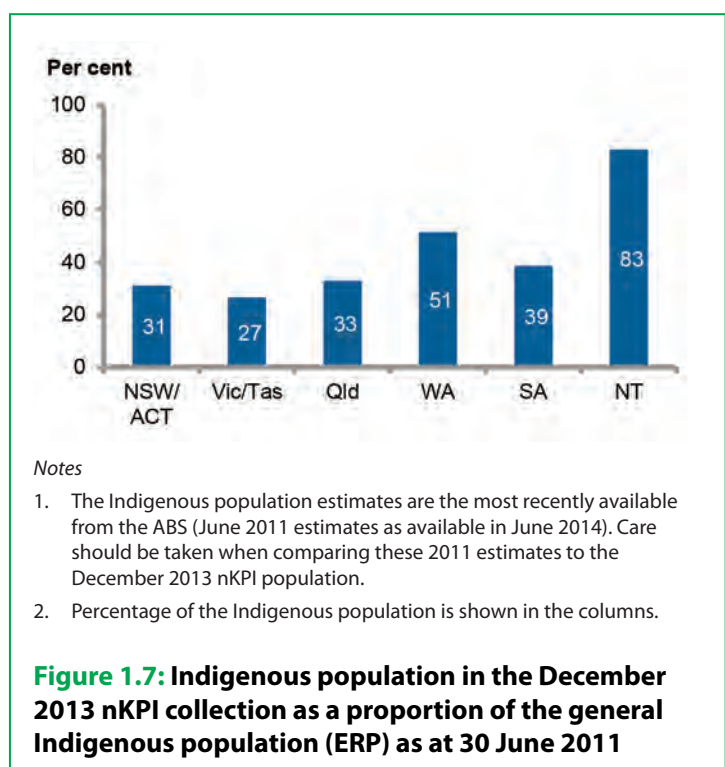
- *Remote* organisations have a higher client-to-organisation ratio than organisations in all other areas (Figure 1.5).
- 50% of organisations in *Very Remote* areas had less than 365 clients per organisation, while 50% of organisations in *Remote* areas had more than 1,544 clients per organisation.



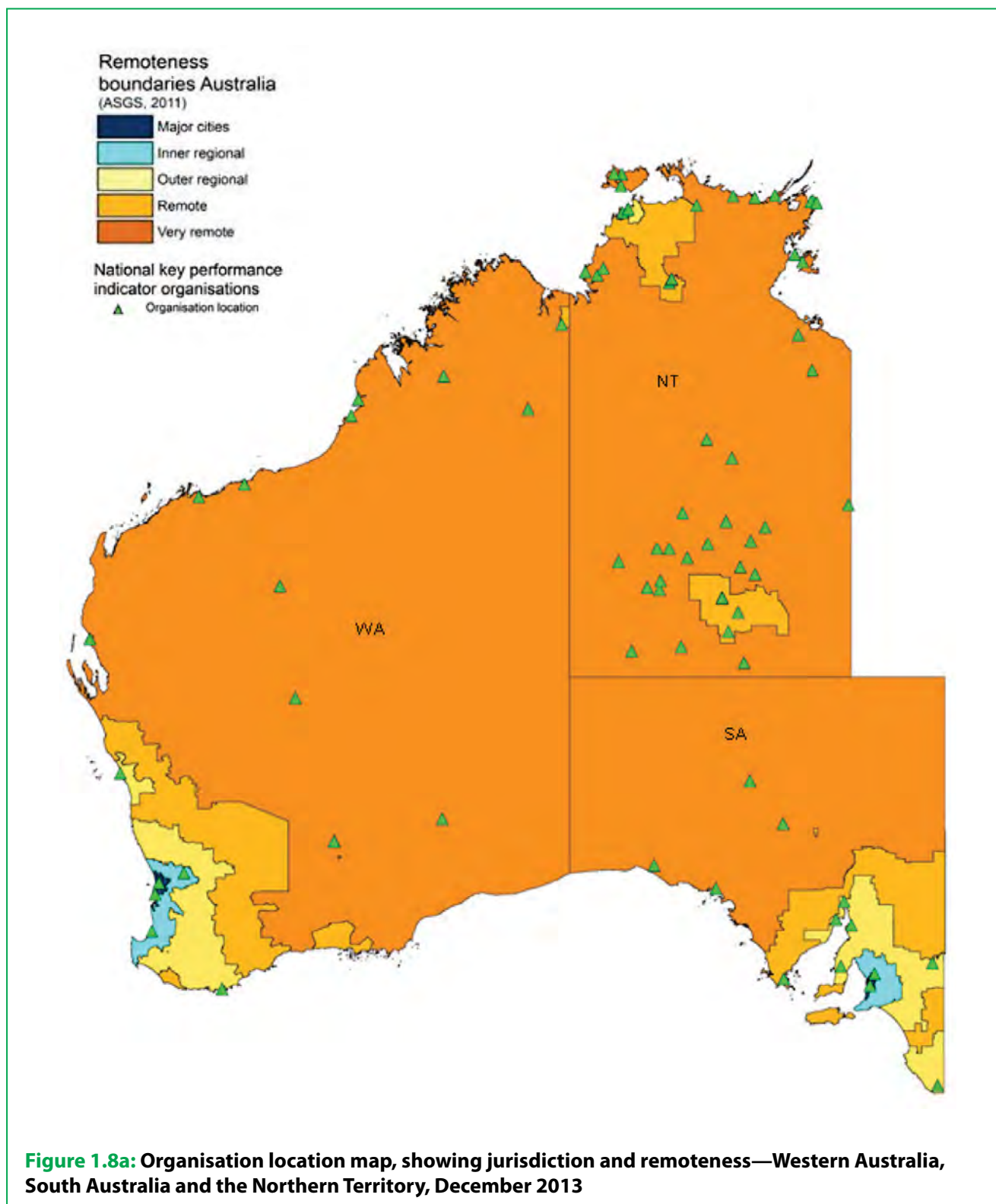
- The nKPI regular client population does not necessarily reflect the estimated resident Indigenous population distribution by jurisdiction and remoteness area (see Figure 1.6). This should be taken into account when comparing data across jurisdictions and remoteness areas (for instance, making comparisons between the Northern Territory and Victoria).
- Please also note that Aboriginal and Torres Strait Islander people living in *Major cities* and some regional areas may have access to more health service options than in *Remote* and *Very Remote* areas.



- The nKPI client population represents about a quarter of the Indigenous population in Victoria/Tasmania, while in the Northern Territory the nKPI client population represents just over 80% of the Indigenous population (Figure 1.7). These figures need to be treated cautiously as clients attending more than 1 organisation in a particular state or territory can be counted more than once, though extent of overcounting is unknown. There is also a greater choice of primary healthcare organisations, including those that do not report against the nKPIs, in more urban areas, which could also contribute to differences between jurisdictions.



- Organisations reporting nKPI data are located across all jurisdictions and remoteness areas (see Figures 1.8a and b).



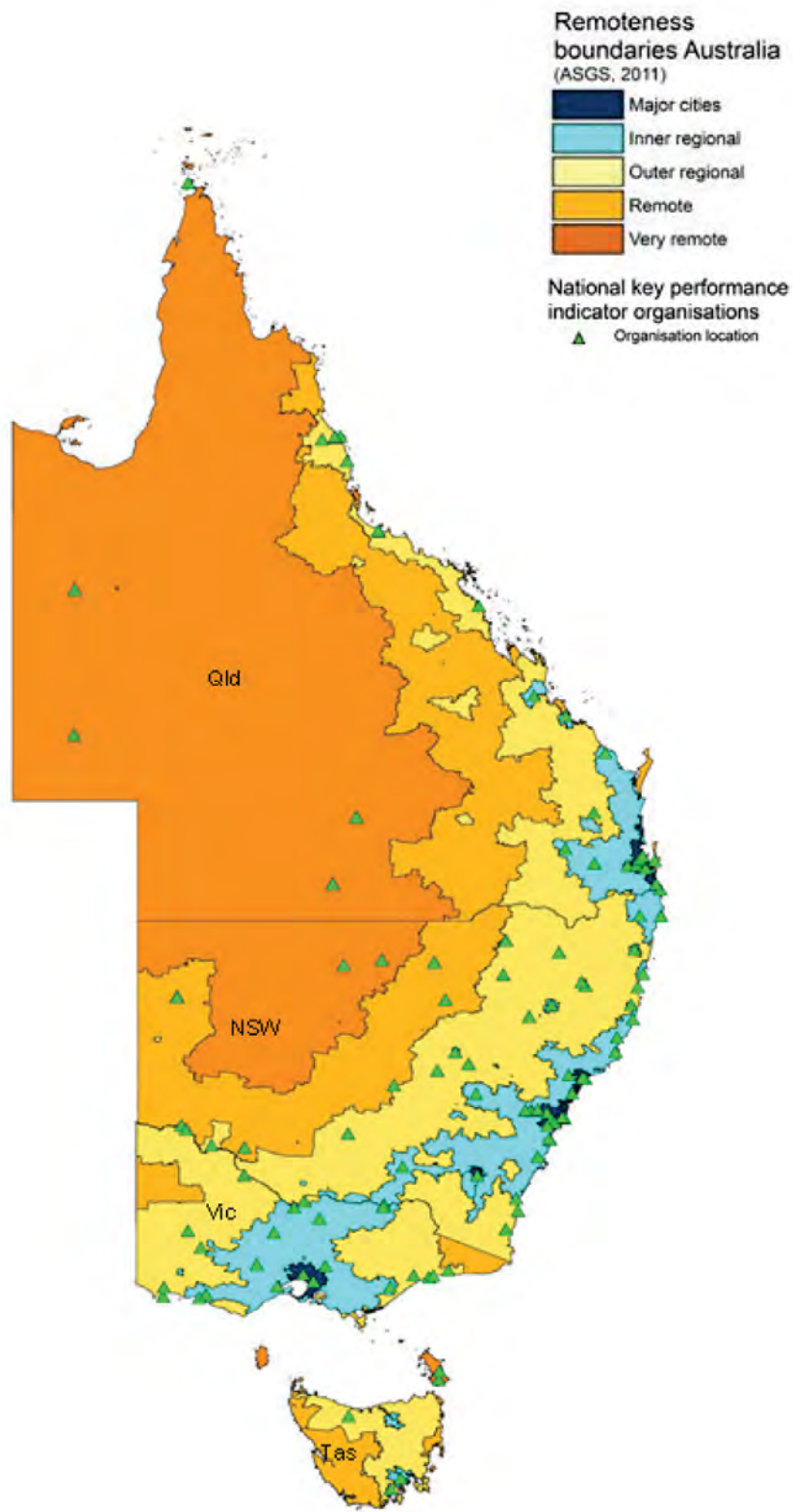


Figure 1.8b: Organisation location map, showing jurisdiction and remoteness—eastern states of Australia, December 2013



Previous findings

The first nKPI report, published in May 2014, presented data for the three periods from June 2012 to June 2013 (AIHW 2014). Over the 3 time periods covered by that report (those ending in June 2012, December 2012 and June 2013), improvements were seen for most of the process-of-care indicators. National proportions for Indigenous Australians increased by 5–9 percentage points each for 5 indicators:

- proportion of babies with birthweight recorded
- Medicare Benefits Schedule health assessment for adults
- clients with type 2 diabetes who received a Team Care Arrangement
- recording of smoking status
- recording of alcohol use status.

The first report found that organisations with better performance are spread across geographic and service delivery environments. Also, size of organisation did not seem to have a significant effect on performance—small organisations often performed well, as did larger organisations. Analysis also showed that well-established CQI programs made a positive difference, supporting the view that the nKPI system itself makes a difference through its contribution to local CQI efforts.

Structure of this report

Following this introductory chapter, the remaining chapters of this report are organised as follows:

- **Chapter 2** presents data for each indicator at the national and jurisdictional level, and by remoteness. The data, as presented, show areas where performance is strongest and areas that need further improvements. Data quality and interpretation issues are also discussed.
- **Chapter 3** presents individual organisational performance for each of the process-of-care indicators. The chapter shows the extent to which organisations are able to report on each of these indicators. Variation of results within and between indicators, and data issues are also discussed.
- **Chapter 4**, written by the Department of Health, sets out the Department's view of the main findings in forming an overall conclusion.

This report also has the following appendixes.

- **Appendix 1** lists 24 nKPIs, most of which are included in this report and some of which will be included in future reports.
- **Appendix 2** includes a summary of performance across nKPIs and compares the results where possible with, firstly, national data for Aboriginal and Torres Strait Islander people, and secondly, national data for all Australians.
- **Appendix 3** presents a detailed discussion of data quality issues that should be considered when interpreting the data.
- **Appendix 4** provides an explanatory guide to the figures (graphs, diagrams, charts) presented in Chapter 2.

Chapter 2

Organisation performance against individual indicators

This chapter focuses on organisational performance against individual process-of-care indicators, as well as health outcomes for clients against a number of outcome indicators (see Box 1 for more information on process-of-care and outcome indicators). Information is presented at the national level, jurisdictional level and by remoteness region. Further disaggregation, such as remoteness by jurisdiction, is not undertaken in this report to avoid potential identification of individual organisations.

Interquartile ranges as well as median values for organisations are presented, to show variations across organisations.

Indicators in this chapter are organised into the following indicator groups and indicator measures (there are 24 indicator measures for 19 indicators—see explanation after the list below):

- **Child and maternal health** (*First antenatal visit, Birthweight recorded by the organisation, Birthweight result*).
- **Health assessments and early detection** (*MBS health assessment (item 715) for children aged 0–4, MBS health assessment (item 715) for adults aged 25 years and over, Cervical screening*).
- **Immunisation** (*Immunised against influenza—clients aged 50 and over, Immunised against influenza—clients with type 2 diabetes, Immunised against influenza—clients with chronic obstructive pulmonary disease; and Child immunisation, the latter of which is discussed at the end of the chapter due to likely data quality issues*).
- **Chronic disease** (*General Practitioner Management Plans for clients with type 2 diabetes, Team Care Arrangements for clients with type 2 diabetes, HbA1c result recorded for clients with type 2 diabetes, HbA1c result for clients with type 2 diabetes, Kidney function test for clients with type 2 diabetes, Kidney function test for clients with cardiovascular disease, Blood pressure recorded for clients with type 2 diabetes, Blood pressure result for clients with type 2 diabetes*).
- **Risk factors** (*Smoking status recorded, Smoking status result, Alcohol consumption status recorded, Overweight and obese*).

Four of the 19 indicators in this report look at 2 or more distinct population groups. These indicators are:

- Medical Benefits Schedule (MBS) health assessment—for children aged 0–4 and for adults aged 25 and over, respectively.
- Immunised against influenza—regular clients aged 50 and over, regular clients with type 2 diabetes, and regular clients with chronic obstructive pulmonary disease (COPD), respectively.
- Kidney function test—regular clients with either type 2 diabetes or cardiovascular disease (CVD).
- Child immunisation—regular clients who were fully immunised at ages 1, 2 and 5, respectively.

In order to distinguish between the high-level indicator and its associated population groups, this report refers to them as *indicator measures*. There are 24 measures for the 19 indicators presented in this report. The *Child immunisation* indicator examines 3 age groups; however, due to data quality issues, this indicator and its indicator measures have been excluded from most analyses in this report. Due to exclusion of the child immunisation data, only 21 indicator measures are discussed at most places in this report. Of these, 16 are process-of-care measures and 5 are outcome measures.

Box 1: Process-of-care and outcome indicators

The nKPIs can be classified as either 'process-of-care' indicators or outcome indicators. Process-of-care indicators measure whether services known to be desirable have been provided. For example, they measure whether clients have received tests or had their risk factor status recorded. Examples include the proportion of clients with type 2 diabetes who had a blood pressure test, or the proportion of clients who had their smoking status recorded.

Process-of-care measures vary in terms of the complexity of the process of care that they measure. Some require action by a single health worker; others require action from multiple workers or even multiple organisations.

Outcome indicators measure health outcomes for clients, for example, the proportion of clients who had a blood pressure less than or equal to 130/80mmHg or the proportion of clients who were current smokers, ex-smokers or non-smokers.

An indicator of any type is usually designed to measure something beyond itself. For instance, recording of blood pressure and HbA1c results for clients with type 2 diabetes provides a good, though imperfect, measure of overall diabetes care for these clients. The nKPIs are also important in and of themselves as measuring activities that impact on health outcomes, and health outcomes.

Additional information to assist with the analyses presented can be found in Appendixes 1–4.

This chapter discusses the top and bottom 25% of organisations. This description refers to the quartiles of performance against each indicator. The first quartile (bottom quartile or below the 25th percentile) shows the 25% of organisations that had the lowest values for the indicator; the top quartile (above the 75th percentile) separates the 25% of organisations that had the highest values from the rest for an indicator. Circumstances unique to a particular organisation may contribute to how well it performs relative to other organisations.

General data issues

There are a number of data issues relevant to most nKPIs that should be considered when interpreting the results (for more details, see Appendix 3):

- The number of organisations that provided valid data is different for different measures as outlined in Table A3.1.
- The number of organisations reporting nKPI data has increased from 90 in June 2012 to 207 in December 2013 as more organisations provide data. This can impact on the measures, for example, the proportion of babies whose birthweight was recorded decreased in South Australia in December 2012 compared with June 2012. This decrease was primarily because a number of new organisations were included in reporting, which, on average, had a lower proportion of babies whose birthweight was recorded.
- There were an additional 29 Northern Territory Government primary healthcare organisations that reported for the first time in June 2013, significantly increasing the number of Northern Territory organisations that reported. These organisations receive relevant Australian Government funding, however were previously not required to report. As a result, changes in the Northern Territory average, and to a lesser extent changes in the *Very remote* and national averages, should be interpreted with caution.
- There may be double counting of the same client at multiple organisations, especially at those in *Very remote* areas. However, the extent of this nationally is unknown and difficult to quantify.
- Organisations used various Patient Information Recall Systems (PIRS). These may facilitate recording of information related to some indicators more than others. Additionally, some of these systems were less compatible with other components of the electronic data transfer system used by organisations to report data.

In addition to these considerations, many of the indicators discussed in this chapter should be interpreted in light of additional information that applies to some measures only, noted in Box 2.

Box 2: Issues to consider when interpreting indicator data

The nKPIs, like performance indicator systems generally, are useful but imperfect measures of system characteristics that are agreed to be important. In order to maximise the usefulness of nKPIs, data users need to understand where and how the nKPI data might depart from the reality that the indicators are attempting to measure. These notes are designed to help nKPI data users appreciate and work constructively with the data that appear in this report.

Babies' records—The two indicators related to birthweight include any baby with a record at the health organisation. The baby is considered a client and counted in the nKPIs even if they attended only once and their parents are not regular clients of the organisation. This may lead to babies who visited the organisation purely for acute care, and whose carers may not have been able to confirm birthweight, being included. Conversely, babies without a medical record, whose information is only recorded in their mother's record, are not counted.

Multiple births should not be included in birthweight results, as babies born as part of multiple births are more likely to have a lower birthweight. However, anecdotal evidence suggests that exclusion of multiple births may not always have occurred.

Differential body mass index (BMI) testing may occur in some organisations where BMI may be more likely to be measured in clients who look underweight, overweight or obese. This would result in the proportion of overweight or obese clients being higher than it actually is.

Influenza vaccination does not include clients who are offered a vaccination but refuse. While some clients may be reluctant to have the vaccination, this does not change whether or not they are at increased risk from influenza. Organisations may not have records of immunisations that occurred at other places, such as workplaces, so these instances may have been excluded.

Opposite trends for recording and results—In two sets of related indicators, HbA1c tests and blood pressure tests, the proportion of clients who had information recorded was slightly lower in December 2013 than June 2012, while the proportion that had a positive result increased over time. This could be normal fluctuation, but if it is not, the most likely explanation for this is an increase in the number of regular clients with type 2 diabetes. Data from Healthy for Life show an upward trend in the number of clients identified as having type 2 diabetes (AIHW 2013). This could reflect increased incidence, more complete diagnosis, and better outreach to unhealthy people in the community. New clients and newly diagnosed clients may be less likely to have their HbA1c or blood pressure under control.

MBS items are not claimed by all organisations, either because they do not have a general practitioner (GP) present, they are not eligible to claim them or because they choose not to do so. Therefore, the indicators based on MBS items may not reflect all related health care activities carried out in an organisation. For instance, children may be receiving comprehensive health checks but these may be provided within a model of care that does not suit or allow for the check to be claimed as an MBS item. Almost half of the organisations that responded indicated that they provided a service similar to the MBS item that was not claimed.

Pathology results held at the organisation may not reflect all pathology tests that have occurred for its regular clients. Organisations without systems in place may not have recorded the information, or results may not have been picked up accurately.

GP availability may be limited in some areas, making it difficult for organisations to attract or retain GPs.

Access to allied health providers may be limited in some areas, in which case Team Care Arrangements (TCAs) may not be practical. This is often the case in remote regions.

Recording of alcohol consumption is not restricted to a particular test or format for this indicator. Organisations can use tests such as the AUDIT or AUDIT-C, or simply record whether or not the client consumes alcohol.

(continued)

Box 2 (continued): Issues to consider when interpreting indicator data

Non-Indigenous comparison data are available for some indicators. The comparisons can be with either non-Indigenous Australians or all Australians. See Appendix 2, Table A2.2.

Shared care arrangements between hospitals and primary health organisations, or between primary care organisations, or between primary health care organisations and other providers of similar care, are not consistently supported by automatic data sharing. This could lead to lower rates of data recording for some indicators. For instance, organisations may find it more difficult to obtain antenatal records if antenatal care occurred elsewhere. Similarly, it will be difficult for organisations to obtain information on their regular clients who may choose to receive cervical screening elsewhere.

Small organisation denominators—All relevant organisations were included in the analyses, without any differentiation for organisation size. This means that the set of organisation percentages used to compute quartiles (for example) are based on client sets that can range from very small to very large. Where an organisation has a small denominator, small changes in the numerator can have a large impact on the overall proportion for that organisation. This is true for all the indicator measures in this report. The proportion of organisations with a denominator of less than 20 clients exceeded 10% of all contributing organisations for 14 of the 21 measures. These measures have been flagged with a note. One measure, clients with COPD immunised against influenza, had 90% of organisations with a denominator of less than 20. This was substantially higher than for all other measures.

Smoking status categories are not yet fully agreed. For example, there is not yet universally accepted guidance on how long a person needs to have quit smoking to be considered an ex-smoker rather than a smoker. An increased number of types of ex-smokers might enhance data quality and lead to more frequent updating of clients' records.

Time-stamped records normally ensure that a record or activity is fairly recent. However, the 'smoking status recorded' and 'smoking status result' indicators are based on the most recent record for the client, regardless of how old that record is. Therefore, the indicator may not reflect current smoking status of the regular client population unless the data have been collected recently for all or most clients.



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A. First antenatal visit

Headline results

Nationally, 38% of Aboriginal and Torres Strait Islander regular clients had their first antenatal visit before 13 weeks of pregnancy as at December 2013 (Figure 2.A1).

Trend showed an increase of 3 percentage points, from 35% in June 2013 to 38% in December 2013. There were improvements in most remoteness categories and most jurisdictions, though the proportion decreased in Victoria/Tasmania (Figures 2.A1 and 2.A2).

Organisation performance (Figure 2.A3):

- Four organisations (2%) had 100% of clients attending their first antenatal visit before 13 weeks of pregnancy.
- Fifteen organisations (8%) had no pregnant women attending before 13 weeks of pregnancy.
- In the top 25% of organisations, at least 50% of women had their first antenatal visit before 13 weeks of pregnancy.
- In the bottom 25% of organisations, fewer than 17% of women had their first antenatal visit before 13 weeks of pregnancy.

Mother's age distribution indicated that women aged 20–34 were more likely than those in other age groups to attend antenatal care before 13 weeks of pregnancy. A high proportion of women aged less than 20 (33%) had their first antenatal visit later than 20 weeks of pregnancy (Figure 2.A4).

Organisation size did not greatly affect the proportion of women attending their first antenatal visit before 13 weeks of pregnancy. A few small organisations had 100% of women having their first antenatal visit before 13 weeks.

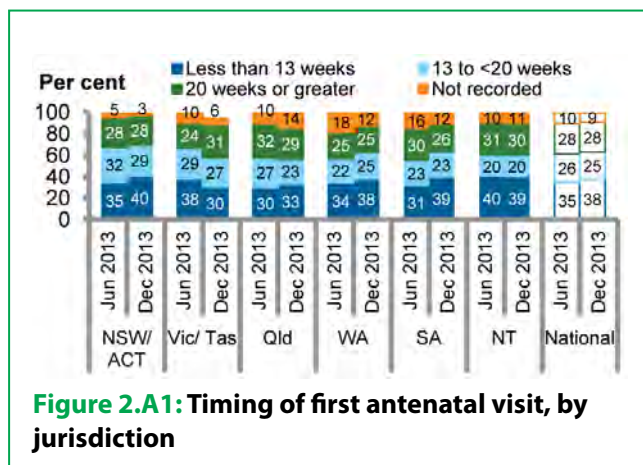


Figure 2.A1: Timing of first antenatal visit, by jurisdiction

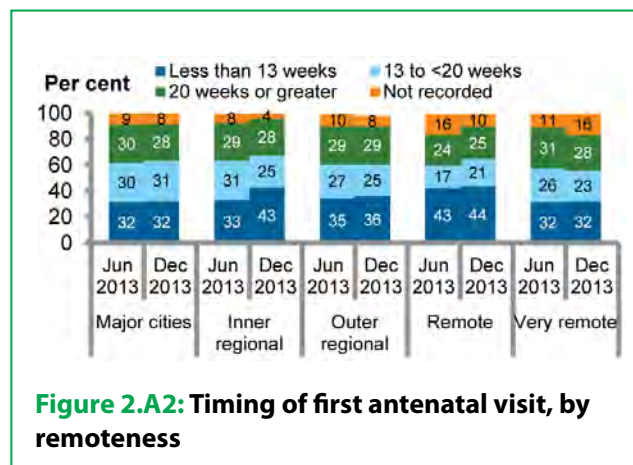


Figure 2.A2: Timing of first antenatal visit, by remoteness

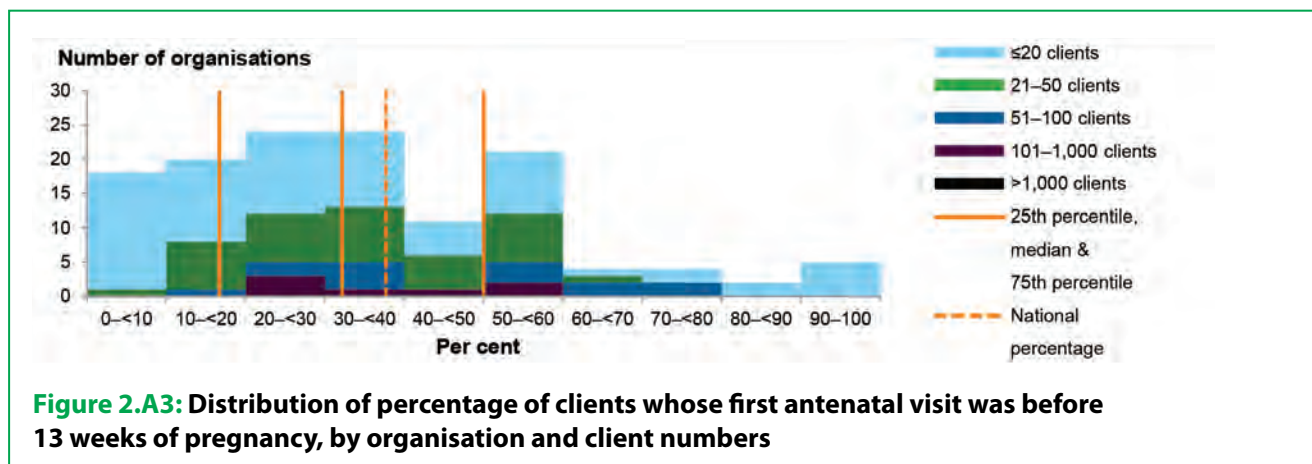


Figure 2.A3: Distribution of percentage of clients whose first antenatal visit was before 13 weeks of pregnancy, by organisation and client numbers

Why is this important?

- Antenatal care can improve health outcomes for both the mother and baby, including reducing the risk of premature and low birthweight babies. These risks and the factors that contribute to them can be reduced through effective antenatal care (de Costa et al. 2009; Moshin et al. 2003).
- Collecting data on the timing of first antenatal visits can inform knowledge of clinical practice and patient behaviour.

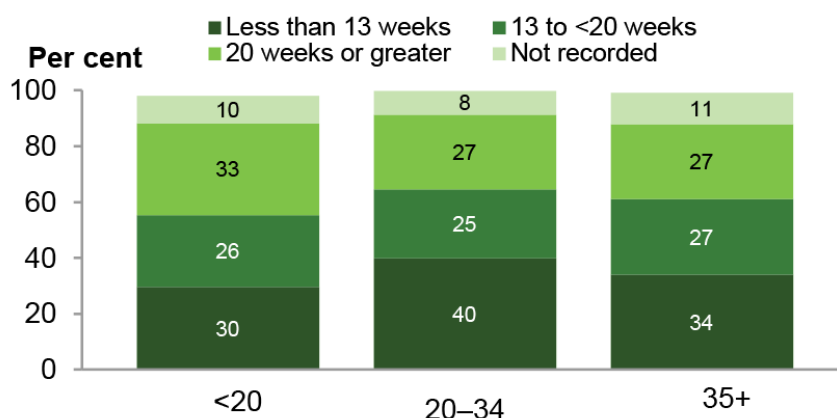


Figure 2.A4: Timing of first antenatal visit, by age of mother

Opportunities for action

- December 2013 was the second time data were collected on this indicator. There has been an improvement for this indicator nationally, and in most jurisdictions.
- The degree of organisational influence is likely to have been affected by women's health literacy and other reasons, including access to staff qualified to provide antenatal care.
- Completeness of recording of antenatal visits is important—nationally, first antenatal visit was not recorded for 9% of clients—a slight improvement on the previous period.
- All organisations could work towards achieving 47% of women having their first antenatal visit within 13 weeks of pregnancy, as this was achieved by 25% of organisations in the June 2013 period. Organisations have improved on this indicator, with one-quarter of all organisations currently achieving 50%.

Issues to consider when interpreting data

- Babies' records
- Shared care arrangements
- Small organisation denominators
- Non-Indigenous comparison data.

(See Box 2 for more information.)

B. Birthweight recorded by the organisation

Headline results

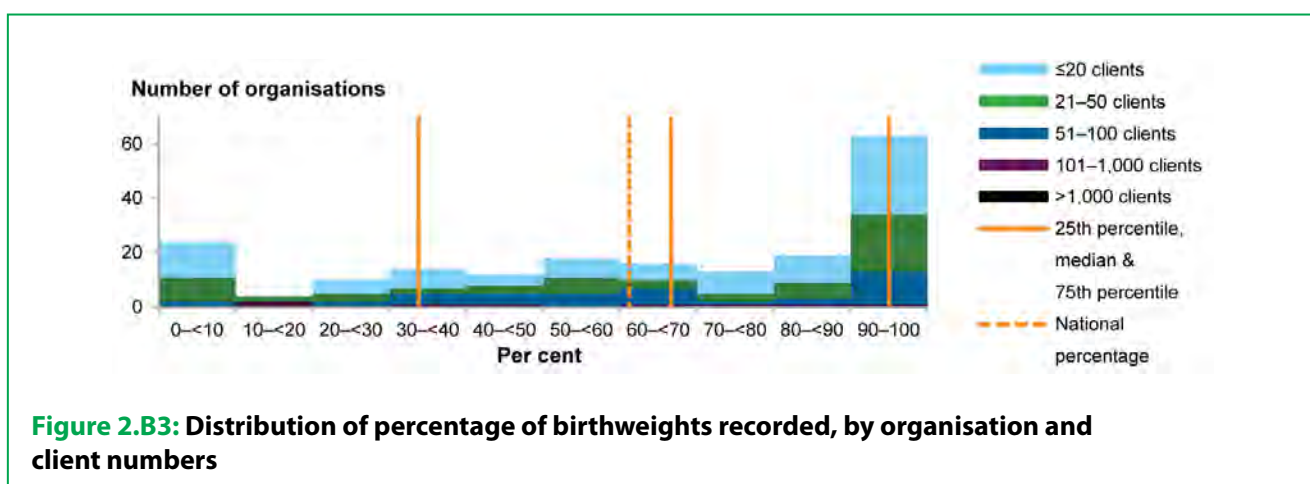
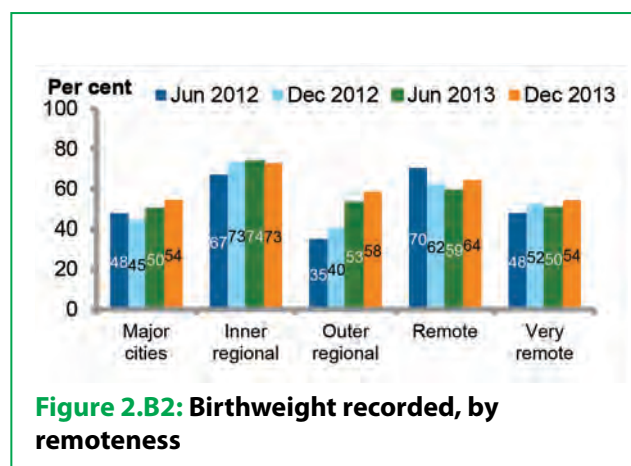
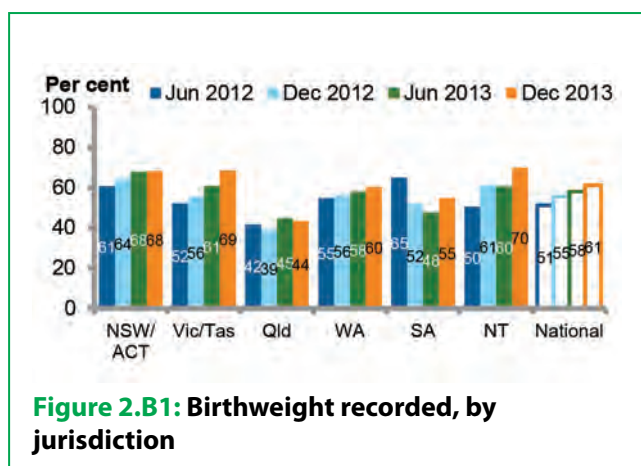
Nationally, 61% of Aboriginal and Torres Strait Islander babies born in the previous year had their birthweight recorded at the primary health care organisation as at December 2013 (Figure 2.B1).

Trend showed a fairly steady increase of 10 percentage points between June 2012 and December 2013, with an increase of 3 percentage points between June and December 2013 (Figure 2.B1). There were improvements in Victoria/Tasmania and the Northern Territory, as well as in *Outer regional* areas (Figures 2.B1 and 2.B2).

Organisation performance (Figure 2.B3):

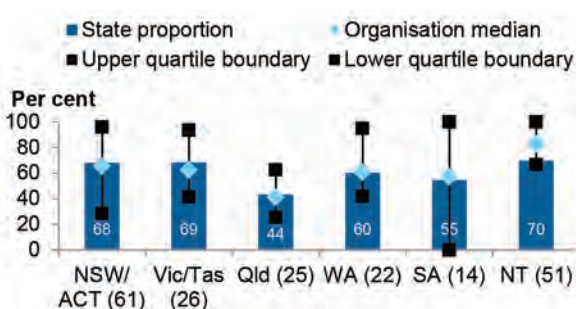
- Forty-three organisations (22%) achieved 100%.
- Fifteen organisations (8%) did not record birthweight for any babies.
- The top 25% of organisations recorded birthweight for 95% or more of their clients.
- The bottom 25% of organisations recorded birthweight for 34% or fewer of their clients.

Variation in recording between organisations was large, but a substantial number recorded birthweight of 90–100% of babies (Figure 2.B3). The largest variation in recording was seen in South Australia, while variation was broadly similar across remoteness categories (Figures 2.B4 and 2.B5).



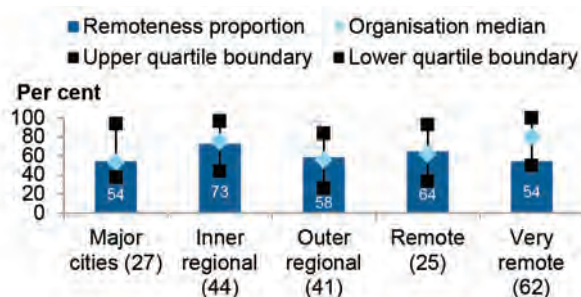
Why is this important?

- Low birthweight is associated with an increased risk of developing chronic disease later in life (AIHW 2011).
- Collecting data on birthweight facilitates early intervention and the provision of clinically appropriate care to reduce the risk of subsequent adverse health outcomes (McCormick et al. 1992).



Note: Organisation numbers are in brackets.

Figure 2.B4: Birthweight recorded, by jurisdiction, with median and quartile boundaries of organisations



Note: Organisation numbers are in brackets.

Figure 2.B5: Birthweight recorded, by remoteness, with median and quartile boundaries of organisations

Opportunities for action

- Improvements at the national level and in 4 jurisdictions over the 4 data collections from June 2012 demonstrate that many organisations have improved their performance against this indicator.
- The bottom 25% of organisations have the opportunity to improve against this indicator—they are recording birthweight for less than 34% of the babies who had a record at the organisation. This level of performance is unrelated to organisation size or location, and indicates an area of potential CQI activity.
- All organisations could work towards achieving 88% recording of birthweight, as this was achieved by 25% of organisations in June 2013. There has been a large improvement in meeting this benchmark with one-quarter of all organisations currently achieving 95%.
- Organisations with poor results may want to review whether their data are being captured within their Patient Information Recall Systems, but not in a way that is electronically extracted for nKPI reporting.

Issues to consider when interpreting data

- Babies' records
- Shared care arrangements
- Small organisation denominators.

(See Box 2 for more information.)

C. Birthweight result

Headline results

Nationally, 13% of Aboriginal and Torres Strait Islander babies born in the previous year had a low birthweight as at December 2013, and 85% had a normal birthweight (Figure 2.C1). The proportion of low birthweight babies by jurisdiction and remoteness was lowest in Queensland and *Major cities* respectively (Figures 2.C1 and 2.C2).

Trend data have only been collected for June and December 2013, hence there are insufficient data to determine any trends (Figures 2.C1 and 2.C2).

Organisation performance for those with birthweight recorded (Figure 2.C3):

- In the top quartile of organisations, that is, the 25% that had the best results, no proportion of babies were of low birthweight.
- In the bottom quartile of organisations, 20% of babies or more were of low birthweight.

Comparisons with other national data show that the proportion of low birthweight Aboriginal and Torres Strait Islander babies at organisations providing nKPI data was the same as the proportion recorded in the National Perinatal Data Collection (NPDC) (Figure 2.C4).

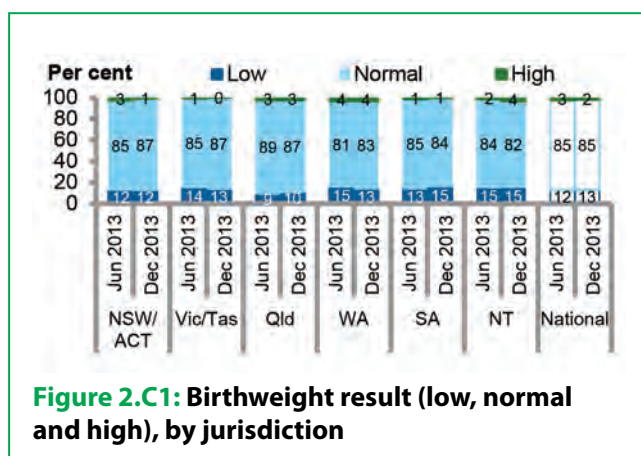


Figure 2.C1: Birthweight result (low, normal and high), by jurisdiction

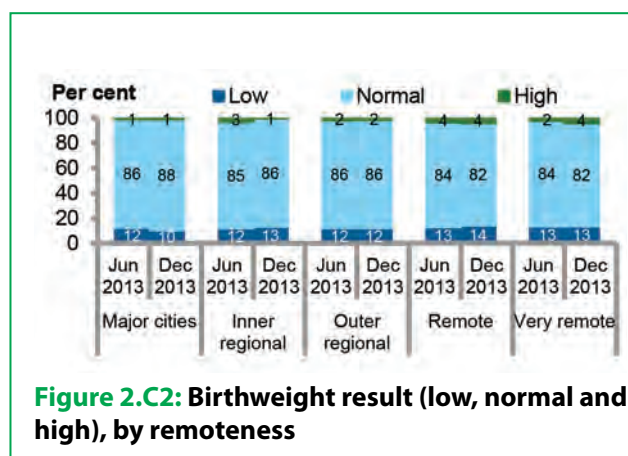


Figure 2.C2: Birthweight result (low, normal and high), by remoteness

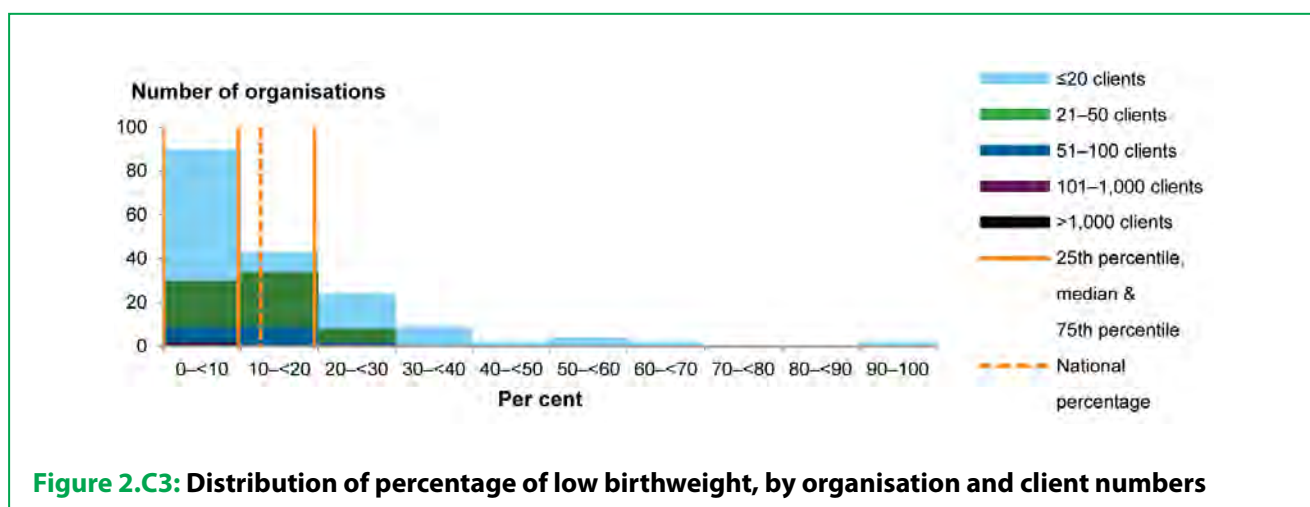


Figure 2.C3: Distribution of percentage of low birthweight, by organisation and client numbers

Why is this important?

- Both low and very high birthweight are associated with an increased risk of developing chronic disease later in life (AIHW 2011; Hadfield et al. 2009).
- Collecting data on birthweight facilitates early intervention and the provision of clinically appropriate care to reduce the risk of subsequent adverse health outcomes (McCormick et al. 1992).

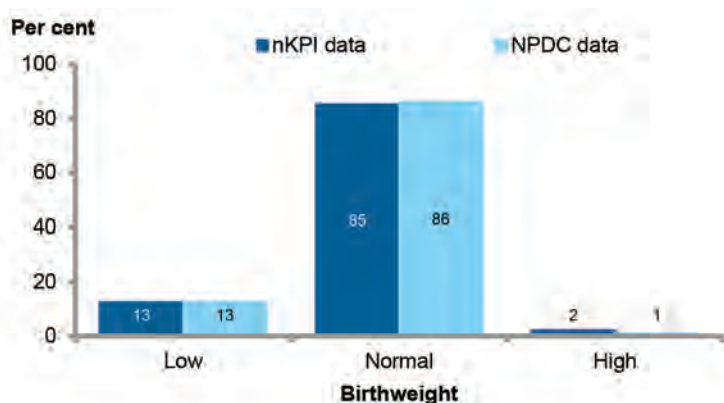


Figure 2.C4: Distribution of percentage of low birthweight, by organisation and client numbers

Opportunities for action

- December 2013 was the second time data were collected for this indicator.
- Low birthweight is influenced by a range of social determinants mostly outside the control of organisations. A high number or proportion of low birthweight babies does not indicate poor organisational performance, but it does point to an area of need.
- Organisations with a high percentage of low birthweight babies, or a worsening trend, could review whether their current maternal and child health care services are effectively targeting vulnerable mothers and babies for prevention and follow-up activities.

Issues to consider when interpreting data

- Babies' records
- Shared care arrangements
- Small organisation denominators
- Multiple births
- Non-Indigenous comparison data.

(See Box 2 for more information.)

D. MBS health assessment (item 715) for children aged 0–4

Headline results

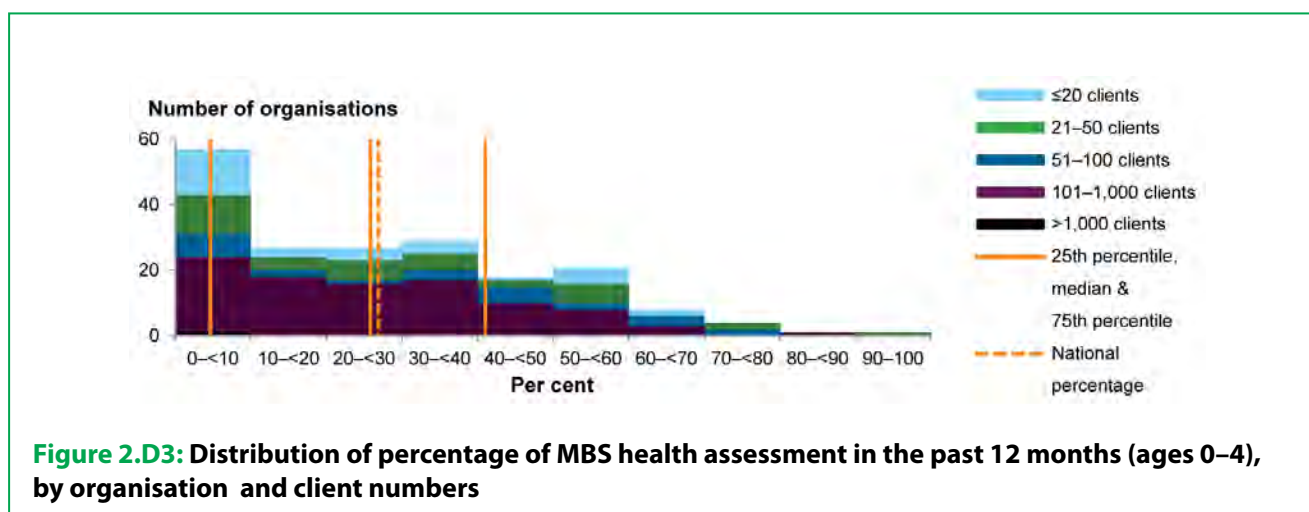
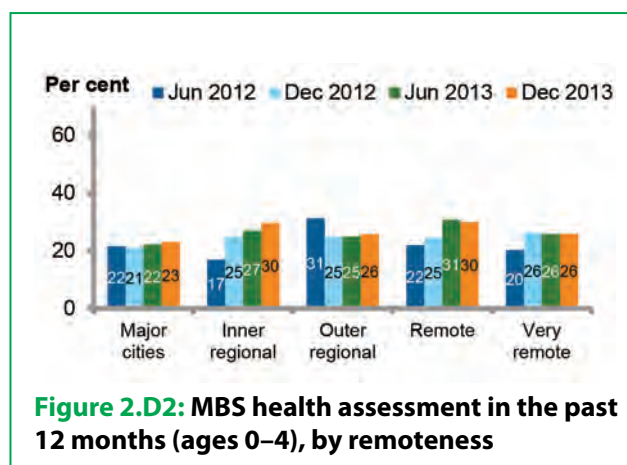
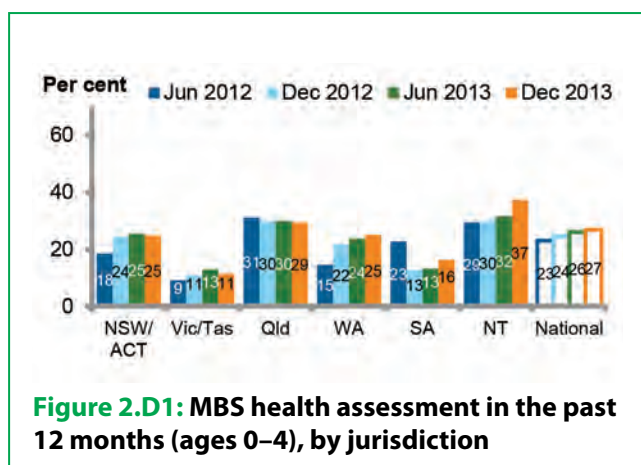
Nationally, 27% of Aboriginal and Torres Strait Islander regular clients aged 0–4 received an MBS health assessment in the previous 12 months to December 2013 (Figure 2.D1).

Trend showed an average increase of 4 percentage points between June 2012 and December 2013, with the highest increases among jurisdictions and remoteness being 10 percentage points in Western Australia and 13 percentage points in *Inner regional* areas respectively (Figures 2.D1 and 2.D2).

Organisation performance (Figure 2.D3):

- No organisations provided MBS health assessments to all of their clients aged 0–4.
- Thirty-three organisations (17%) did not provide any MBS health assessments.
- In the top 25% of organisations, at least 41% of children had an MBS health assessment.
- In the bottom 25% of organisations, 5% of children or less had an MBS health assessment.

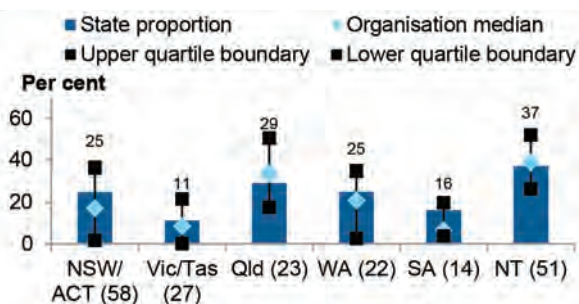
Variation was least in South Australia and *Remote* areas (Figures 2.D4 and 2.D5).



Why is this important?

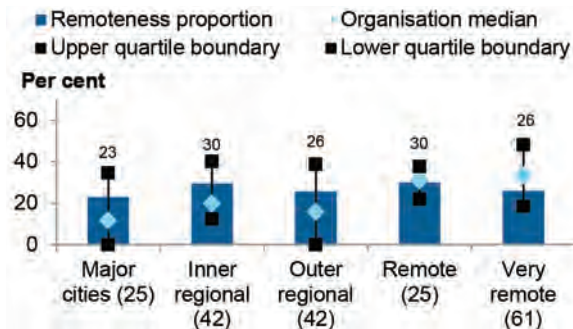
Recording whether health assessments have been done:

- can show how well the organisation is targeting early detection, diagnosis and intervention
- shows system responsiveness to incentives for health assessments, and the reach of the program.



Note: Organisation numbers are in brackets.

Figure 2.D4: MBS health assessment in the past 12 months (ages 0–4), by jurisdiction, with median and quartile boundaries of organisations



Note: Organisation numbers are in brackets.

Figure 2.D5: MBS health assessment in the past 12 months (ages 0–4), by remoteness, with median and quartile boundaries of organisations

Opportunities for action

- Improvements for this indicator are achievable, as shown by the improving results at the national level since June 2012.

Issues to consider when interpreting data

- MBS items
- Small organisation denominators.

(See Box 2 for more information.)

E. MBS health assessment (item 715) for adults aged 25+

Headline results

Nationally, 40% of Aboriginal and Torres Strait Islander regular clients aged 25 and over received a health assessment in the past 24 months as at December 2013 (Figure 2.E1).

Trend showed an increase of 9 percentage points between June 2012 and December 2013. Among jurisdictions, improvements were largest in Western Australia and Queensland. Among remoteness areas, improvements were greatest in *Very remote* and *Inner regional* areas (Figures 2.E1 and 2.E2).

Organisation performance (Figure 2.E3):

- No organisations provided MBS health assessments for 100% of adult clients.
- Eighteen organisations (9%) did not provide any MBS health assessments for their adult clients.
- In the top 25% of organisations, 57% of clients or more had an MBS health assessment.
- In the bottom 25% of organisations, 19% clients or less had an MBS health assessment.

Age and sex distribution shows a general increase in the proportion of clients who had an MBS health assessment with age, and little difference between males and females (Figure 2.E4). The latter suggests that organisations are achieving relative equity between the sexes in the delivery of adult health assessments.

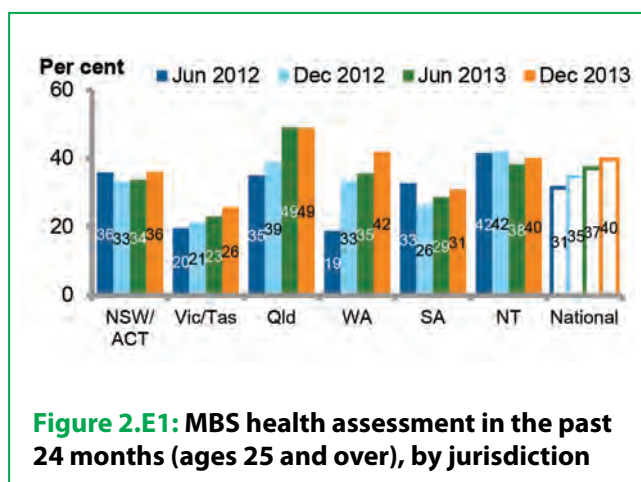


Figure 2.E1: MBS health assessment in the past 24 months (ages 25 and over), by jurisdiction

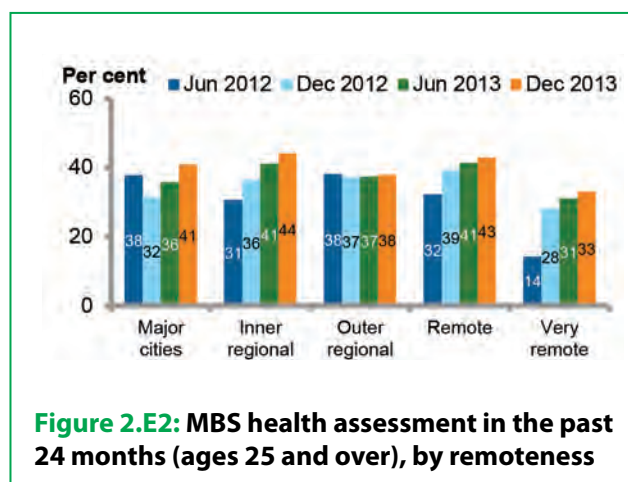


Figure 2.E2: MBS health assessment in the past 24 months (ages 25 and over), by remoteness

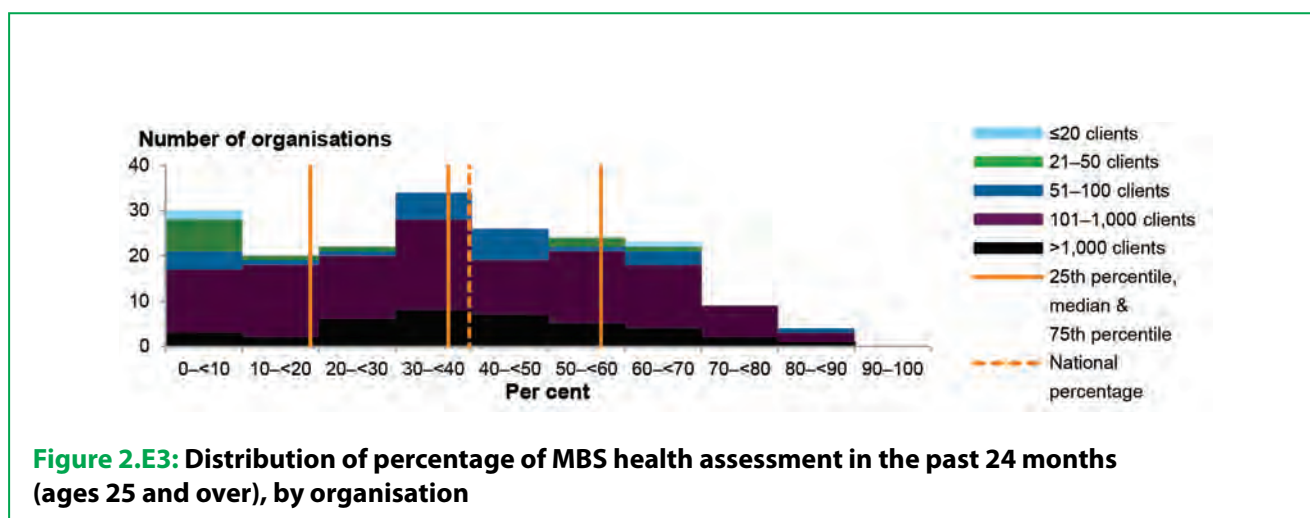


Figure 2.E3: Distribution of percentage of MBS health assessment in the past 24 months (ages 25 and over), by organisation

Why is this important?

Recording whether health assessments have been done:

- can show how well the organisation is targeting early detection, diagnosis and intervention in adult clients
- shows system responsiveness to incentives for health assessments, and the reach of the program.

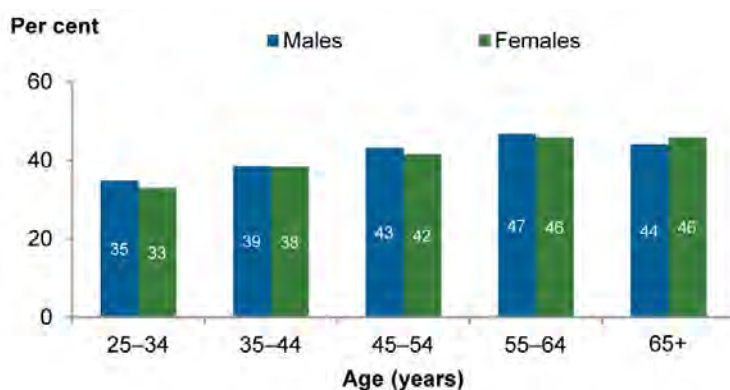


Figure 2.E4: MBS health assessment in the past 24 months (ages 25 and over), by age group and sex

Opportunities for action

- Further improvements for this indicator are achievable as shown by the improving results at the national level since June 2012.
- The bottom 25% of organisations that have health assessments in place for 19% or fewer of their clients have an opportunity to review current practices and priorities and the potential benefits from doing more. The data suggest that all organisations can work towards achieving a benchmark of over 50% of their regular clients with MBS health assessments as 25% of organisations were able to achieve in June 2013. Improvement on this has occurred since the last collection period with one quarter of organisations achieving 57% or higher.
- Development of a benchmark for this indicator is desirable and it may not necessarily be 100% of the population. Factors to consider include the prevalence of the main conditions identified through the assessment, the performance of the screening tools used and the availability of follow-up services.

Issues to consider when interpreting data

- MBS items.

(See Box 2 for more information.)

F. Cervical screening

Headline results

Nationally, 32% of female Aboriginal and Torres Strait Islander regular clients had a cervical screening in the previous 2 years as at December 2013 (Figure 2.F1). About 40% had a screening in the previous 3 years, and 46% had a screening in the previous 5 years.

Trend data have only been collected for June and December 2013, hence there are insufficient data to determine trends (Figures 2.F1 and 2.F2).

Organisation performance (Figure 2.F3):

- At no organisations were all women screened for cervical cancer.
- Six organisations (3%) had no women who had been screened.
- In the top 25% of organisations, at least 48% of clients had a cervical screening in the previous 2 years.
- In the bottom 25% of organisations, 20% of clients or less had a cervical screening in the previous 2 years.

Variation between organisations, by jurisdiction and remoteness area respectively, was greatest in Western Australia and in *Remote* areas (Figures 2.F4 and 2.F5).

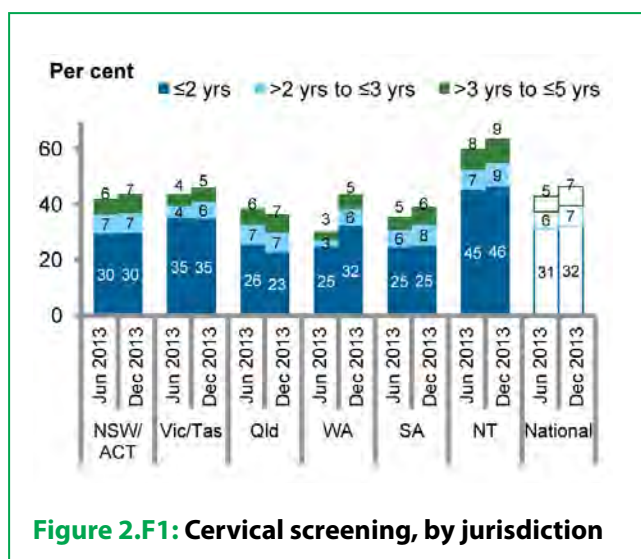


Figure 2.F1: Cervical screening, by jurisdiction

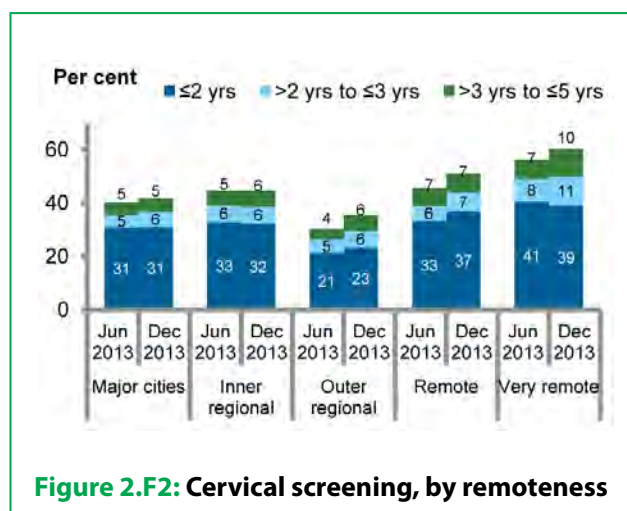


Figure 2.F2: Cervical screening, by remoteness

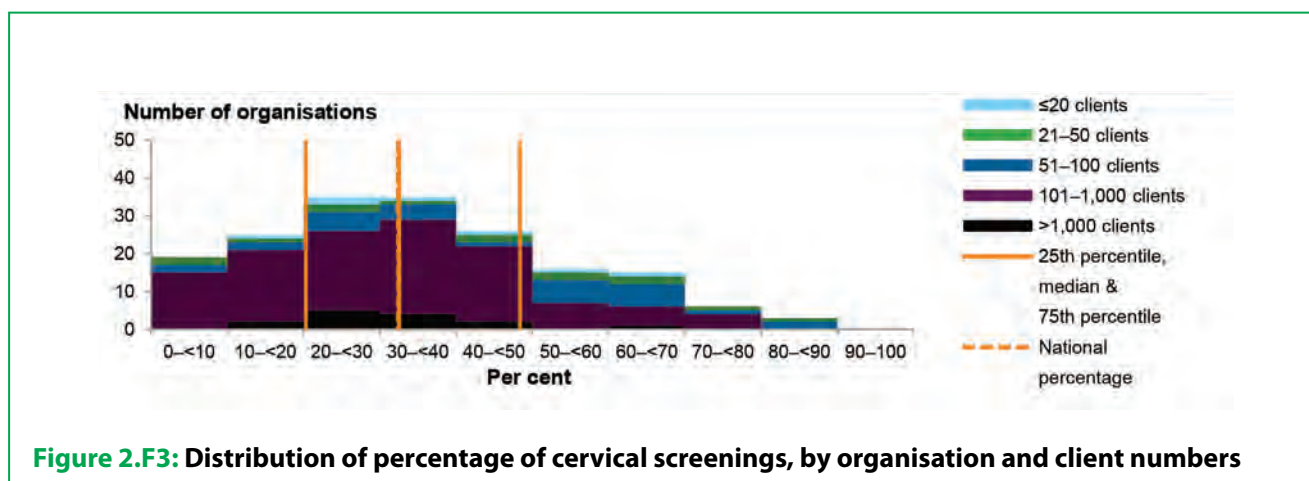
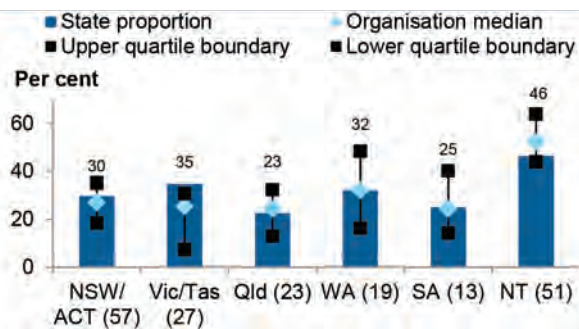


Figure 2.F3: Distribution of percentage of cervical screenings, by organisation and client numbers

Why is this important?

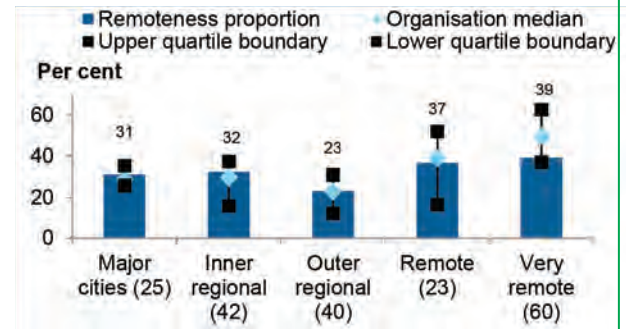
Cervical cancer is a major cause of the burden of disease for Aboriginal and Torres Strait Islander women. Cervical cancer screening:

- is recommended every 2 years for most women aged 18 and over—including women who have been vaccinated against human papillomavirus (DoH 2014)
- reduces the incidence of squamous cell cancers in Australia (Luke et al. 2007; Wain 2007).



Note: Organisation numbers are in brackets.

Figure 2.F4: Cervical screening in the previous 2 years, by jurisdiction, with median and quartile boundaries of organisations



Note: Organisation numbers are in brackets.

Figure 2.F5: Cervical screening, in the previous 2 years, by remoteness, with median and quartile boundaries of organisations

Opportunities for action

- December 2013 was the second time data were collected for this indicator. Improvements have occurred nationally, and in all jurisdictions except Queensland.
- There appear to be opportunities for action for this indicator for the 25% of organisations that provided cervical screening for 20% or fewer of their clients. There may, however, be local factors that affect organisations' recording of screening status and performance of screening.
- During 2011–12, 57% of Australian women aged 20–69 were screened as part of the National Cervical Screening Program (AIHW 2014a).

Issues to consider when interpreting data

- Pathology results
- Shared care arrangements
- Non-Indigenous comparison data.

(See Box 2 for more information.)

G. Immunised against influenza—clients aged 50 and over

Headline results

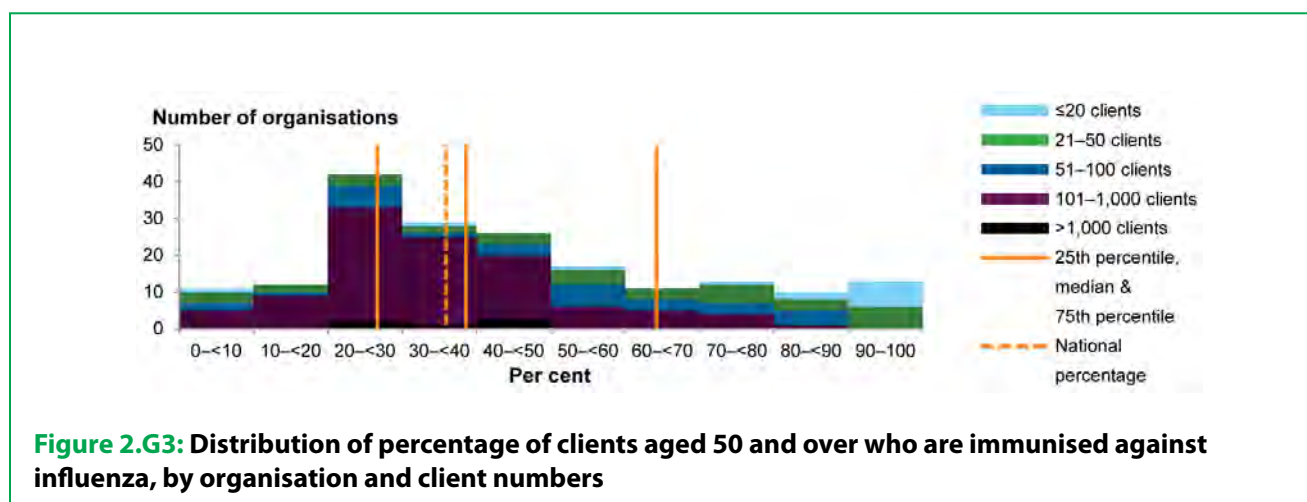
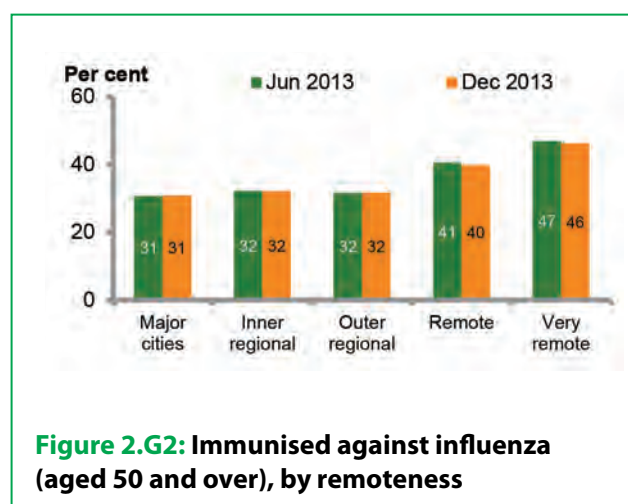
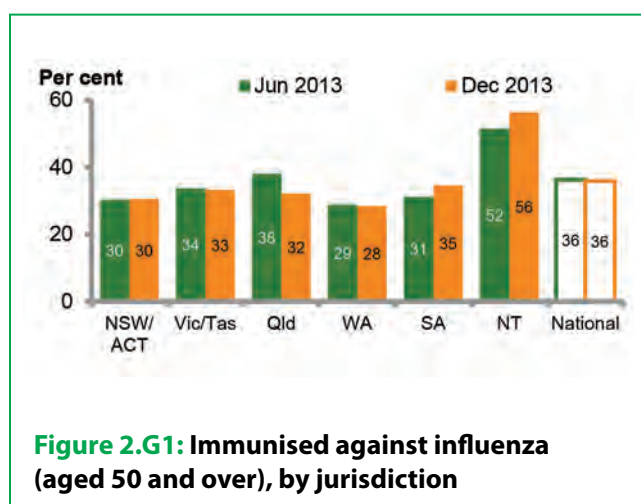
Nationally, 36% of Aboriginal and Torres Strait Islander regular clients aged 50 and over were immunised against influenza as at December 2013 (Figure 2.G1).

Trend showed no change in the proportion of clients aged 50 and over who were immunised against influenza. There was little change in any remoteness category. The proportion decreased by 6 percentage points in Queensland (Figures 2.G1 and 2.G2).

Organisation performance (Figure 2.G3):

- Three organisations (2%) had 100% of clients aged 50 and over immunised against influenza.
- Five organisations (3%) had no clients immunised against influenza.
- In the top 25% of organisations, over 64% of clients aged 50 and over were immunised against influenza.
- In the bottom 25% of organisations, fewer than 27% of clients were immunised against influenza.

Sex distribution indicated minimal variation, with less than 1 percentage point separating males from females (Figure 2.G4).



Why is this important?

- Aboriginal and Torres Strait Islander people are more at risk than non-Indigenous Australians of poor outcomes/complications from influenza.
- Influenza vaccination has been demonstrated to reduce deaths.
- Collecting influenza vaccination data indicates the reach of the free vaccination program within the Aboriginal and Torres Strait Islander community.

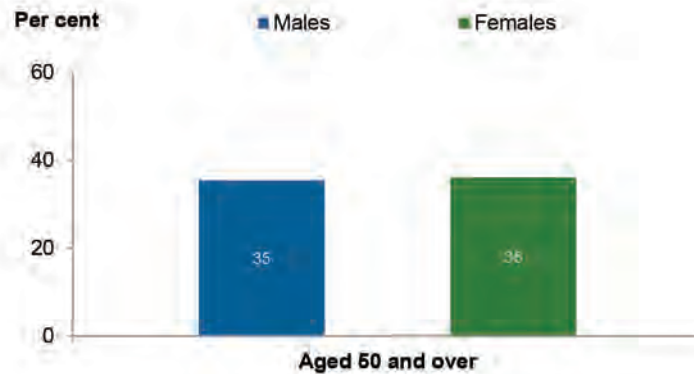


Figure 2.G4: Immunised against influenza (aged 50 and over), by sex

Opportunities for action

- December 2013 was the second time data were collected for this indicator.

Things to consider

- Influenza vaccination
- Non-Indigenous comparison data.

(See Box 2 for more information.)

H. Immunised against influenza—clients with type 2 diabetes

Headline results

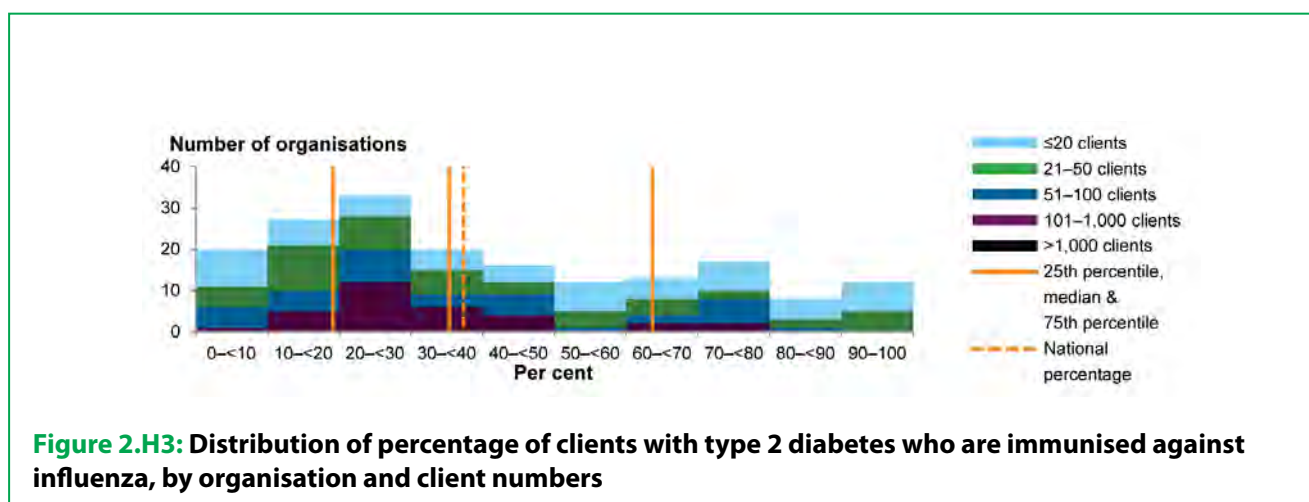
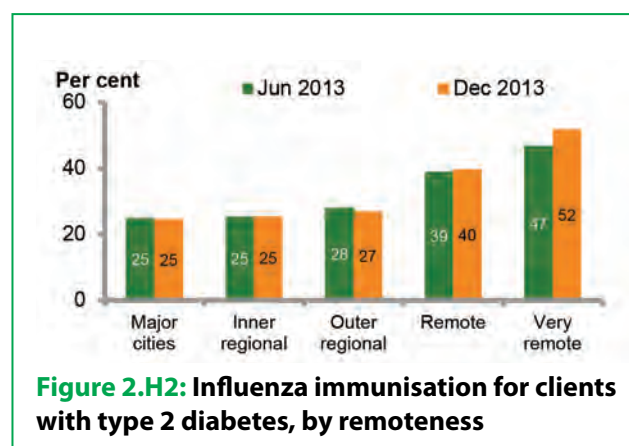
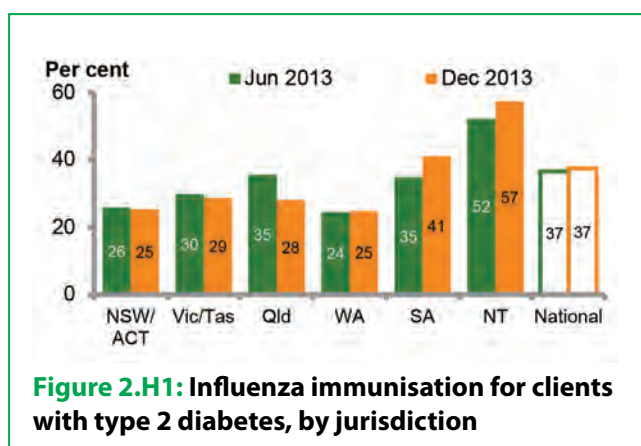
Nationally, 37% of Aboriginal and Torres Strait Islander regular clients aged 15–49 with type 2 diabetes were immunised against influenza (Figure 2.H1).

Trend showed little change (less than 1 percentage point) in the proportion of clients with type 2 diabetes who were recorded as immunised against influenza between June and December 2013. There is a pattern of increasing immunisation with increasing remoteness. The highest proportion of clients immunised was in the Northern Territory where there are signs of improvement (Figures 2.H1 and 2.H2).

Organisation performance (Figure 2.H3):

- Seven organisations (4%) had 100% of their clients with type 2 diabetes immunised against influenza.
- Fourteen organisations (7%) had no clients with type 2 diabetes immunised against influenza.
- In the top 25% of organisations, 64% or more of clients with type 2 diabetes were immunised against influenza.
- In the bottom 25% of organisations, 19% of clients with type 2 diabetes or less were immunised against influenza.

Age and sex distribution shows that older males were more likely to be vaccinated than younger males, whereas for females, vaccination rates were similar across all age groups. Females were more likely to be vaccinated than males (Figure 2.H4).



Why is this important?

- Providing influenza vaccinations to people with type 2 diabetes substantially reduces their risk of hospitalisation and death from influenza and pneumonia.
- Collecting information on vaccination rates can indicate the extent to which health systems at the national, state and territory, and local levels are reaching this higher risk group.

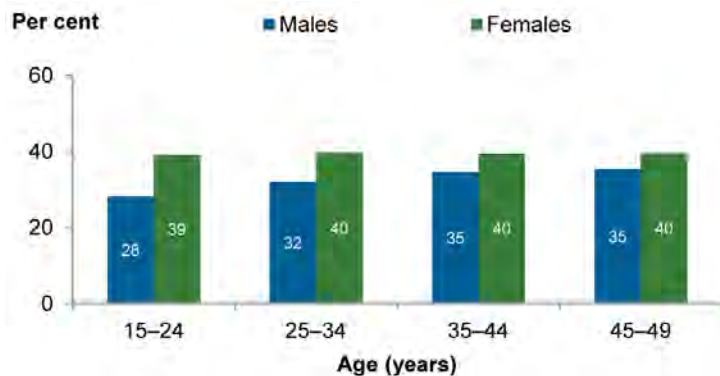


Figure 2.H4: Influenza immunisation for clients with type 2 diabetes, by age and sex

Opportunities for action

- December 2013 was the second time data were collected for this indicator. Organisations need to ensure their records of adult immunisation status are accurate. CQI efforts could focus initially on this.
- All organisations should take responsibility for monitoring the immunisation status of their clients, and for using their recall systems to assist with vaccinating as per guidelines in the National Immunisation Programme Schedule.
- An evidence-based benchmark is required for this indicator.

Issues to consider when interpreting data

- Small organisation denominators
- Influenza vaccination.

(See Box 2 for more information.)

I. Immunised against influenza—clients with chronic obstructive pulmonary disease

Headline results

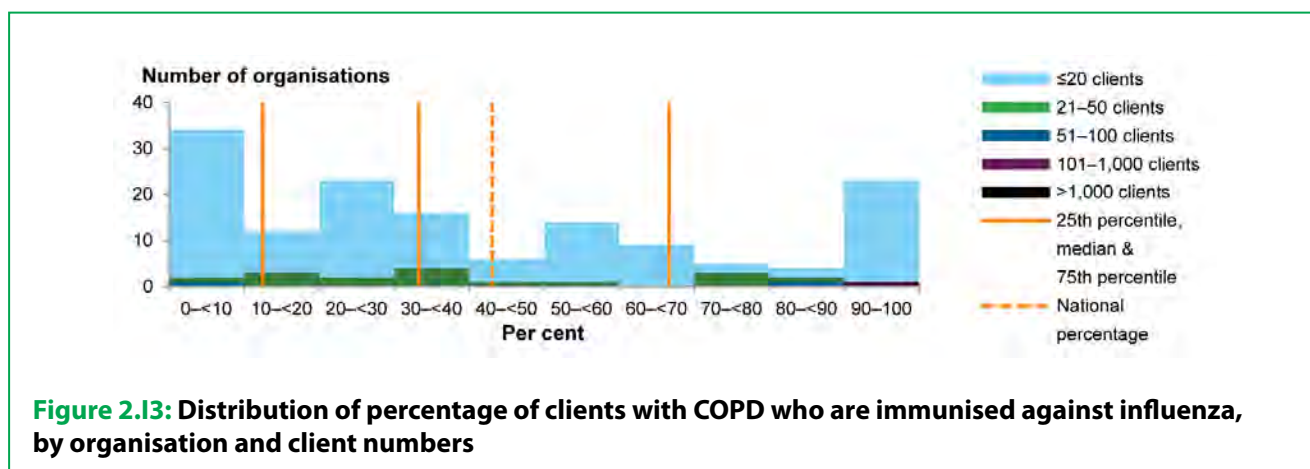
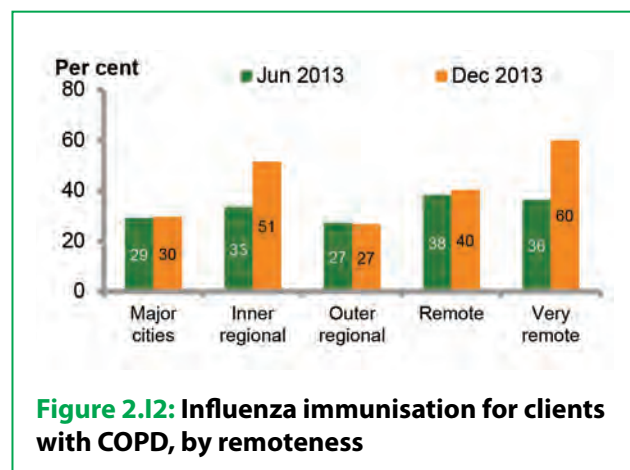
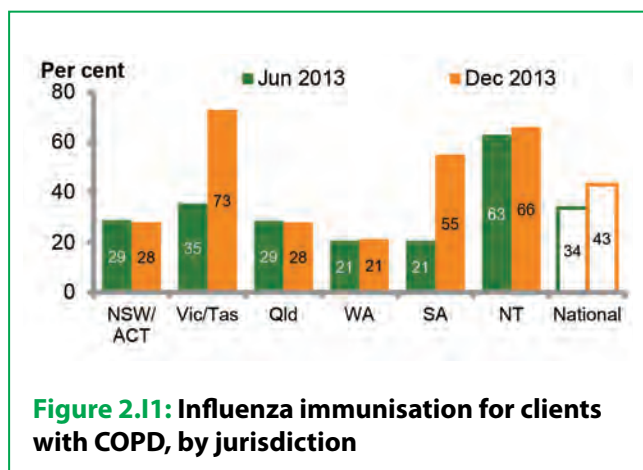
Nationally, 43% of Aboriginal and Torres Strait Islander regular clients aged 15–49 with COPD were immunised against influenza as at December 2013 (Figure 2.14).

Trend showed an increase of 9 percentage points between June and December 2013 (Figure 2.11). The increase was almost entirely due to Victoria/Tasmania and South Australia, where the proportions more than doubled. Among remoteness areas, the proportion increased most in *Inner regional* and *Very remote* areas (Figure 2.12).

Organisation performance (Figure 2.13):

- Twenty-two organisations (12%) had 100% of clients with COPD immunised against influenza.
- Twenty-nine organisations (15%) had no clients with COPD immunised against influenza.
- In the top 25% of organisations, at least 67% of clients with COPD were immunised against influenza.
- In the bottom 25% of organisations, fewer than 13% of clients were immunised against influenza.

Age and sex distribution differences were relatively minor, though males aged 15–24 were immunised less frequently than other groups (Figure 2.14).



Why is this important?

- Providing influenza vaccinations to people with COPD substantially reduces their risk of hospitalisation and death from influenza and pneumonia.
- Collecting information on vaccination rates can indicate the extent to which health systems at the national, state and territory, and local levels are reaching this higher risk group.

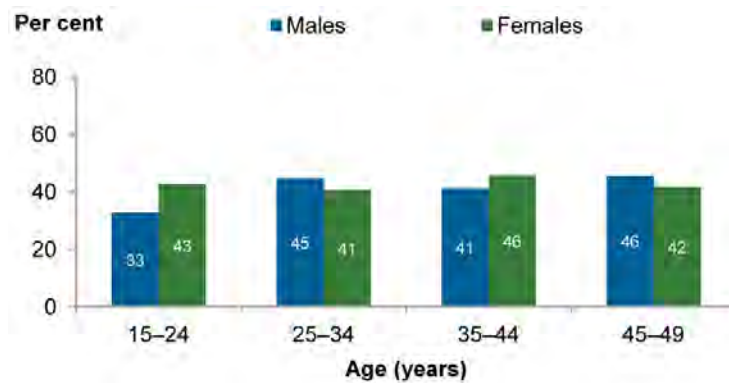


Figure 2.I4: Influenza immunisation for clients with COPD, by age and sex

Opportunities for action

- December 2013 was the second time data were collected for this indicator. Organisations need to ensure their records of adult immunisation status are accurate. CQI efforts could initially focus on this.
- All organisations should take responsibility for monitoring the immunisation status of their clients, and for using their recall systems to assist with vaccinating as per guidelines in the National Immunisation Programme Schedule.
- An evidence-based benchmark is required for this indicator.

Issues to consider when interpreting data

- Small organisation denominators
- Influenza vaccination.

(See Box 2 for more information.)

J. General Practitioner Management Plans—clients with type 2 diabetes

Headline results

Nationally, 47% of Aboriginal and Torres Strait Islander regular clients with type 2 diabetes had an MBS General Practitioner Management Plan (GPMP) (item 721) in the past 2 years as at December 2013 (Figure 2.J1).

Trend showed an increase of about 8 percentage points between June 2012 and December 2013, including an increase of 4 percentage points between June and December 2013. There was a 16 percentage point increase in the proportion of clients with GPMPs in Queensland between June 2012 and December 2013. Among remoteness areas, the proportion rose by 29 percentage points in *Very remote* areas over this period (Figures 2.J1 and 2.J2).

Organisation performance (Figure 2.J3):

- Four organisations (2%) provided GPMPs for 100% of their clients with type 2 diabetes.
- Seventeen organisations (9%) provided GPMPs for none of their clients with type 2 diabetes.
- In the top 25% of organisations, over 71% of clients with type 2 diabetes had a GPMP.
- In the bottom 25% of organisations, 31% of clients with type 2 diabetes or less had a GPMP.

Age and sex distribution showed that the proportion of clients who had a GPMP was generally higher in older age groups. There was little difference between proportions of males and females who had a GPMP (Figure 2.J4).

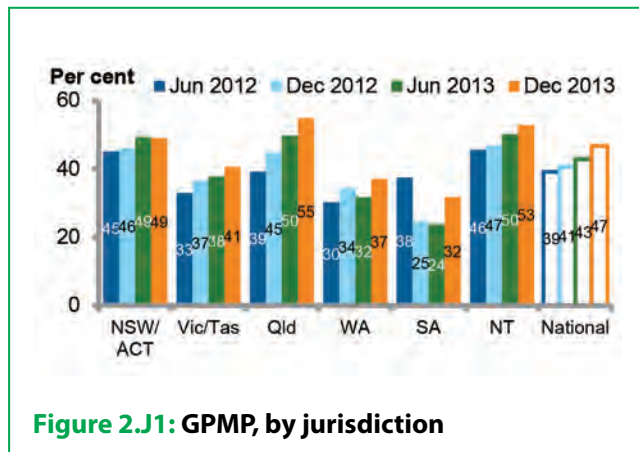


Figure 2.J1: GPMP, by jurisdiction

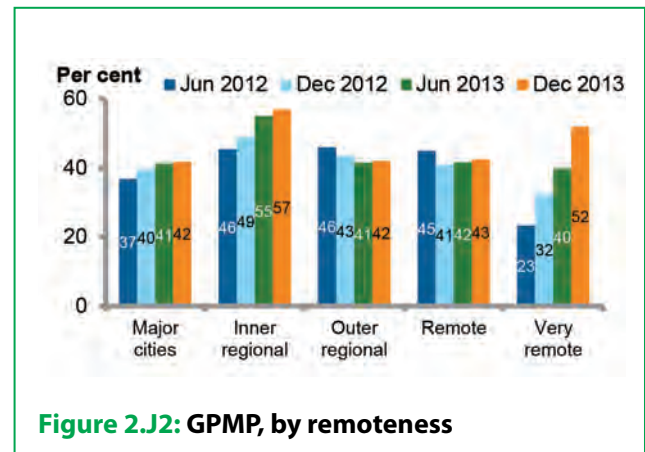


Figure 2.J2: GPMP, by remoteness

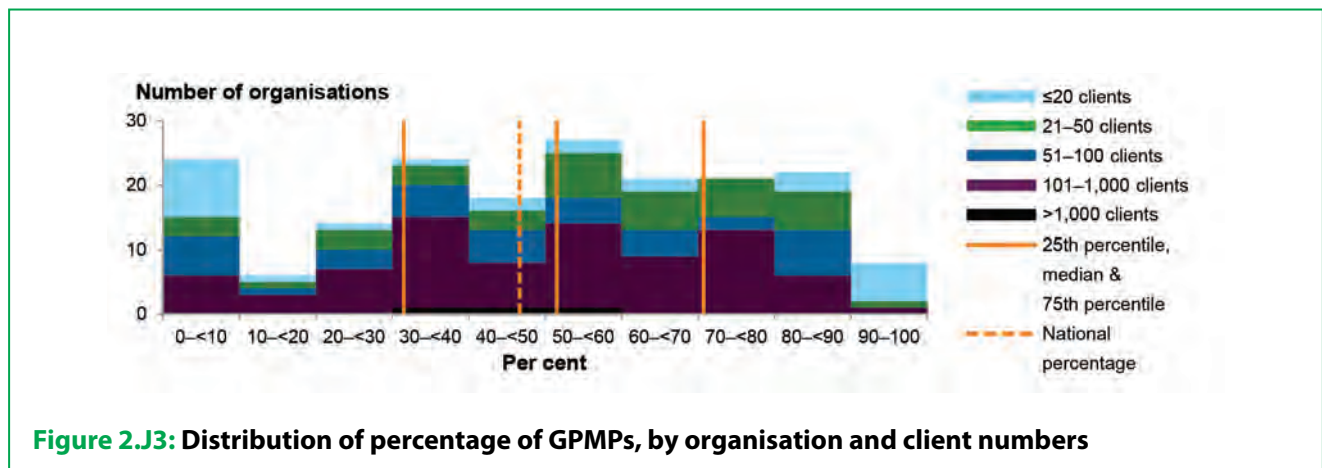


Figure 2.J3: Distribution of percentage of GPMPs, by organisation and client numbers

Why is this important?

Collecting data on GPMPs:

- encourages a structured approach to caring for patients with chronic and complex diseases (Cant 2010)
- indicates the system's responsiveness to incentives for GPMPs and its reach to patients with chronic diseases.

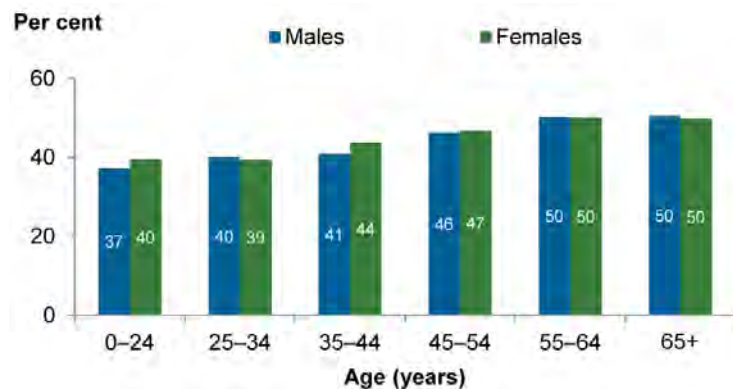


Figure 2.J4: GPMP, by age and sex

Opportunities for action

- Improvements against this indicator nationally and in all jurisdictions over the 4 collections show effective action by many organisations.
- There would appear to be many clients missing out on a GPMP—one-quarter of organisations have GPMPs in place for 31% or less of their clients with type 2 diabetes. An achievable goal appears to be to have around two-thirds (68%) or more of clients with type 2 diabetes on a GPMP, as 25% of organisations were able to achieve in June 2013. Currently, one-quarter of all organisations achieve 71% or higher.
- Some organisations may be undertaking care plans for their clients but are either not eligible to claim MBS items or are not completing them in a way that meets all the requirements for MBS billing. This may be caused by difficulties in establishing and sustaining the required business processes at the clinic, or lack of access to a GP or a preferred model of care. This indicator may need to have a variable benchmark depending on local circumstances. More information is required on the barriers faced by organisations.

Issues to consider when interpreting data

- MBS items
- Small organisation denominators.
- GP availability.

(See Box 2 for more information.)

K. Team Care Arrangements—clients with type 2 diabetes

Headline results

Nationally, 44% of Aboriginal and Torres Strait Islander regular clients with type 2 diabetes had an MBS Team Care Arrangement (TCA) (item 723) in the past 2 years as at December 2013 (Figure 2.K1).

Trend showed an increase of about 9 percentage points between June 2012 and December 2013, with a 5 percentage point increase between June and December 2013. The largest improvements among jurisdictions were seen in Queensland and the Northern Territory, and, among remoteness areas, in *Very remote* and *Inner regional* areas (Figures 2.K1 and 2.K2).

Organisation performance (Figure 2.K3):

- Two organisations (1%) provided TCAs for 100% of their clients with type 2 diabetes.
- Twenty-one organisations (11%) provided TCAs to none of their clients with type 2 diabetes.
- In the top 25% of organisations, 69% of clients or more had a TCA.
- In the bottom 25% of organisations, less than 25% of clients had a TCA.

Age and sex distribution showed that the proportion of clients who had a TCA was generally higher in older age groups. There was little difference between males and females in the proportion who had a TCA (Figure 2.K4).

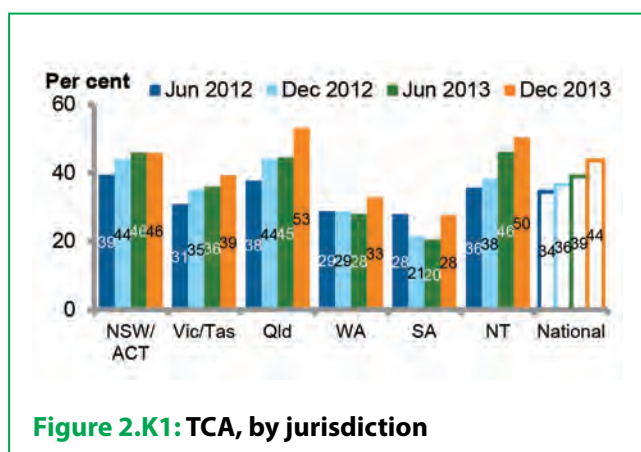


Figure 2.K1: TCA, by jurisdiction

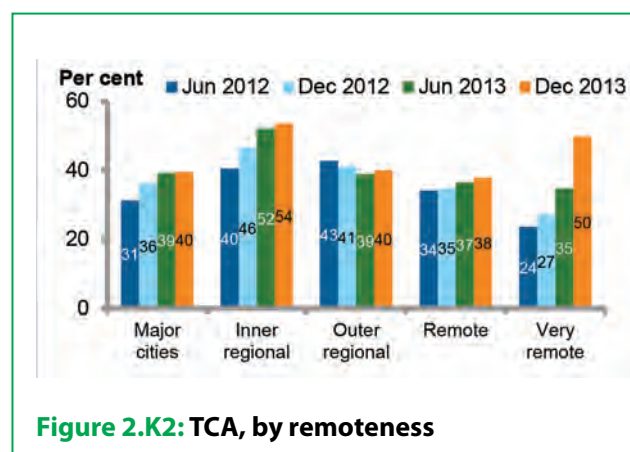


Figure 2.K2: TCA, by remoteness

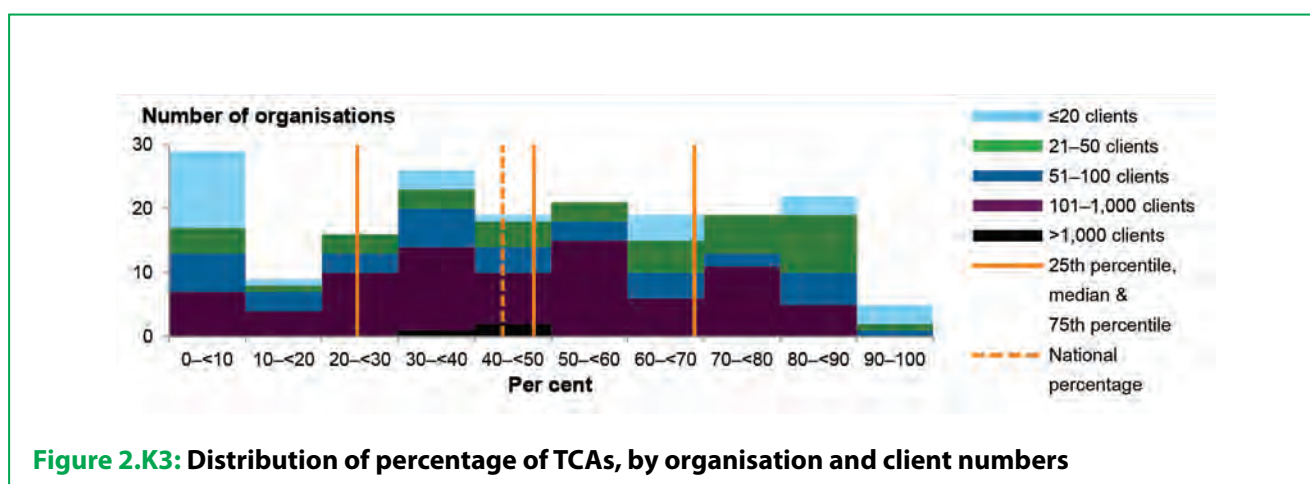


Figure 2.K3: Distribution of percentage of TCAs, by organisation and client numbers

Why is this important?

- TCAs facilitate increased patient adherence to diabetes guidelines and can lead to improved patient health outcomes (Zwar et. al. 2007, 2008).
- Collecting data on TCAs indicates the system's responsiveness to incentives for TCAs and its reach to patients with chronic disease.

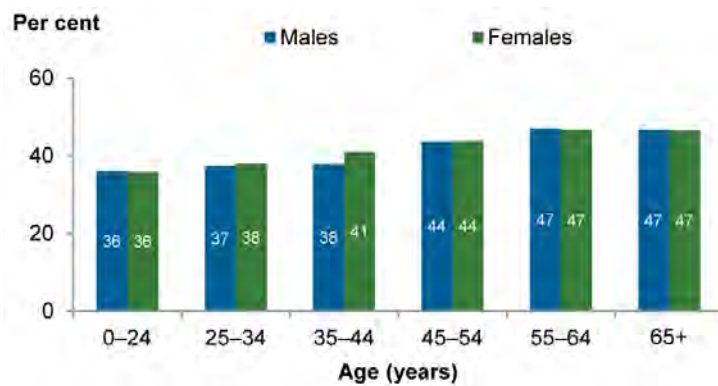


Figure 2.K4: TCA, by age and sex

Opportunities for action

- Improvement at the national level and across most jurisdictions over the 4 data collections from June 2012 indicates that there is room for improvement for many organisations against this indicator.
- The 25% of organisations that have TCAs in place for one-quarter or fewer of their clients have an opportunity to review current practices and priorities and the potential to do more.
- Some organisations may be undertaking TCAs for their clients with type 2 diabetes, but either might not be eligible to claim MBS items or are not completing them in a way that meets all the requirements for MBS billing. This may be due to their preferred models of care or to difficulties in establishing and sustaining the necessary business processes.
- A benchmark for this indicator is desirable, which may be influenced by the relative need for these arrangements across the population.

Issues to consider when interpreting data

- MBS items
- Access to allied health providers
- Small organisation denominators.

(See Box 2 for more information.)

L. HbA1c result recorded—clients with type 2 diabetes

Headline results

Nationally, 49% of Aboriginal and Torres Strait Islander regular clients with type 2 diabetes had their glycosylated haemoglobin (HbA1c) result recorded within the past 6 months as at December 2013; a further 16% had had a result recorded between 6 and 12 months prior; therefore a total of 65% had had a result recorded in the past 12 months (Figure 2.L1).

Trend showed a decrease of 1 percentage point between June 2012 and December 2013 in the recording of HbA1c in the past 6 months (Figures 2.L1).

Organisation performance in the past 6 months (Figure 2.L3):

- Six organisations (3%) recorded a 100% result.
- Six organisations (3%) did not record an HbA1c result for any of their clients.
- The top 25% of organisations recorded an HbA1c result for 68% or more of their clients.
- The bottom 25% of organisations recorded an HbA1c result for less than 40% of their clients.

Age and sex distribution showed the proportion of clients who had an HbA1c result recorded in the last 6 months generally increased with increasing age, with little difference between males and females (Figure 2.L4).

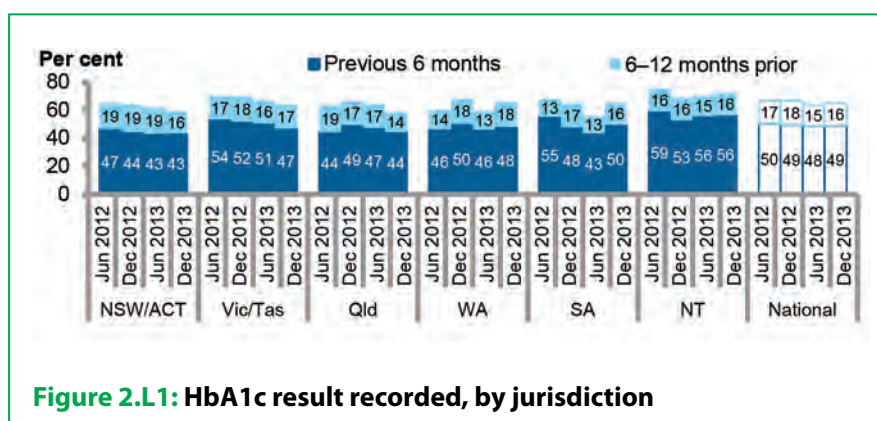


Figure 2.L1: HbA1c result recorded, by jurisdiction

Box 3: HbA1c tests in the last 6 and 12 months

This indicator measures the proportion of clients who had an HbA1c result recorded in the previous 6 months and the previous 12 months. Figures 2.L1, 2.L2 and 2.L4 also show the category 6–12 months prior. This is calculated by subtracting the proportion who had a result recorded in the last 6 months from the proportion who had a result recorded in the last 12 months.

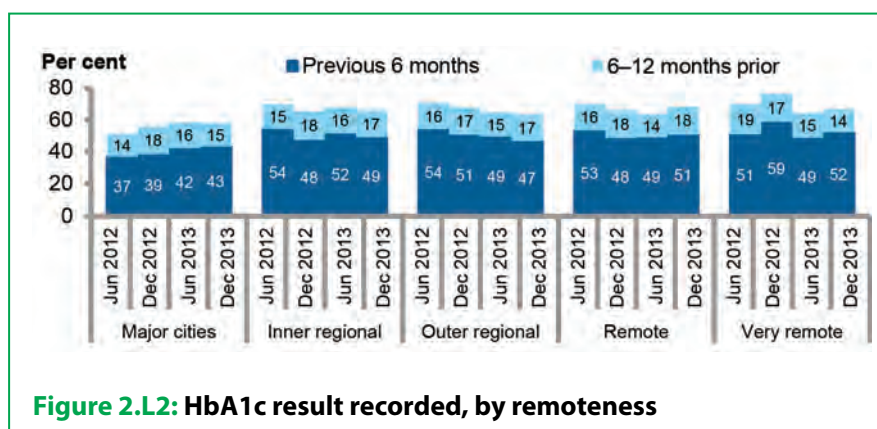


Figure 2.L2: HbA1c result recorded, by remoteness

Why is this important?

Recording the HbA1c level:

- reflects the average glycaemia over the last 2–3 months and is the best indication of long term diabetes control (Jones et al. 2011), which can help prevent complications (Harris et al. 2012)
- helps monitor adherence to best practice clinical guidelines which recommend HbA1c testing every 6 months, and can lead to improved health outcomes (Diabetes Australia & RACGP 2011).

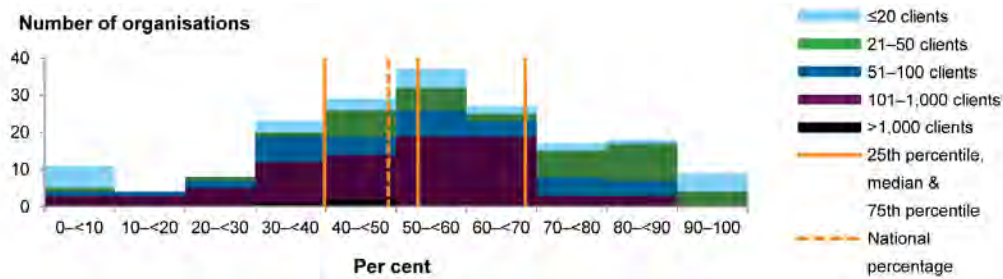


Figure 2.L3: Distribution of percentage of HbA1c recordings in the past 6 months, by organisation and client numbers



Figure 2.L4: HbA1c result recorded, by age and sex

Opportunities for action

- This indicator shows no clear trend at the national level or across most jurisdictions.
- A quarter of all organisations are recording HbA1c results for over 68% of their regular clients every 6 months. While this level of recording would appear to be achievable by organisations regardless of their size or location, there has been little change since the previous round.
- There would appear to be large scope for improvement for the 25% of organisations recording an HbA1c result for 40% or less of their clients.

Issues to consider when interpreting data

- Small organisation denominators
- Pathology results.

(See Box 2 for more information.)

M. HbA1c result—clients with type 2 diabetes

Headline results

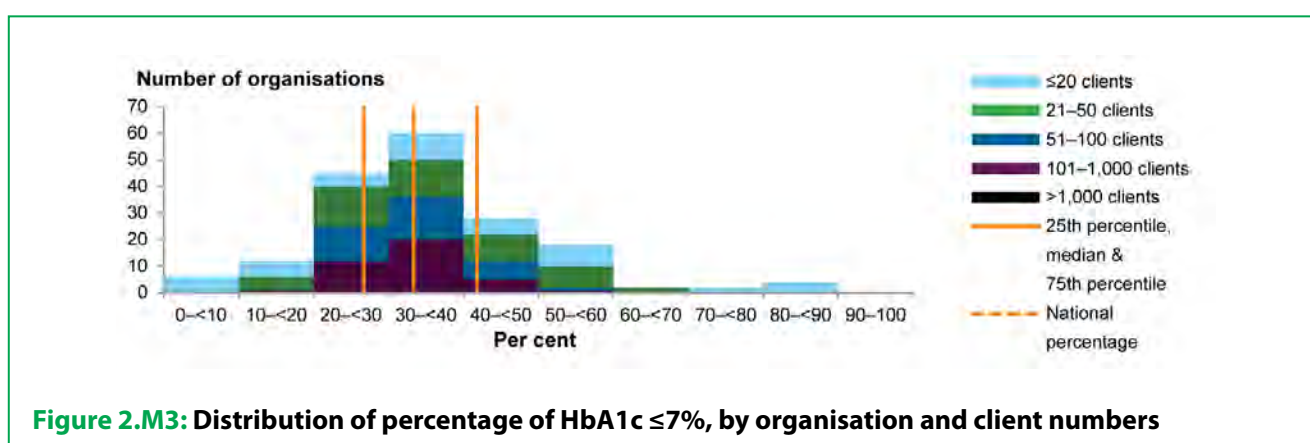
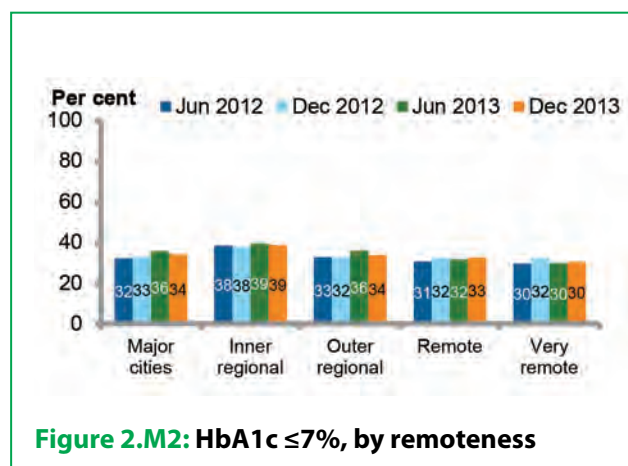
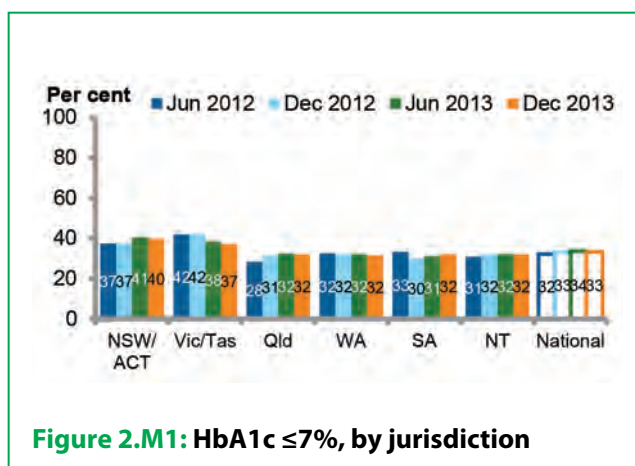
Nationally, 33% of Aboriginal and Torres Strait Islander regular clients had an HbA1c result of less than or equal to (\leq) 7% in the past 6 months as at December 2013 (Figure 2.M1).

Trend was fairly stable, with an increase of about 1 percentage point nationally between June 2012 and December 2013 (Figure 2.M1).

Organisation performance (Figure 2.M3):

- Four organisations (2%) had 100% of clients with type 2 diabetes achieving optimal long-term diabetes control.
- Six organisations (3%) had none of their clients achieving optimal diabetes control.
- In the top quartile of organisations, 42% of clients or more had an HbA1c result of \leq 7%.
- In the bottom quartile of organisations, less than 27% of clients had an HbA1c result of \leq 7%.

Age and sex distribution indicates that younger people and people over 65 were less likely to have an HbA1c result of \leq 7% (Figure 2.M4).



Why is this important?

For most patients with type 2 diabetes, an HbA1c result $\leq 7\%$:

- is the recommended target (Diabetes Australia & RACGP 2011) and reduces diabetes related complications, disability and premature mortality (Del Prato 2005)
- provides national information about how well type 2 diabetes is being managed.

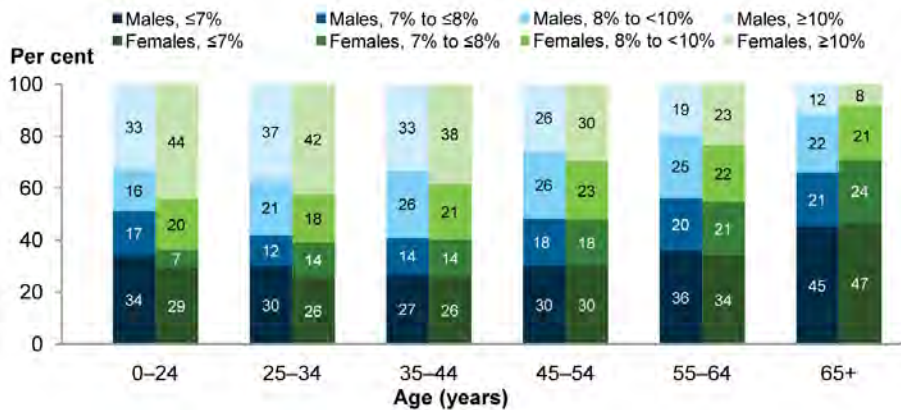


Figure 2.M4: HbA1c result in the previous 6 months, by age and sex

Opportunities for action

- HbA1c results are influenced by primary health care, as well as by a range of social determinants and lifestyle factors.
- Organisations with a high percentage of regular clients with type 2 diabetes with HbA1c results $\geq 7\%$ (or a worsening trend) should review whether their current practices are effectively targeting and managing clients with type 2 diabetes.
- There is scope for organisations to focus on more activities to assist their clients with type 2 diabetes to manage their HbA1c levels, in particular the young age groups (Figure 2.M4).

Issues to consider when interpreting data

- Small organisation denominators
- Pathology results.

(See Box 2 for more information.)

N. Kidney function test—clients with type 2 diabetes

Headline results

Nationally, 62% of Aboriginal and Torres Strait Islander regular clients with type 2 diabetes aged 15 and over had either an estimated glomerular filtration rate (eGFR) or albumin/creatinine ratio (ACR) recorded or both an eGFR and an ACR recorded in the past 12 months as at December 2013 (Figure 2.N1).

Trend shows relative stability, with a decrease nationally between June and December 2013 of about 1 percentage point (Figure 2.N1).

Organisation performance (Figure 2.N3):

- Six organisations (3%) recorded kidney function tests for 100% of clients with type 2 diabetes.
- Twelve organisations (7%) with clients with type 2 diabetes did not record kidney function tests for any clients.
- In the top 25% of organisations, 77% of clients or more with type 2 diabetes had a kidney function test.
- In the bottom 25% of organisations, 50% of clients or less with type 2 diabetes had a kidney function test.

Age and sex distribution showed that people in older age groups were more likely to have had a kidney function test. There was little difference between the sexes (Figure 2.N4).

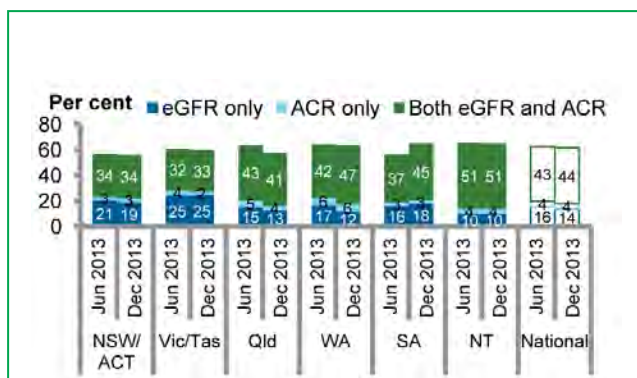


Figure 2.N1: Kidney function test recorded for clients with type 2 diabetes, by jurisdiction

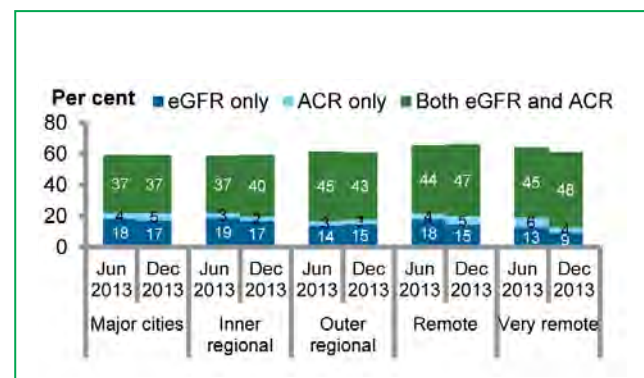


Figure 2.N2: Kidney function test recorded for clients with type 2 diabetes, by remoteness

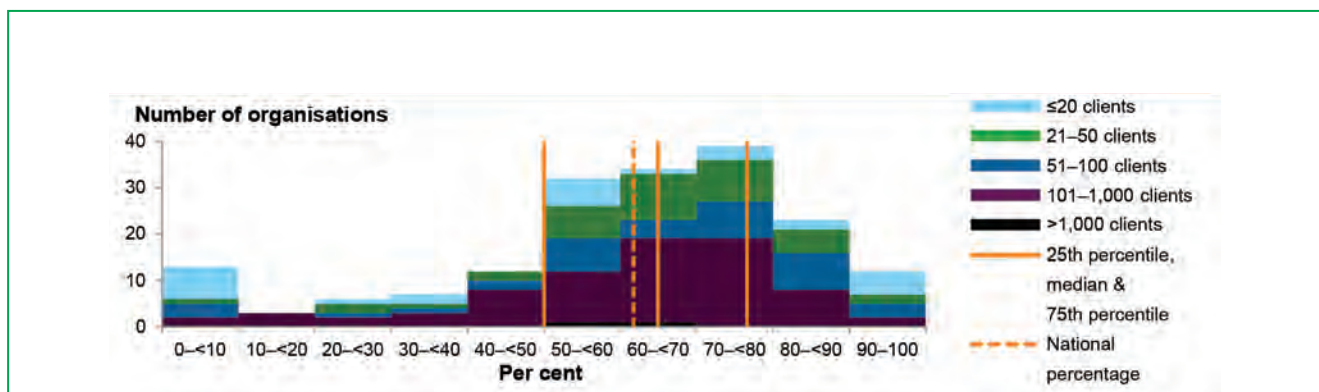


Figure 2.N3: Distribution of percentage of kidney function tests for clients with type 2 diabetes, by organisation and client numbers

Why is this important?

Rates of end-stage kidney disease are substantially higher in the Aboriginal and Torres Strait Islander population than in the non-Indigenous population. Early detection can help to prevent progression to end stage kidney disease. Testing kidney function through recording an ACR or eGFR in clients with type 2 diabetes:

- is recommended to reduce complications and improve individual health (Diabetes Australia & RACGP 2011; Kidney Health Australia 2012)
- provides additional insight into the burden of kidney disease.

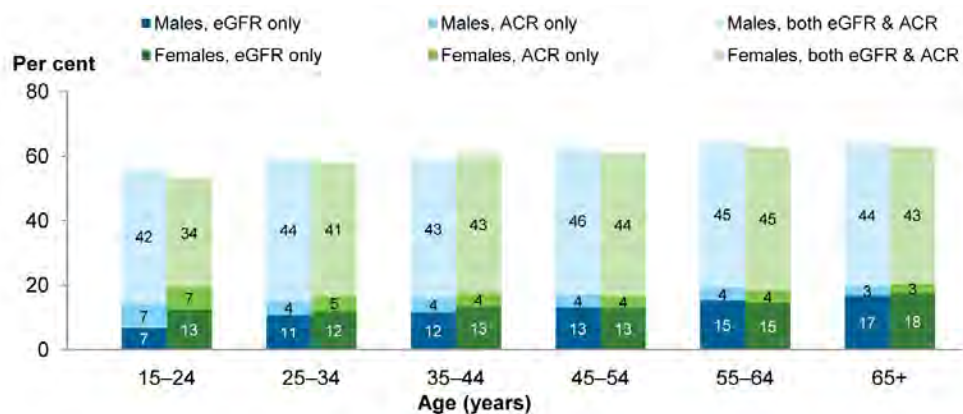


Figure 2.N4: Kidney function test recorded for clients with type 2 diabetes, by age and sex

Opportunities for action

- December 2013 was the second time data were collected for this indicator. The data suggest that organisations can provide kidney function tests for at least 77% of their clients with type 2 diabetes (the figure achieved by the top quarter of organisations).
- Improvement against this indicator should be a high priority for the 25% of organisations in which 50% or less of their regular clients with type 2 diabetes had a kidney function test.
- All clients with type 2 diabetes should have a kidney function test to routinely screen for indications of renal disease.

Issues to consider when interpreting data

- Small organisation denominators
- Pathology results.

(See Box 2 for more information.)

O. Kidney function test—clients with cardiovascular disease

Headline results

Nationally, 55% of Aboriginal and Torres Strait Islander regular clients with CVD aged 15 and over had an eGFR recorded in the past 12 months as at December 2013 (Figure 2.O1).

Trend showed little change nationally (less than 1 percentage point) between June and December 2013, although South Australia saw a 20 percentage point increase (Figure 2.O1).

Organisation performance (Figure 2.O3):

- Twenty-three organisations (12%) recorded kidney function tests for 100% of clients with CVD.
- Eight organisations (4%) did not provide a kidney function test for any of their clients with CVD.
- In the top 25% of organisations, 85% of clients or more had a kidney function test.
- In the bottom 25% of organisations, 50% of clients or less had a kidney function test.

Age and sex distribution showed that people in older age groups were more likely to have had a kidney function test, and there was little difference between males and females (Figure 2.O4).

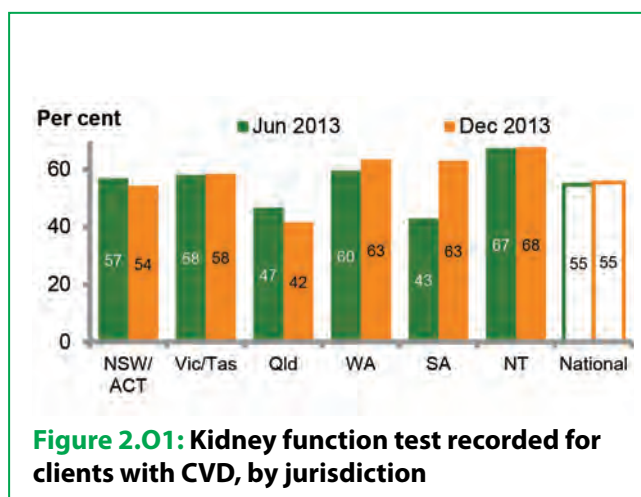


Figure 2.O1: Kidney function test recorded for clients with CVD, by jurisdiction

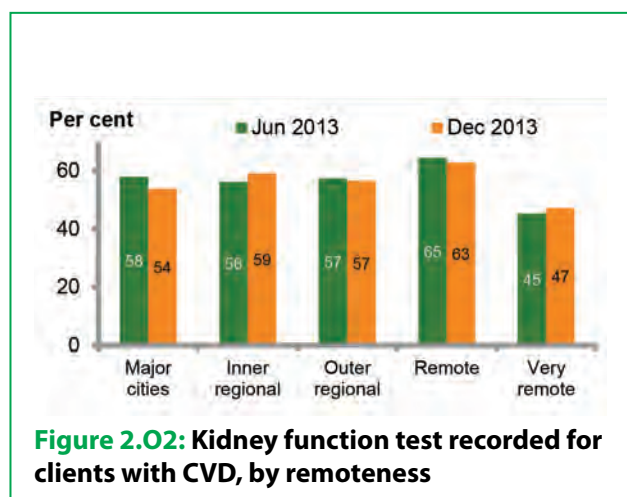


Figure 2.O2: Kidney function test recorded for clients with CVD, by remoteness

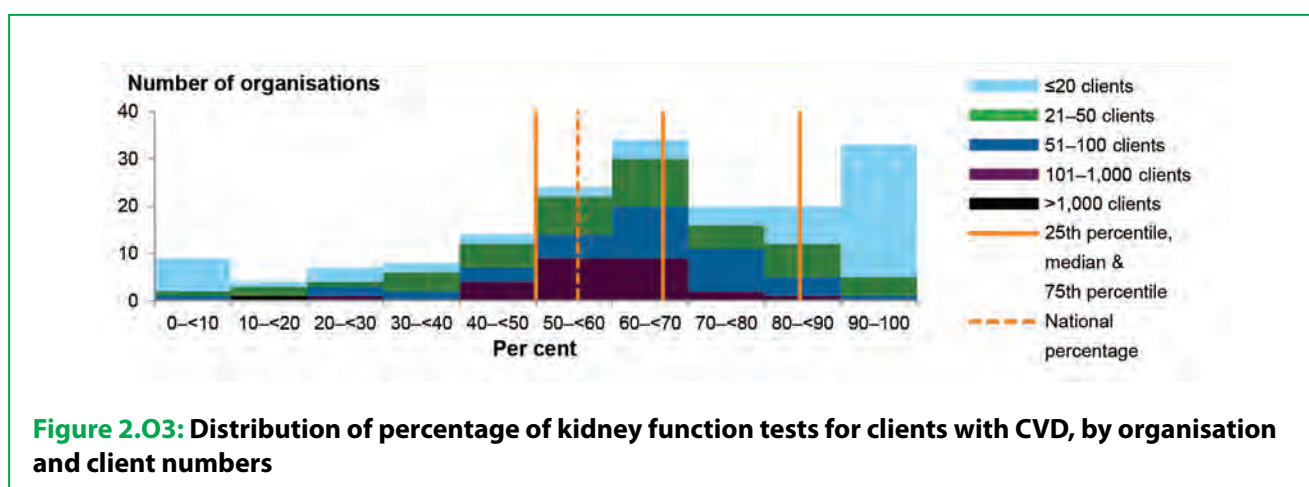


Figure 2.O3: Distribution of percentage of kidney function tests for clients with CVD, by organisation and client numbers

Why is this important?

Chronic kidney disease increases cardiovascular risk. Testing kidney function through an eGFR in clients with CVD:

- is recommended to reduce complications and improve individual health (Kidney Health Australia 2012)
- provides additional insight into the incidence and burden of kidney disease.

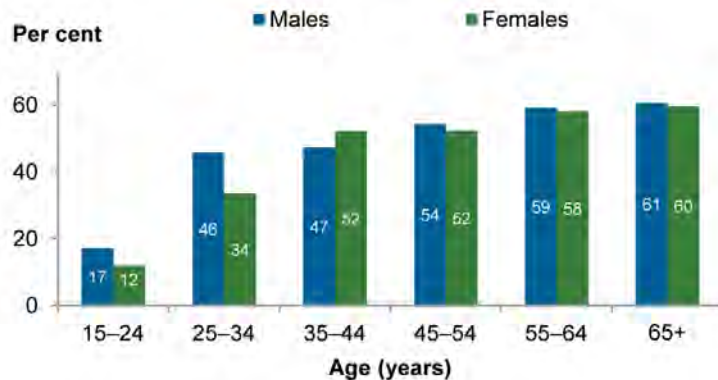


Figure 2.04: Kidney function test recorded for clients with CVD, by age and sex

Opportunities for action

- December 2013 was the second time data were collected for this indicator. The data from June 2013 suggest that organisations can provide kidney function tests for at least 82% of their clients with CVD, as 25% of organisations were able to achieve this in June 2013. At present, one-quarter of organisations achieve this for 85% or more of their clients.
- Improvement against this indicator should be a high priority for the 25% of organisations in which less than half of their regular clients with CVD had a kidney function test.

Issues to consider when interpreting data

- Small organisation denominators
- Pathology results.

(See Box 2 for more information.)

P. Blood pressure recorded—clients with type 2 diabetes

Headline results

Nationally, 64% of Aboriginal and Torres Strait Islander regular clients with type 2 diabetes had a blood pressure result recorded in the past 6 months as at December 2013 (Figure 2.P1).

Trend showed a decrease of 3 percentage points nationally from June 2012 (67%) to December 2013 (64%), but the lowest proportion (63%) was in June 2013 (Figure 2.P1).

Organisation performance (Figure 2.P3):

- Nine organisations (5%) had recorded blood pressure for 100% of clients with type 2 diabetes.
- Two organisations (1%) did not record blood pressure for any of their clients with type 2 diabetes.
- The top 25% of organisations recorded a blood pressure result for over 84% of their clients.
- The bottom 25% of organisations recorded a blood pressure result for 60% or less of their clients.

Age and sex distribution showed that people in older age groups were more likely to have had a blood pressure result recorded. Younger females were more likely than their male counterparts to have had their blood pressure recorded, but there was little difference between the sexes among older clients (Figure 2.P4).

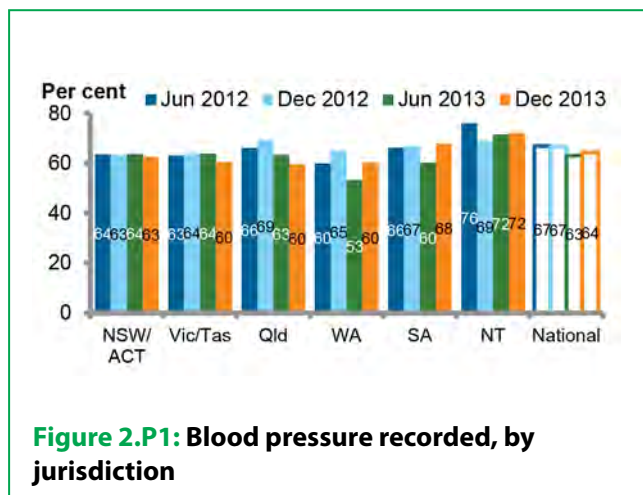


Figure 2.P1: Blood pressure recorded, by jurisdiction

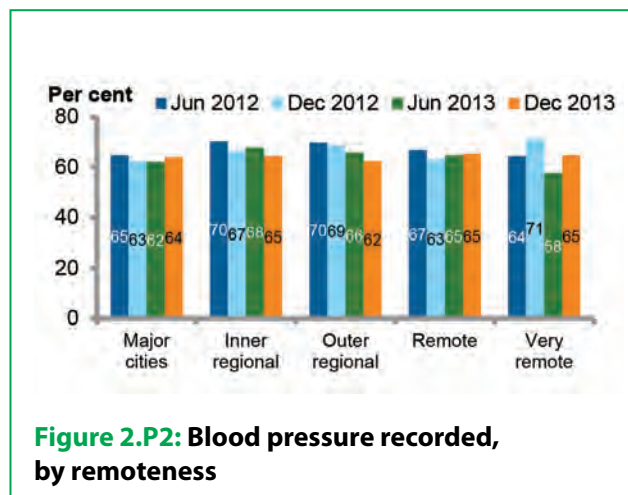


Figure 2.P2: Blood pressure recorded, by remoteness

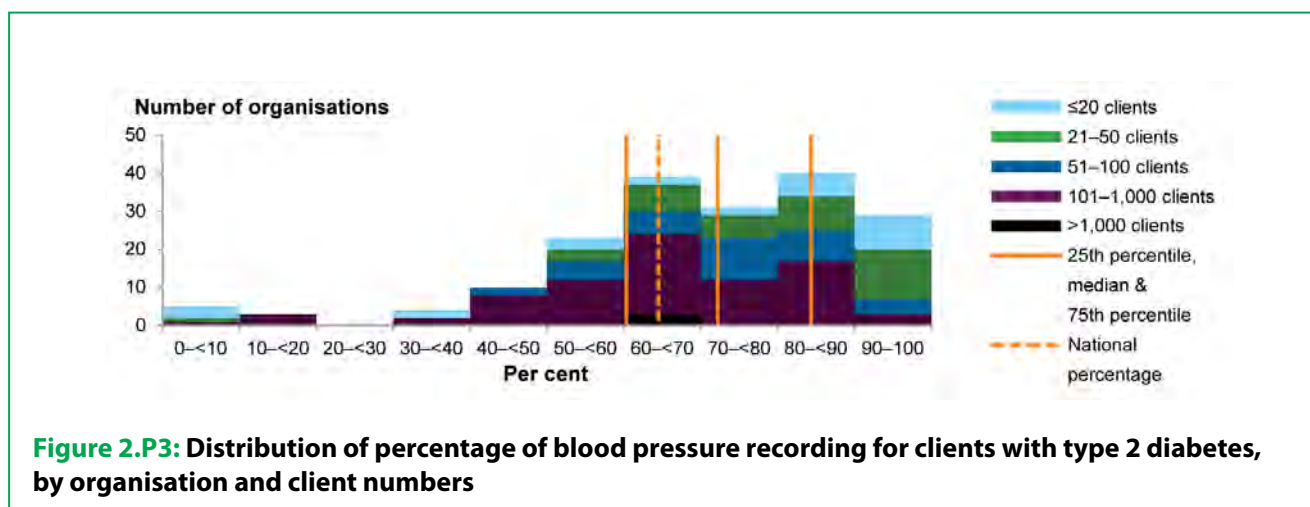


Figure 2.P3: Distribution of percentage of blood pressure recording for clients with type 2 diabetes, by organisation and client numbers

Why is this important?

- Blood pressure can often be well-controlled with medications.
- Recording blood pressure encourages clinical action. Blood pressure measurement is recommended at least every 6 months (NHMRC 2004).

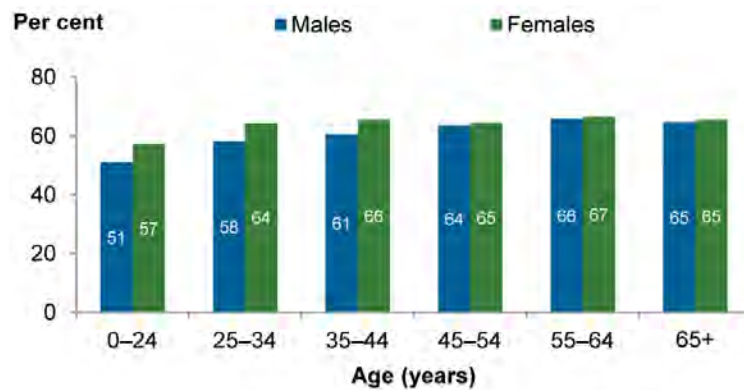


Figure 2.P4: Blood pressure recorded, by age and sex

Opportunities for action

- This indicator showed no clear trend at the national level, and a decline in some jurisdictions. One-quarter of organisations are achieving 84% of clients with type 2 diabetes having a blood pressure test recorded, but this was less than the 86% achieved by the top one-quarter in June 2013.
- The goal of recording blood pressure for 86% or more of clients with type 2 diabetes could be adopted by the one-quarter of organisations recording blood pressure for 60% or fewer of their clients.
- Organisations with poor results may want to review whether their data are being captured, but not in a way suitable for the nKPI extraction process.

Issues to consider when interpreting data

- Small organisation denominators.

(See Box 2 for more information.)

Q. Blood pressure result—clients with type 2 diabetes

Headline results

Nationally, 44% of Aboriginal and Torres Strait Islander regular clients with type 2 diabetes had a blood pressure result of less than or equal to (\leq) 130/80mmHg as at December 2013 (Figure 2.Q1).

Trend showed a 4 percentage point increase nationally in clients with a blood pressure result of \leq 130/80mmHg between June 2012 and December 2013. The proportion increased by 7 percentage points in the Northern Territory and by 6 percentage points in *Very remote* areas between June 2012 and December 2013 (Figures 2.Q1 and 2.Q2).

Organisation performance (Figure 2.Q3):

- Three organisations (2%) had a blood pressure result of \leq 130/80mmHg for 100% of their clients.
- Seven organisations (4%) had no clients whose blood pressure result was \leq 130/80mmHg.
- In the top quartile of organisations, 54% of clients or more had a blood pressure result of \leq 130/80mmHg.
- In the bottom quartile of organisations, 35% of clients or less had a blood pressure result of \leq 130/80mmHg.

Age and sex distribution indicate that, in general, more females than males had a blood pressure result of \leq 130/80mmHg. For females, clients aged 34 years and less were also more likely to have had a blood pressure result of \leq 130/80mmHg than those above 35 (Figure 2.Q4).

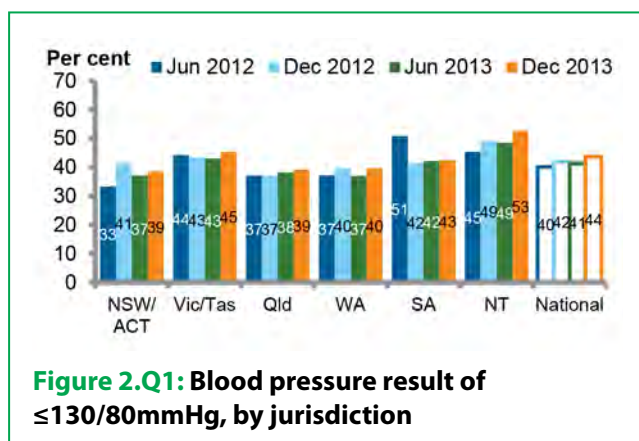


Figure 2.Q1: Blood pressure result of $\leq 130/80\text{mmHg}$, by jurisdiction

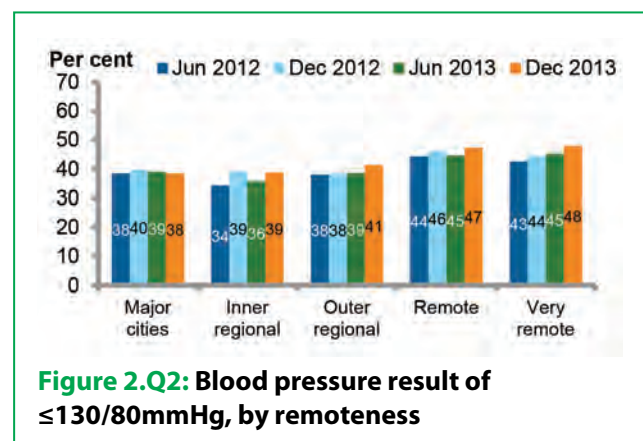


Figure 2.Q2: Blood pressure result of $\leq 130/80\text{mmHg}$, by remoteness

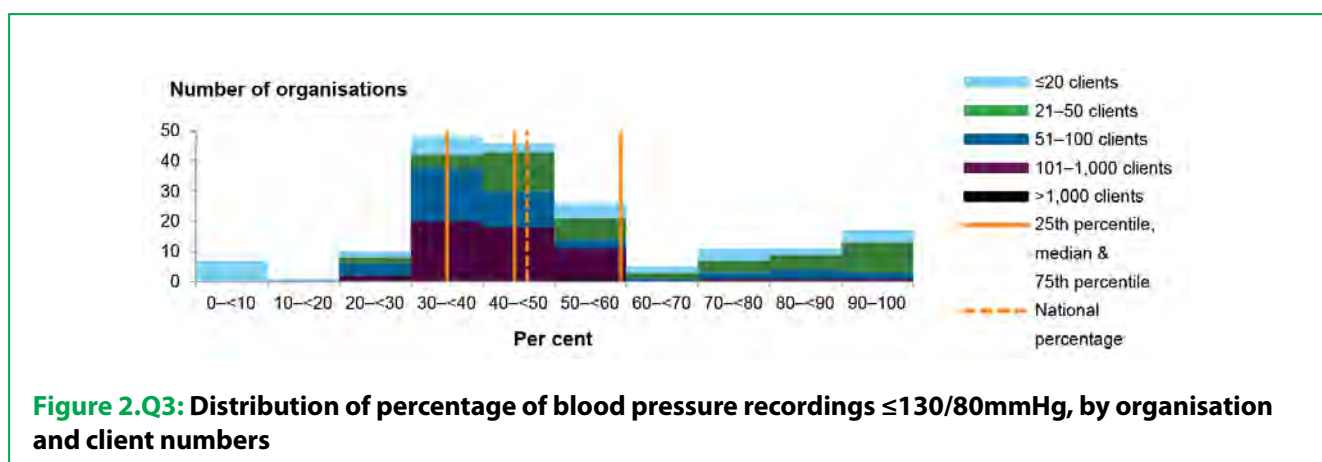


Figure 2.Q3: Distribution of percentage of blood pressure recordings $\leq 130/80\text{mmHg}$, by organisation and client numbers

Why is this important?

For people with diabetes:

- the target blood pressure level ($\leq 130/80\text{mmHg}$) is lower than for others because their blood vessels are more susceptible to hypertensive damage (Diabetes Australia & RACGP 2011)
- blood pressure can often be well-controlled with medications.

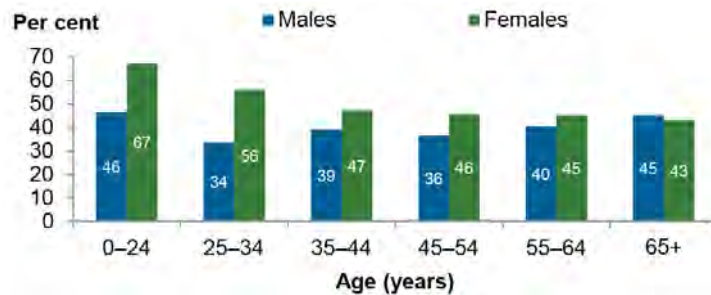


Figure 2.Q4: Blood pressure result of $\leq 130/80\text{mmHg}$, by age and sex

Opportunities for action

- Improvements nationally and across all jurisdictions on this indicator show good work by many organisations. High blood pressure is influenced by a range of social determinants and lifestyle factors as well as by effective primary health care.
- A high number or proportion of clients with type 2 diabetes with high blood pressure does not necessarily indicate poor organisational performance. It does, however, indicate opportunities for a greater focus on a population health approach and evidence-based care.
- Organisations with a high percentage of clients with type 2 diabetes with high blood pressure should review whether sufficient attention is being paid to effective management of clients with type 2 diabetes.

Issues to consider when interpreting data

- Small organisation denominators.

(See Box 2 for more information.)

R. Smoking status recorded

Headline results

Nationally, 74% of Aboriginal and Torres Strait Islander regular clients aged 15 and over had their smoking status recorded as at December 2013 (Figure 2.R1).

Trend showed an overall increase nationally of 10 percentage points between June 2012 and December 2013, including a 6 percentage point increase from June to December 2013. Nearly half of the organisations in the Northern Territory did not have smoking status recorded for any clients in June 2013 because of a change in the way that smoking status was recorded. This may have contributed to the decrease in the national proportion between December 2012 and June 2013. Between June 2012 and December 2013, however, the proportion rose by 26 percentage points in Western Australia and about 11 percentage points in *Inner regional* areas (Figures 2.R1 and 2.R2).

Organisation performance (Figure 2.R3):

- Nine organisations (5%) recorded smoking status for 100% of their clients.
- Every organisation recorded smoking status for at least 1 client.
- The top 25% of organisations recorded smoking status for 90% or more of their clients.
- The bottom 25% of organisations recorded smoking status for less than 63% of their clients.

Age and sex variation showed that for clients under 35, a higher proportion of females than males had their smoking status recorded. Recording smoking status tended to increase with age for both sexes, although there was a slight decline in recording for those aged 65 years and over (Figure 2.R4).

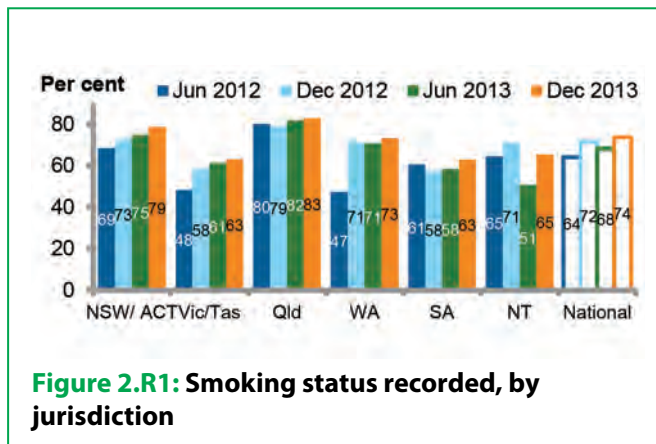


Figure 2.R1: Smoking status recorded, by jurisdiction

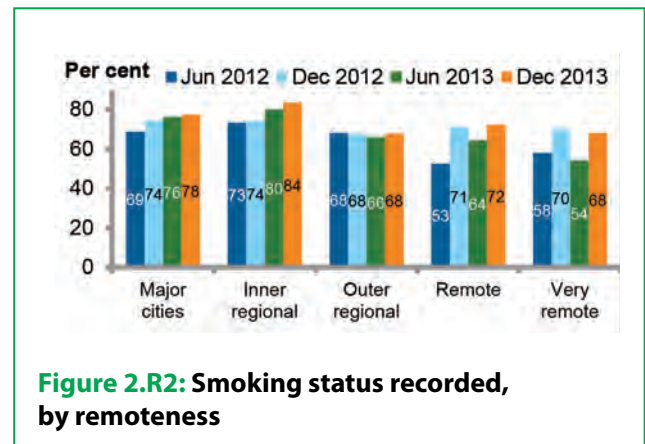


Figure 2.R2: Smoking status recorded, by remoteness

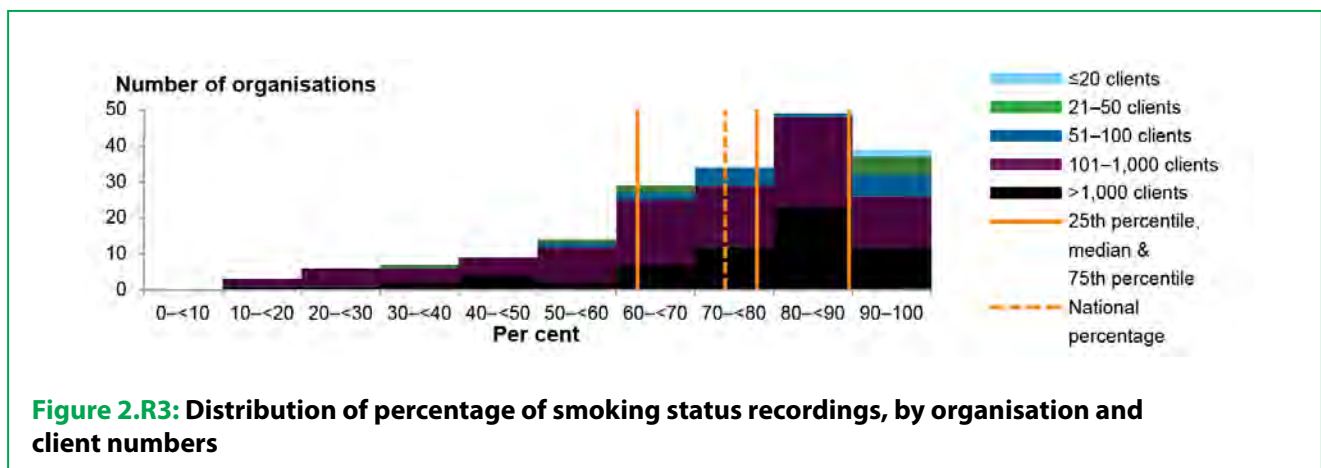


Figure 2.R3: Distribution of percentage of smoking status recordings, by organisation and client numbers

Why is this important?

Recording smoking status:

- encourages action on smoking during clinical encounters, noting that Aboriginal and Torres Strait Islander people indicate their doctor is a credible support for smoking cessation services
- supports accurate measurement of smoking prevalence in the client population.

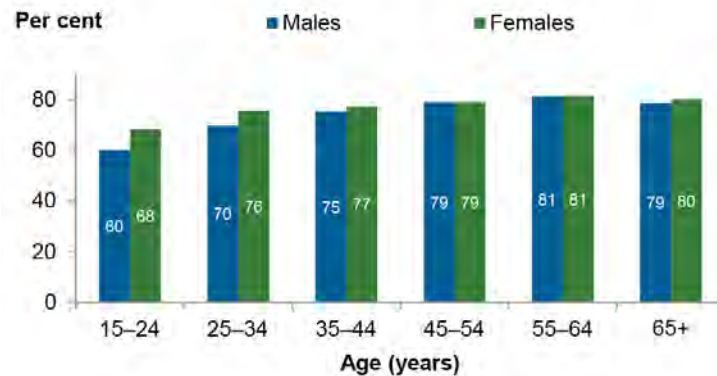


Figure 2.R4: Smoking status recorded, by age and sex

Opportunities for action

- Improvement on this indicator nationally and across all jurisdictions shows good work by many organisations. One-quarter of organisations are achieving 90% or more clients with smoking status recorded—an increase from 88% in June 2013. This would appear to be achievable by organisations regardless of size or location.
- There are particular opportunities for action on this indicator for the 25% of organisations recording smoking status for less than 63% of their clients and for their younger clients. The high rates of smoking among regular clients across all organisations make this a high priority.

Issues to consider when interpreting data

- Time-stamped records
- Smoking categories.

(See Box 2 for more information.)

S. Smoking status result

Headline results

Nationally, 33% of Aboriginal and Torres Strait Islander regular clients had never smoked while 53% currently smoked as at December 2013 (Figure 2.S1). In comparison, data from the 2012–13 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) showed that, of those aged 15 years and over, 36.5% never smoked and 43.0% were current smokers (ABS 2014).

Trend showed little change nationally (less than 1 percentage point) in the proportion of current smokers between June and December 2013. The proportion of clients who currently smoked was highest in Victoria/Tasmania and South Australia. The proportion of ex-smokers was highest in New South Wales/Australian Capital Territory (Figure 2.S1). While the proportion of current smokers was fairly similar across remoteness areas, the proportion of ex-smokers was lower with increasing remoteness (Figure 2.S2).

Organisation distribution (Figure 2.S3):

- For the top 25% of organisations, less than 49% of clients were current smokers.
- For the bottom 25% of organisations, at least 60% of clients were current smokers.

Age and sex distribution showed that around 50% of males and females aged 15–24 were current smokers. The proportion increased for both sexes in the 25–34 year age group, and was lower in successively older age groups (Figure 2.S4).

Young people aged 15–24 were more likely to have never smoked than people in other age groups, except females aged 65 and over, while people aged 25–44 were less likely. Those aged 55 and over were more likely to have become ex-smokers (Figure 2.S4).

Variation in recording smoking status of clients by organisations could lead to a bias in the apparent proportion of smokers if a number of organisations with a low proportion recorded one particular smoking status preferentially. This bias was not detected in the data.

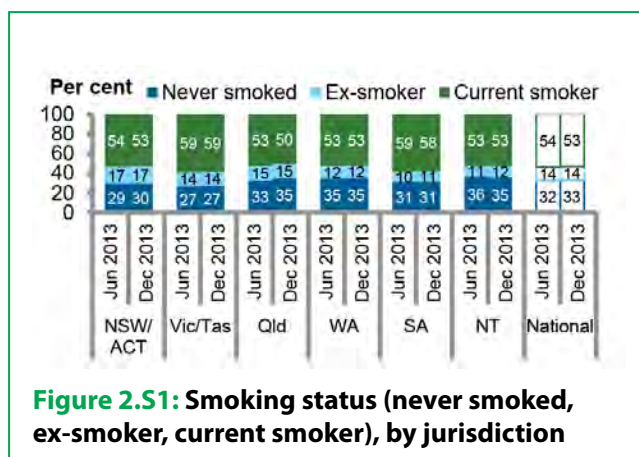


Figure 2.S1: Smoking status (never smoked, ex-smoker, current smoker), by jurisdiction

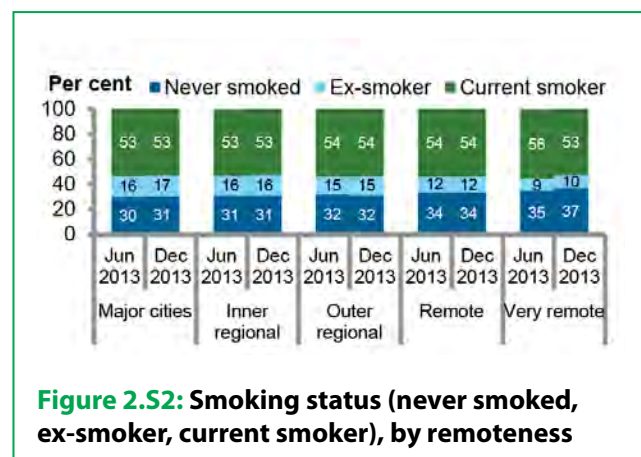


Figure 2.S2: Smoking status (never smoked, ex-smoker, current smoker), by remoteness

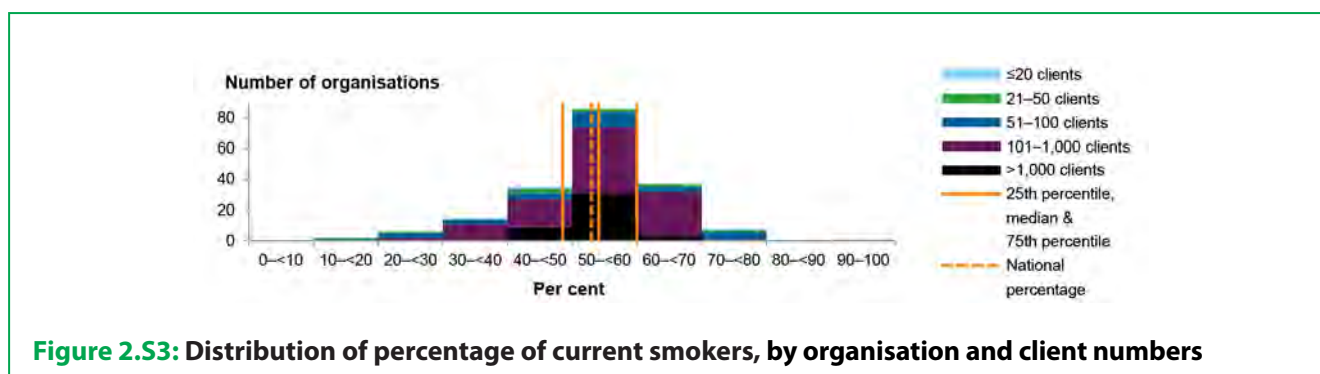


Figure 2.S3: Distribution of percentage of current smokers, by organisation and client numbers

Why is this important?

Smoking status can be influenced by:

- provision of advice and access to cessation treatment within the primary health care setting (Levy et al. 2004; Rothemich et al. 2008)
- factors other than primary health care, including clean air laws, cigarette prices, advertising bans and product labelling (Levy et al. 2004), making ongoing monitoring of national smoking trends especially important.

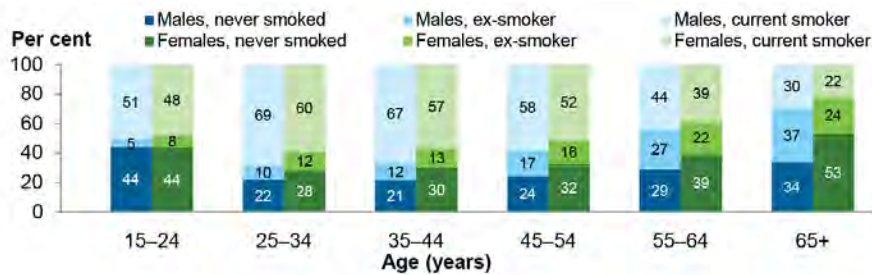


Figure 2.S4: Smoking status, by age and sex

Opportunities for action

- Smoking status is influenced by a range of social determinants outside the control of organisations. A high number or proportion of clients who are current smokers does not necessarily indicate poor organisational performance.
- Organisations could review whether sufficient attention is being paid to recording smoking status and using evidence-based brief interventions and smoking cessation treatments. There may be opportunities to improve standard practice data collection on smoking status.
- More research is required to build the evidence base on effective programs to reduce smoking rates in Aboriginal and Torres Strait Islander communities.
- Smoking prevention efforts that are focused on younger age groups are important to reduce smoking initiation.

Issues to consider when interpreting data

- Time-stamped records
- Smoking categories
- Non-Indigenous comparison data.

(See Box 2 for more information.)

T. Alcohol consumption status recorded

Headline results

Nationally, 51% of Aboriginal and Torres Strait Islander regular clients aged 15 and over had their alcohol consumption status recorded in the past 24 months as at December 2013 (Figure 2.T1).

Trend showed a consistent increase totalling 13 percentage points nationally between June 2012 and December 2013. Western Australia and *Very remote* areas had the highest increases over the same period (Figures 2.T1 and 2.T2).

Organisation performance (Figure 2.T3):

- Four organisations (2%) recorded alcohol consumption status for all clients.
- Four organisations (2%) did not record alcohol consumption status for any of their regular clients.
- The top 25% of organisations recorded alcohol consumption status for 74% or more of their clients.
- The bottom 25% of organisations recorded alcohol consumption status for less than 35% of their clients.

Age and sex distribution showed that alcohol consumption status was more likely to be recorded with increasing age, with a slight decrease in recording for those aged 65 and over (Figure 2.T4).

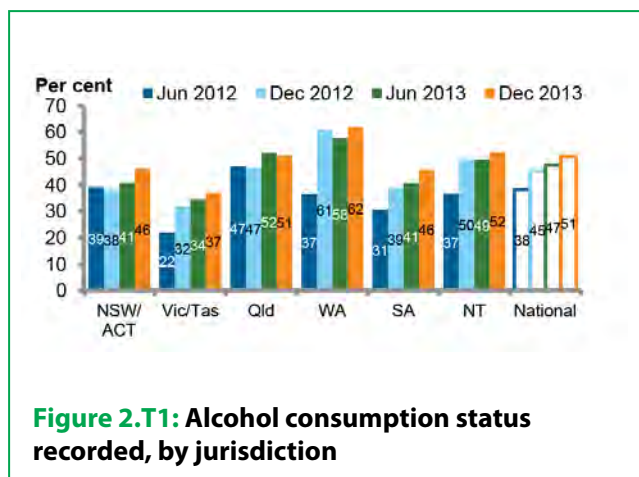


Figure 2.T1: Alcohol consumption status recorded, by jurisdiction

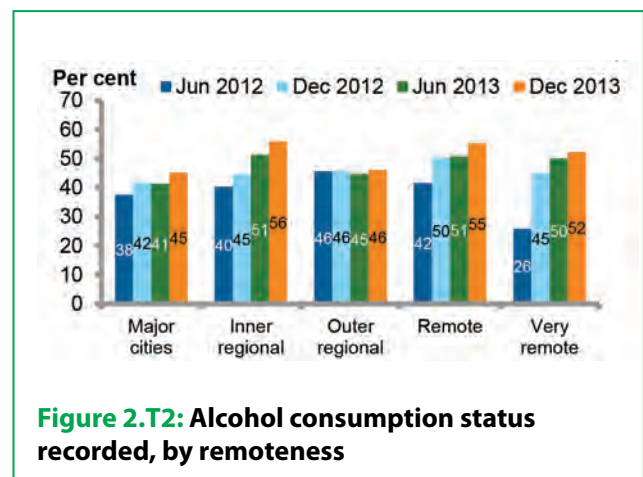


Figure 2.T2: Alcohol consumption status recorded, by remoteness

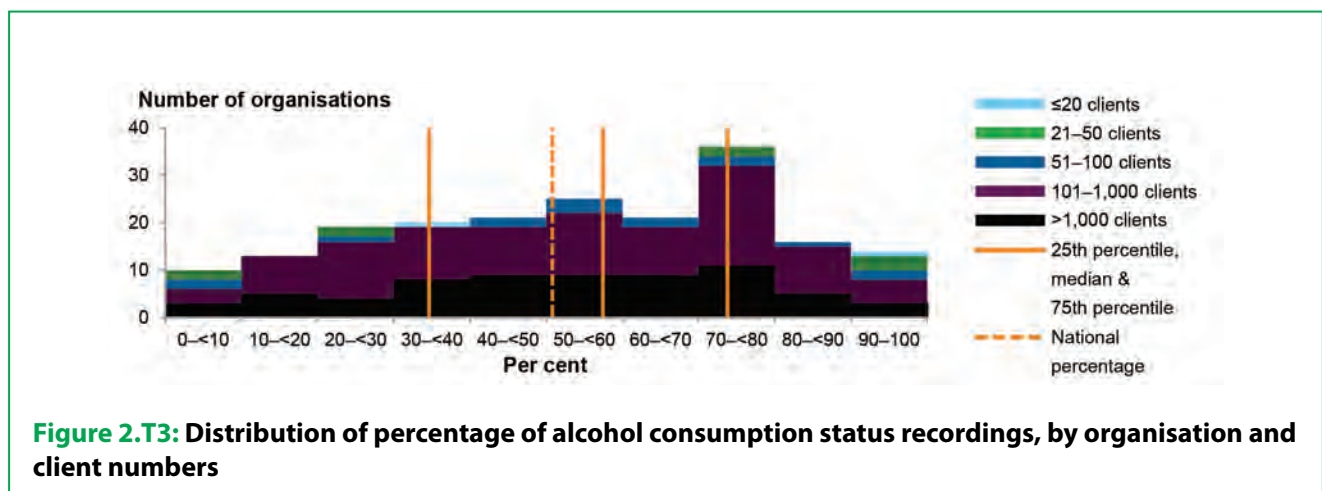


Figure 2.T3: Distribution of percentage of alcohol consumption status recordings, by organisation and client numbers

Why is this important?

Recording alcohol consumption:

- informs understanding of drinking patterns among clients
- can be an effective starting point for clinical intervention (Clifford & Shakeshaft 2011).

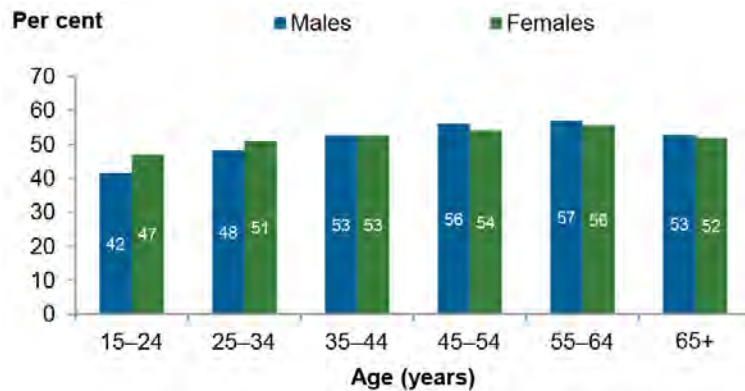


Figure 2.T4: Alcohol consumption status recorded, by age and sex

Opportunities for action

- Improvement against this indicator nationally and across all jurisdictions except one since June 2012 indicates better performance by many organisations.
- There is especially room for improvement for the bottom 25% of organisations recording alcohol status for 35% or less of their regular clients.
- All organisations could work towards achieving at least 68% recording of alcohol status and the data suggest that 100% is achievable. Currently one-quarter of organisations are recording this for 74% or more of their clients.
- Better recording of alcohol consumption may create increased opportunities for evidence based brief interventions.

Issues to consider when interpreting data

- Recording of alcohol consumption
- Non-Indigenous comparison data.

(See Box 2 for more information.)

U. Overweight and obese

Headline results

Nationally, 27% of Aboriginal and Torres Strait Islander regular clients aged 25 and over who had their BMI measured were overweight (BMI of 25 to less than 30), and 41% were obese (BMI of 30 or more) as at December 2013 (Figure 2.U1). This is similar to results from the 2012–13 NATSIHS, which found that 30% of Aboriginal and Torres Strait Islander people aged 25 and over were overweight and 43% were obese (ABS 2014).

Trend showed the proportion of clients who were overweight or obese nationally was slightly higher (about 2 percentage points) in December 2013 than in previous periods (Figure 2.U1). The proportion of overweight or obese increased the most in Queensland. Among remoteness areas, the increase was highest in *Very remote* areas, but these areas continue to have the lowest rates (Figures 2.U1 and 2.U2).

Organisation performance (Figure 2.U3):

- In the top 25% of organisations, less than 64% of clients were overweight or obese.
- In the bottom 25% of organisations, 77% or more clients were overweight or obese.

Age and sex distribution shows more females than males were overweight or obese. Rates of overweight and obesity tended to increase with age, though there was a slight decline for those aged 65 years and over (Figure 2.U4).



Figure 2.U1: Overweight or obese, by jurisdiction



Figure 2.U2: Overweight or obese, by remoteness

Why is this important?

Periodic measurement of BMI is useful for:

- assessing the risk of comorbidities and premature mortality risk in patients with chronic disease (Prospective Studies Collaboration 2009) and determining the effectiveness of behaviours such as diet and exercise on weight control (Nawaz & Katz 2001)
- increasing knowledge of weight patterns and the prevalence of chronic diseases in Indigenous clients attending primary health care services.

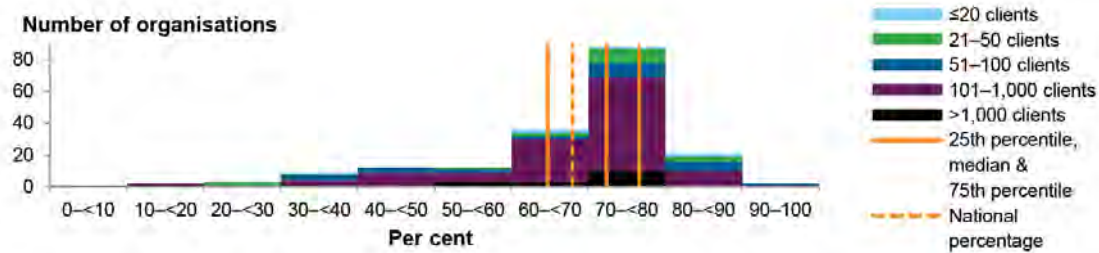


Figure 2.U3: Distribution of percentage of overweight and obese clients, by organisation and client numbers

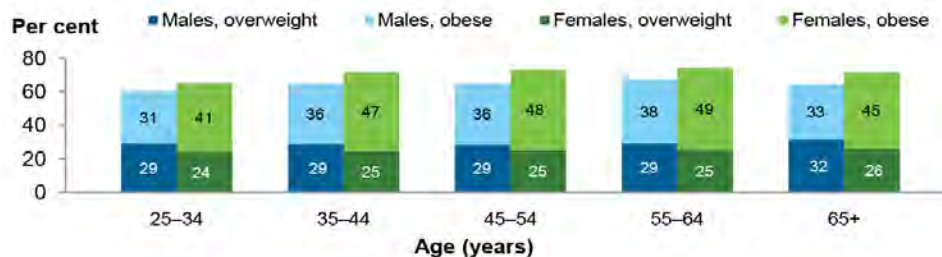


Figure 2.U4: Overweight or obese, by age and sex

Opportunities for action

- BMI is influenced by a range of social determinants and lifestyle factors outside the control of organisations. A high number or proportion of clients who are overweight or obese does not indicate poor organisational performance.
- Organisations could review whether sufficient attention is being paid to preventative programs that target nutrition and physical activity.
- Activities targeted at younger age groups may be of particular benefit to prevent the development of chronic disease in later life. Recent research suggests a stronger association between coronary heart disease and obesity in younger age groups than in older groups.

Issues to consider when interpreting data

- Differential BMI testing.

(See Box 2 for more information.)

V. Child immunisation

This indicator is presented differently to the others because of apparent issues with data validity.

Australian Childhood Immunisation Register records indicate that about 90% of Aboriginal and Torres Strait Islander children are assessed as being fully immunised nationally. For Indigenous children aged 12 to 15 months, the proportion who were fully immunised ranged from 77% in SA to 90% in NT. This is broadly similar to the immunisation rate for non-Indigenous children (Department of Health 2014a).

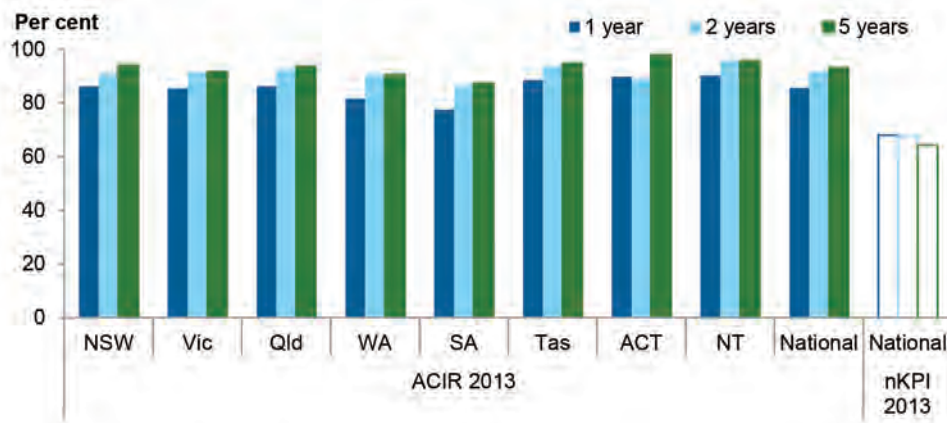
The nKPI measure relates to the proportion of children recorded by the organisations as being fully immunised. For December 2013, the nKPI data indicate that primary health care records are capturing far fewer cases of fully immunised children (approximately 20 to 30 percentage points less at the national level) (Figure 2.V1). This suggests there are data quality issues with the childhood immunisation data collected from primary health care organisations.

Anecdotal evidence indicates that some organisations may not rely on their internal patient information record systems to track immunisation status. Also, in some instances, the primary health care providers participating in the nKPI collection may not be the only or major immunisation provider. This would reduce the priority that some organisations may give to maintaining immunisation status information within their patient information record systems.

The nKPI data show large variations among jurisdictions in the proportion of children recorded as being fully immunised, from 53% in Queensland to 92% in the Northern Territory for children aged 24–36 months. This variation is not found in the ACIR data (see Figure 2.V2 and Table A2.1 in Appendix 2). In 2 jurisdictions the proportion of immunised children was roughly similar in both the nKPI collection and the ACIR collection. This suggests that if there is a system issue with the nKPI childhood immunisation data, it is more prevalent in some jurisdictions than others. Furthermore, jurisdictions with lower rates of immunisation tend to have a wider spread of recorded immunisation rates across organisations in the nKPI collection (Figure 2.V2). This suggests that the systematic issue may be limited to particular organisations.

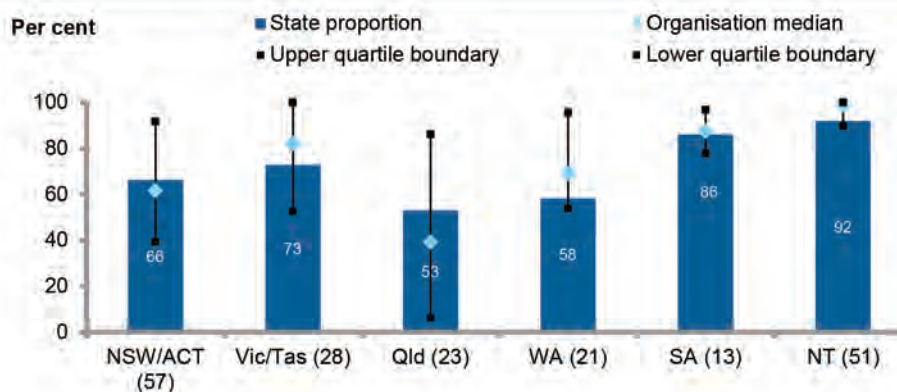
Investigation into how different organisations record childhood immunisations and how this relates to variation in roles and responsibilities for immunisation provision between different providers may be useful for informing future data collections.

While ACIR is the primary source of data for immunisation nationally, there is value in recording immunisation in a primary health care setting. This is because immunisation enables good health and reduces preventable illness as well as avoidable primary health care interventions and hospitalisations.



Note: ACIR data are for children aged 12 to <15 months, 24 to <27 months, and 60 to <63 months, while nKPI data are for children 12 to <24 months, 24 to <36 months, and 60 to <72 months.

Figure 2.V1: ACIR 2013 Indigenous childhood immunisation rates by states and territories compared with national level nKPI 2013 records



Notes

1. Numbers in brackets represent the number of organisations that provided valid data for each state and territory.
2. Upper and lower quartile boundaries show the variation between organisations within each state and territory.

Figure 2.V2: Proportion of children aged 24 to <36 months recorded as being fully immunised, by jurisdiction, with median and quartile boundaries of organisations (as shown by nKPI December 2013 data)

Chapter 3

Individual organisation performance against process-of-care indicators

Process-of-care indicators reflect whether clients have received a service appropriate for their care. Data in this chapter focus on individual organisation performance against the 16 process-of-care measures over time. The chapter therefore examines the data covered in Chapter 2 at a finer level and shows where the performances of individual organisations fit within the national distribution.

In analysing the performance of the organisations against process-of-care indicators, the following elements need to be considered:

- the extent of variation within each indicator across organisations contributing nKPI data; this shows the opportunities for improvement at a systemic level for each indicator
- the extent of variation between indicators; this shows where the relative strengths and weaknesses are, and informs priorities for action.

Data

This analysis focuses on the 13 process-of-care indicators (16 measures) for services that organisations should have provided to their regular clients. (Note that the child immunisation indicator and its three measures were excluded due to data quality issues—see Chapter 2.)

Table 3.1 shows the 16 process-of-care measures and the total number of organisations that provided valid data for each of these measures.

Table 3.1: Number of organisations contributing valid data, and number of clients, by each process-of-care measure, December 2013

Process-of-care measure	Number with valid data ^(a)	Included in the analyses ^(b)	Number of clients
Birthweight recorded	199	193	6,585
First antenatal visit before 13 weeks	184	133	3,715
MBS health assessments			
Aged 0–4	195	193	30,359
Aged 25+	193	192	126,625
Cervical screening (2, 3 and 5 years)	190	180	75,707
Clients aged 50+ immunised against influenza	186	184	41,926
Immunised against influenza			
Clients with type 2 diabetes	188	178	11,826
Clients with COPD	191	146	1,477
MBS GPMP	186	185	28,210
MBS TCA	186	185	28,210
HbA1c test recorded	185	183	28,034
Kidney function test recorded			
Clients with type 2 diabetes	183	181	26,847
Clients with CVD	188	173	11,657
Clients with type 2 diabetes with blood pressure test recorded	179	177	27,875
Smoking status recorded	190	190	165,311
Alcohol consumption recorded	195	195	170,703

(a) Organisations with valid data after exclusion due to inconsistent data or organisation comments.

(b) Excludes organisations with no clients for the indicators.

Figure 3.1 shows the proportion of organisations providing valid data for each measure for each of the periods for which data were reported.

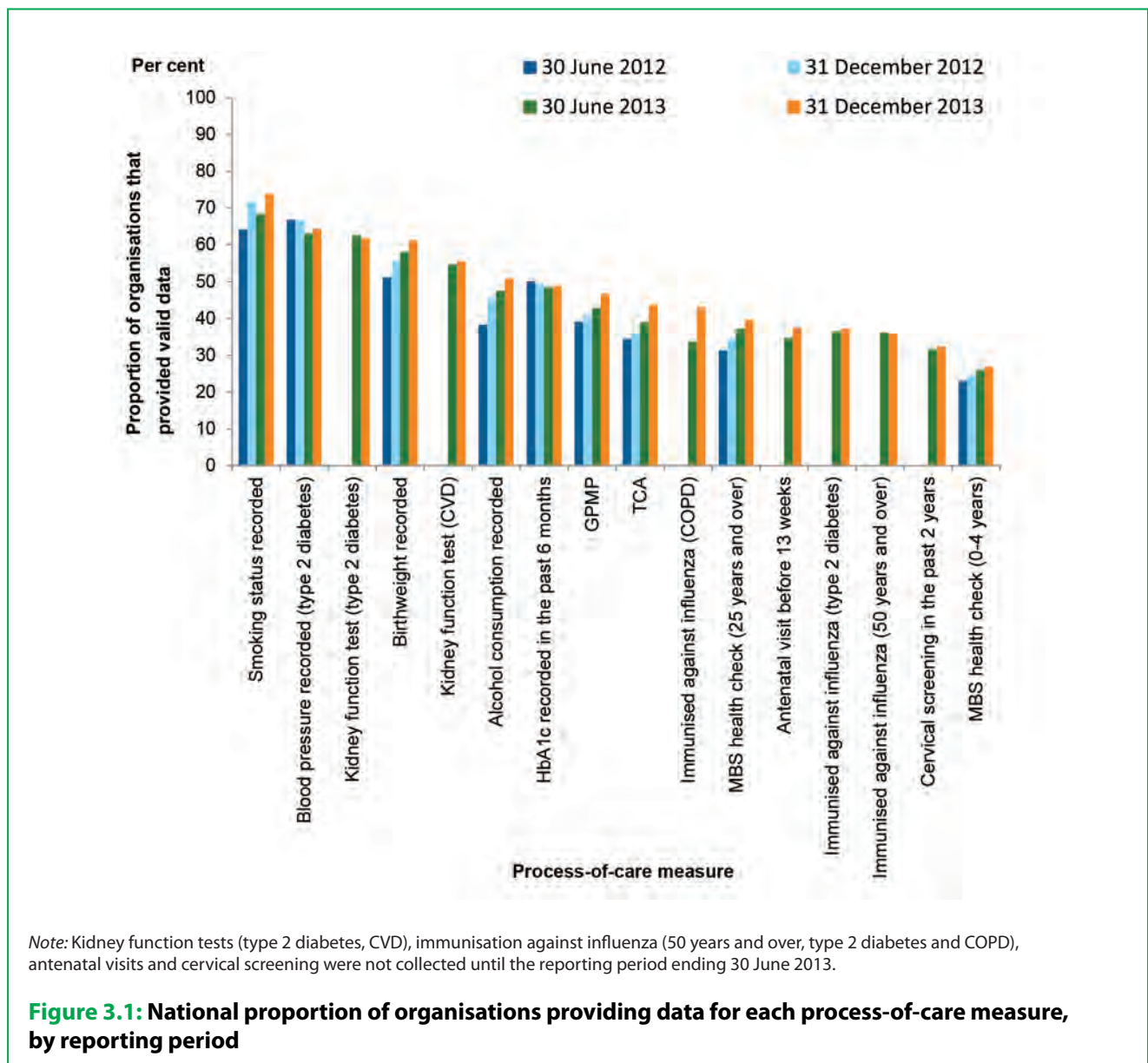
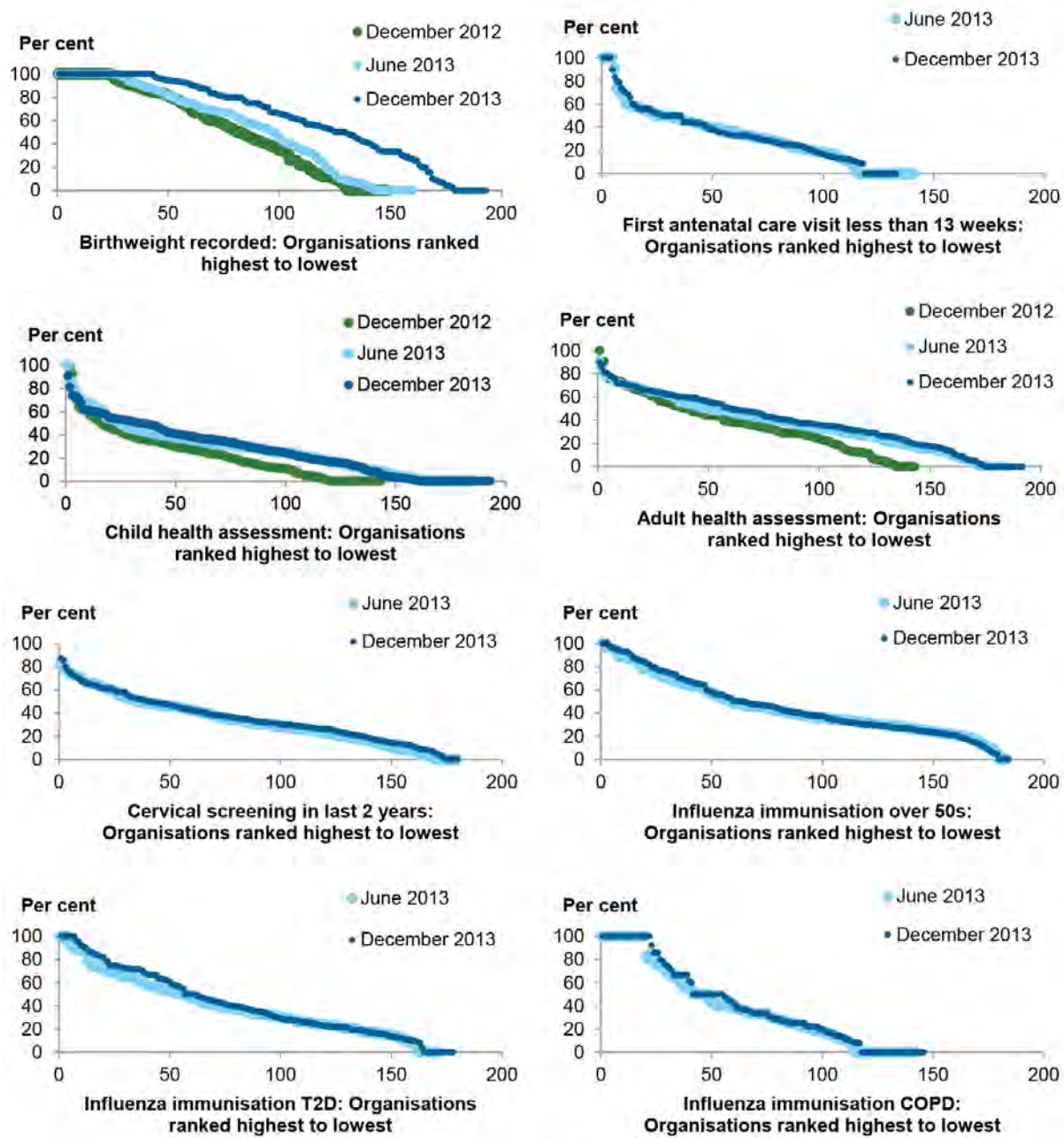


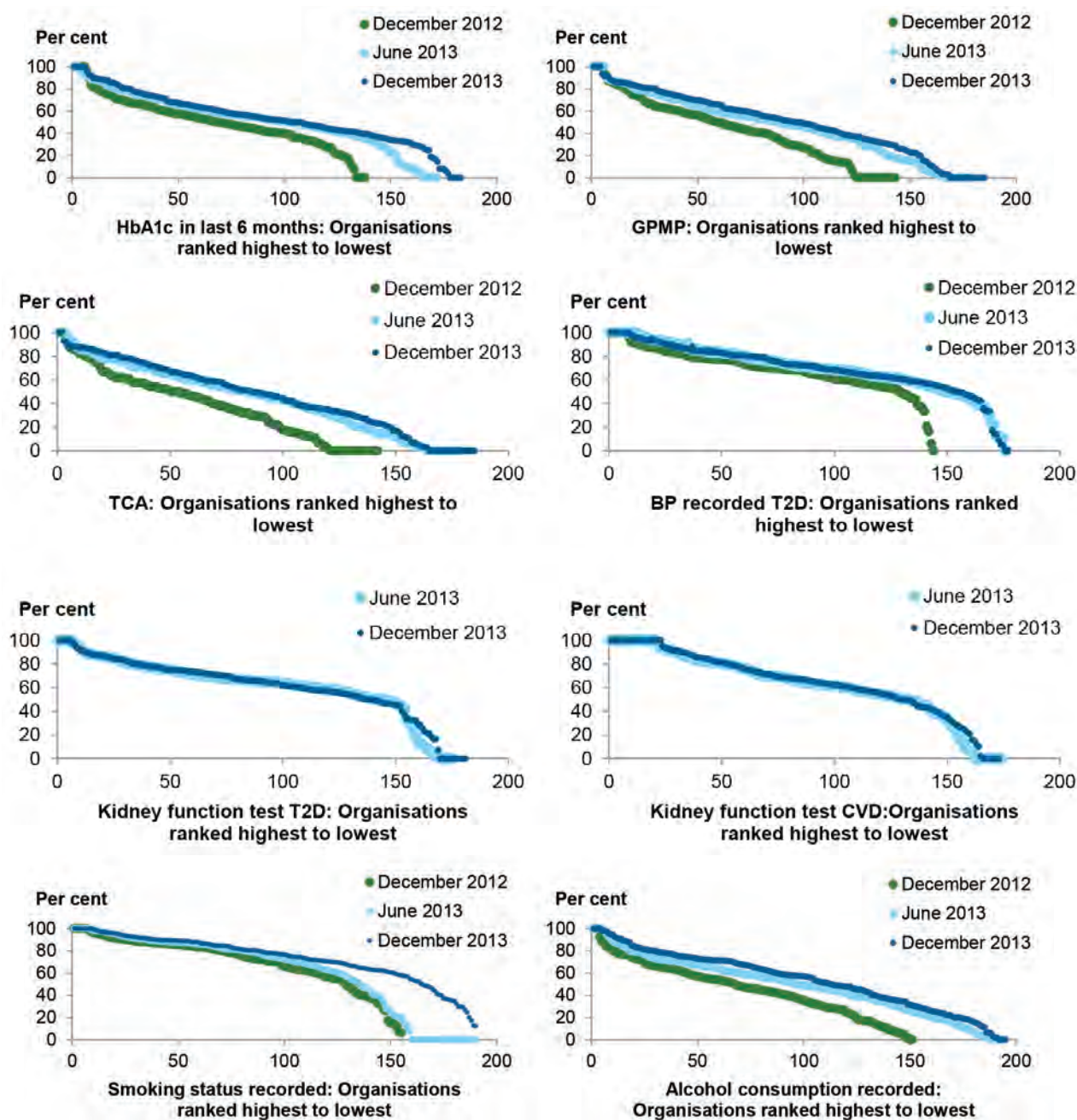
Figure 3.2 shows the detailed distribution of performance across organisations for each process-of-care measure. The performance of organisations can range from 0% to 100%, depending on what proportion of clients they provided a particular service to. In addition, the shape of the curve shows the extent to which organisations are reporting that they are providing the services. If all organisations are performing at 100%, one would expect to see a straight line parallel to the x-axis. The downward sloping lines indicate the deviation of organisations away from this optimal point.

The data show that the overall shape of the distribution differs considerably across measures. For some measures, clusters of organisations occur at the extremes of the distribution, for example for the child health assessment and influenza immunisation against COPD measures. The data also show the extent to which organisations' performance improved over the reporting periods—for example birthweight recorded, smoking status recorded and alcohol consumption recorded.



Note: T2D = type 2 diabetes, COPD = chronic obstructive pulmonary disease.

Figure 3.2: Distribution of performance across organisations for process-of-care measures



Note: GPMP = General Practitioner Management Plan, TCA = Team Care Arrangement, T2D = type 2 diabetes, CVD = cardiovascular disease, BP= blood pressure.

Figure 3.2 (continued): Distribution of performance across organisations for process-of-care measures

Chapter 4

Conclusion

This chapter was written by staff of the Indigenous and Rural Health Division in the Department of Health, and as such reflects the views of the Department.

This chapter presents key messages emerging from this second comprehensive analysis of the nKPI data reported by primary health care services funded by the Commonwealth to deliver services to Aboriginal and Torres Strait Islander people.

Improved performance on individual indicators

There have been improvements in several indicators over the 4 data reporting periods starting in June 2012. Figure 4.1 summarises information on the 12 measures for which data have been reported in each of the 4 periods. Organisations improved their performance over the reporting periods in 9 of the 12 measures of organisational performance, with increases of up to 13 percentage points. Performance decreased for 3 measures but not by more than 3 percentage points.

Figure 4.1: Change in indicator result between June 2012 and December 2013

Improved	Approximate change in percentage points
Alcohol consumption recorded	+13
Birthweight recorded	+10
Smoking status recorded	+10
MBS health assessment for adults aged 25+	+9
TCA	+9
GPMP	+8
MBS health assessment for children aged 0–4	+4
Blood pressure \leq 130/80mmHg	+4
HbA1c \leq 7%	+1
Declined	
HbA1c result recorded	-1
Not overweight or obese	-2
Blood pressure recorded	-3

The results in the last reporting period (December 2013) have been consistent with the trends noted above, with improvements in 12 out of 16 process-of-care indicators. This included increases (of up to 7 percentage points) in the upper quartile boundaries of most indicators, indicating a very strong performance in the last 6 months. There were also improvements in the lower quartile boundaries for over half of the indicators (with up to 23 percentage points increase).

Results for the outcome indicators were mixed, and improvements were minor. Improvements in health outcomes take longer at a population level as they depend more on patients' circumstances and, usually, behaviour and lifestyle changes. These are not easy factors for health service organisations to influence, but it is important to measure them to inform patient care, and population health, policies and programs at the local and national level.

Population health and care continuum

Overall, the nKPI data show increases in access and service utilisation, while also indicating high levels of need, as is evident in the high prevalence of risk factors in the client population, such as smoking and overweight and obesity, and chronic diseases, particularly diabetes. But there are also signs of improvements in key points across the care continuum, including prevention, early detection and chronic disease management, as marked by the progress made against a number of measures.

Improvements in behavioural risk factor monitoring (such as smoking status and alcohol consumption recorded) indicate an increasing focus on prevention.

Improvements in process-of-care indicators such as health checks (child as well as adult) over the last 4 rounds of data collection, supported by improvements in antenatal and cervical screening indicators, indicate improving access to early detection and treatment services for Aboriginal and Torres Strait Islander people. Increasing proportions of clients covered under chronic disease management items—GP managed or multidisciplinary team based—suggest improvements in the continuity of care provided to chronic disease patients with multidisciplinary care needs.

CQI and other factors influencing organisational performance

The nKPI data show some wide variations in performance across indicators and reporting organisations.

The analyses in the first nKPI report showed that several factors were associated with better organisational performance. These included a high ratio of GPs to patients, a higher ratio of health staff to total staff, location (in some jurisdictions), and remoteness categories (AIHW 2014). These analyses also indicated that involvement with CQI processes was associated with better organisational performance (AIHW 2014) as reflected in strong performance by organisations in the Northern Territory and Queensland, which have put concerted efforts into CQI programs over a number of years. There was also evidence of a lasting impact of the Healthy for Life Program, which had a strong CQI focus.

The data in this report lend further credence to the organisational performance and CQI results noted in the first report. Significant improvements across most of the process-of-care indicators over the last 4 reporting periods point to organisational engagement, and suggest that the nKPIs may have been used by organisations to inform their CQI activities. In the longer term, the evidence suggests this improvement should translate into enhanced health outcomes for Aboriginal and Torres Strait Islander people. However, the wide variation in performance among organisations highlights the need for complementary implementation of whole-of-service CQI processes that enable organisations to use the nKPI data as one of the tools that help staff to determine where service improvements are needed.

Working closely with the organisations to improve timely access to data, and the quality and presentation of data, will make feedback to services more meaningful for CQI, and will be essential to achieving improved outcomes. In other words, building synergies between CQI activities and the nKPI system in this way has the potential to improve results through shared learning opportunities which will facilitate lead to better understanding of best practice, and further development.

The wide variations in the data also emphasise the need for systemic and rigorous development of suitable benchmarks for each indicator. The current analysis uses a quartiles-based approach as a proxy for benchmarks, but achievement of 100% on some indicators may not be possible. A more rigorous approach is required to set performance benchmarks that are desirable as well as achievable.

Appendix 1

Background

The set of 24 nKPIs were developed under the mandate of the National Indigenous Reform Agreement at the request of the Council of Australian Governments, which subsequently received in principle approval from the Australian Health Ministers' Advisory Council. The National Indigenous Reform Agreement stipulates that the approval of data elements will be sought through the National Health Information Agreement governance process.

The draft set of indicators was supported by the National Advisory Group on Aboriginal and Torres Strait Islander Health Information and Data and was endorsed by the National Health Information Standards and Statistics Committee.

A Technical Working Group, chaired by the Department of Health, provided expert advice on developing the data specification for the KPIs and their subsequent implementation. It was also a forum for reviewing information that had been brought together on KPIs already used in primary health care in states and territories, and for validating and providing assurance that the proposed national data set would be clinically appropriate.

The Group included representatives of the National Aboriginal Community Controlled Health Organisation and its state and territory affiliates, state governments, the AIHW and other technical experts. Membership was selected in order to ensure that the Group had the expertise required to:

- robustly develop evidence-based indicators
- confirm the clinical relevance and operability of the indicators in primary health care settings
- facilitate alignment with data collected through clinical information systems, and reported through the web-based reporting system developed for this purpose by the Australian Government.

The Department of Health has established the OCHREStreams Advisory Group to provide advice on the continuing development of the OCHREStreams web portal and its associated data collections, including the nKPIs. (OCHREStreams is the web portal aimed at reducing the reporting burden for organisations that provide primary health care and other services to Aboriginal and Torres Strait Islander Australians.)

The nKPIs in December 2013

In order to ensure alignment with other reporting, wherever possible, we used, data definitions and specifications being used by other national and state collections, including those already in the AIHW's Metadata Online Registry (METeOR).

A full list of the nKPIs is available on METeOR at <<http://meteor.aihw.gov.au/content/index.phtml/itemId/481307>>.

Table A1 shows the indicators included in this report. Each indicator is presented with its identification number as assigned in METeOR, for example, 'PI01', together with an expanded description of what it is meant to measure. Two indicators had recently been developed and were not collected for December 2013. The technical specifications for 3 other indicators are still under development.

Table A1: nKPIs and their description

Indicator	Description
PI01: Birthweight recorded	Proportion of Aboriginal and/or Torres Strait Islander babies born within the previous 12 months whose birthweight has been recorded at the primary health care service.
PI02: Birthweight low, normal, or high	Proportion of Aboriginal and/or Torres Strait Islander babies born within the previous 12 months whose birthweight results were categorised as one of the following: <ul style="list-style-type: none">• low (less than 2,500 grams)• normal (2,500 grams to less than 4,500 grams)• high (4,500 grams and over).
PI03: Health assessment (MBS item 715)	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, aged 0–4, and who have received an MBS health assessment for Aboriginal and Torres Strait Islander people within the previous 12 months AND proportion of regular clients who are Aboriginal and/or Torres Strait Islander, aged 25 and over, and who have received an MBS health assessment for Aboriginal and Torres Strait Islander People within the previous 24 months.
PI04: Fully immunised children	Proportion of Aboriginal and/or Torres Strait Islander children who are regular clients, aged: <ul style="list-style-type: none">• 12 months to less than 24 months• 24 months to less than 36 months• 60 months to less than 72 months and who are ‘fully immunised’.
PI05: HbA1c test recorded (clients with type 2 diabetes)	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, have type 2 diabetes and who have had an HbA1c measurement result recorded at the primary health care service within the previous 6 months AND proportion of regular clients who are Aboriginal and/or Torres Strait Islander, have type 2 diabetes and who have had an HbA1c measurement result recorded at the primary health care service within the previous 12 months.
PI06: HbA1c result (clients with type 2 diabetes)	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, have type 2 diabetes and whose HbA1c measurement result was categorised as one of the following: As recorded in the previous 6 months AND as recorded in the previous 12 months: <ul style="list-style-type: none">• less than or equal to 7%• greater than 7% but less than or equal to 8%• greater than 8% but less than 10%• greater than or equal to 10%.
PI07: GPMP (MBS item 721)	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, have a chronic disease and who have received a GPMP within the previous 24 months.
PI08: TCA (MBS item 723)	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, have a chronic disease and who have received a TCA within the previous 24 months.
PI09: Smoking status recorded	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, aged 15 and over and whose smoking status has been recorded at the primary health care service.

(continued)

Table A1 (continued): nKPIs and their description

Indicator	Description
PI10: Smoking status result	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, aged 15 and over and whose smoking status has been recorded as one of the following: <ul style="list-style-type: none"> • current smoker • ex-smoker • never smoked.
PI11: Smoking status result of regular clients who gave birth in the last 12 months	Not collected in December 2013.
PI12: BMI (overweight or obese)	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, aged 25 and over and who have had their BMI classified as overweight or obese within the previous 24 months.
PI13: First antenatal care visit	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, who gave birth within the previous 12 months and who had gestational age recorded at their first antenatal care visit, with results either: <ul style="list-style-type: none"> • less than 13/40 weeks • 13/40 weeks to less than 20/40 weeks • at or after 20/40 weeks • no result.
PI14: Influenza immunisation (50 years and over)	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, aged 50 and over and who are immunised against influenza.
PI15: Influenza immunisation (clients with type 2 diabetes or COPD)	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, aged 15–49, are recorded as having type 2 diabetes or COPD and are immunised against influenza.
PI16: Alcohol consumption recorded	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, aged 15 and over and who have had their alcohol consumption status recorded at the primary health care service within the previous 24 months.
PI17: AUDIT-C result	Under development.
PI18: Kidney function test recorded (clients with type 2 diabetes or CVD)	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, aged 15 and over who are recorded as having type 2 diabetes and have had an eGFR recorded AND/OR an ACR or other micro albumin test result recorded within the previous 12 months AND proportion of regular clients who are Aboriginal and/or Torres Strait Islander, aged 15 and over who are recorded as having CVD and have had an eGFR recorded within the previous 12 months.
PI19: eGFR result	Not collected in December 2013.
PI20: Absolute cardiovascular risk recorded	Under development.
PI21: Absoluted cardiovascular risk result	Under development
PI22: Cervical screening recorded	Proportion of female regular clients who are Aboriginal and/or Torres Strait Islander, aged 20–69, who have not had a hysterectomy, and who have had a cervical screening within the previous 2 years, 3 years and 5 years.
PI23: Blood pressure recorded (clients with type 2 diabetes)	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, have type 2 diabetes and who have had a blood pressure measurement result recorded at the primary health care service within the previous 6 months.
PI24: Blood pressure less than or equal to 130/80mmHg (clients with type 2 diabetes)	Proportion of regular clients who are Aboriginal and/or Torres Strait Islander, have type 2 diabetes and whose blood pressure measurement result, recorded within the previous 6 months, was less than or equal to 130/80mmHg.

Appendix 2

Comparison of nKPI results

This appendix includes a summary of organisations' performance across nKPIs and compares the results with, firstly, national data for Aboriginal and Torres Strait Islander people, and secondly, with national data for all Australians.

Care must be taken in comparing other data sets with the nKPIs. Many are not directly comparable with the nKPI data because of different indicator definitions, collection periods and populations. For instance, regular clients may be less healthy than other clients of an organisation (see Appendix 3). The nKPIs are not suitable as estimates of population-level disease or activity prevalence, but, over time, they may contribute to these.

Table A2.1 provides comparison data with other national collections of data about Indigenous people. Table A2.2. provides comparisons with data collections that are for non-Indigenous people and the general Australian population, including both Indigenous and non-Indigenous people. When a data collection also has Indigenous-specific data, these are included to further comparisons between the nKPI data and other data collections.

Comparison with national Indigenous data


There are several indicators where the nKPI statistical mean differs appreciably from data from other national sources (Table A2.1). These include child immunisation, HbA1c test recorded, proportion of clients with type 2 diabetes who had an MBS GPMP or TCA, current smokers, timing of the first antenatal visit, and clients aged 50 and over who were immunised against influenza.

'HbA1c test recorded' was higher in the Healthy for Life data collection in June 2011 than in the nKPIs. However, there was some variability in the Healthy for Life data for this indicator over time, which ranged from 40% in the period ending December 2008 to 56% in the period ending June 2010. The nKPI data are close to the centre of this range. Once the variability of the Healthy for Life data between reporting periods is taken into account, there is little difference between the nKPI and Healthy for Life result for this indicator.

The proportion of clients with type 2 diabetes who had an MBS GPMP or an MBS TCA increased over the course of the Healthy for Life program, based on the subset of organisations that provided valid data in all of the examined periods. If this trend continued, the proportion in Healthy for Life would have been higher in 2013 than it was in 2011. Similarly, the proportion increased between June 2012 and December 2013 in the nKPIs. It is unsurprising that the proportions among clients in the nKPI data set from 2013 are higher than the proportions from 2011 for Healthy for Life.

There were more current smokers recorded among the nKPI organisations' regular clients than among Aboriginal and Torres Strait Islander people who took part in the NATSIHS, which is the closest national comparison. Regular clients have attended the organisations 3 times in the past 2 years, and may be less healthy than the general population. Smoking causes negative health effects, so it is possible that smokers are more likely to be regular clients at nKPI organisations. People participating in surveys such as the self-reported NATSIHS may be reluctant to admit to smoking—they may be more willing to divulge this information to their regular primary care provider.

The National Perinatal Data Collection (NPDC) provides the closest national comparison data for the antenatal and perinatal nKPIs, but is different in that it is based on notification forms completed by midwives and other staff in hospitals. Also, the NPDC data cover babies whose mothers are Aboriginal and/or Torres Strait Islander while the nKPIs cover Aboriginal and Torres Strait Islander babies. Regarding comparative data, the proportion of women whose first antenatal care visit is before 13 weeks of pregnancy is higher in NPDC data than in data for the nKPIs. The difference in proportion may also indicate room for improvement in the quality of nKPI data.



The proportion of clients aged 50 and over who were immunised against influenza in the preceding year was higher in the NATSIHS than in the nKPI data. NATSIHS data are 'self report' data, and may be subject to errors of memory about timing of vaccination. Many regular clients have been vaccinated against influenza outside of their primary care organisation. Organisations participating in the nKPI data may not have total visibility of immunisations that occur elsewhere or may not yet be consistently recording this information.

Comparison with national data for all Australians

Table A2.2 compares nKPI data with statistics for the non-Indigenous population in Australia or with the Australian total (which includes Indigenous people) when appropriate comparison data are available. When a data set includes Indigenous-specific information, these are included in Table A2.2 to facilitate comparison between data sets.

Comparison of results between the nKPI and NPDC results suggests that a lower proportion of mothers in the nKPI population attend antenatal visits in the first trimester than Australian mothers as a whole, and that about twice the proportion of Indigenous babies have low birth weight than Australian babies as a whole. However this comparison should be made cautiously due to differences in the applied definitions of the first trimester and because the NPDC result does not include data from the three most populous states.

The nKPI results suggest that a much lower proportion of Indigenous women have cervical screenings than the general population, with 32% of relevant Indigenous regular clients having received the screening in the past 2 years, compared with almost 58% of women in the general population.

Among Indigenous regular clients aged 50 years and over, 36% were immunised against influenza. This compares with almost 75% of the general Australian population aged 65 and over in the Adult Vaccination Survey. However, the methodologies of the 2 collections differ. The nKPIs examine whether a primary healthcare organisation has a record that its regular client has been immunised. This likely underestimates the true rate of immunisation, as some clients would have received influenza vaccinations elsewhere and not informed the primary healthcare organisation. The Adult Vaccination Survey relies on people's recall of whether or not they have been immunised in the last year. If people conflate multiple years, this could lead to an overestimation of vaccination rates.

Comparing nKPI results to those of all Australians from population surveys suggests that smoking rates among Indigenous people might be about 3 times as high as for the general Australian population, while the proportion of people who are overweight or obese is similar among Indigenous and non-Indigenous people. However, a higher proportion of Indigenous people are obese than non-Indigenous people.

Table A2.1: National key performance indicator results, December 2013

Indicator	Subcomponent	Numerator	Denominator	Mean (%)	Bottom quartile (%)	Top quartile (%)	Comparable national data (%)	Comparable national data collection
First antenatal visit	Within 13 weeks	1,399	3,715	37.7	16.7	50.0	45.9	NPDC
Birthweight recorded	..	4,031	6,585	61.2	33.8	95.0	†	
Birthweight result	Low	496	3,944	12.6	0.0	19.5	12.6	NPDC
	Normal	3,359	3,944	85.2	75.0	96.9	85.9	
	High	89	3,944	2.3	0.0	1.7	1.4	
MBS health assessments	0–4 years	8,156	30,359	26.9	4.7	41.4	22.7	Medicare Australia
	25 years and over	50,206	126,625	39.6	18.9	56.9	22.5	Medicare Australia
Cervical screening	Last 2 years	24,485	75,707	32.3	20.3	48.4	†	
	Last 3 years	29,984	75,707	39.6	27.5	59.1	†	
	Last 5 years	35,133	75,707	46.4	32.4	69.1	†	
Clients aged 50+ immunised against influenza	..	15,037	41,926	35.9	26.6	64.2	60	NATSIHS 2004–05
Clients with chronic diseases, immunised against influenza	Type 2 diabetes	4,418	11,826	37.4	19.1	63.6	†	
	COPD	636	1,477	43.1	12.5	66.7	†	
MBS GPMP	..	13,159	28,210	46.6	31.1	70.7	32.0	Healthy for Life
MBS TCA	..	12,320	28,210	43.7	24.6	68.8	27.2	Healthy for Life
HbA1c test recorded	6 months	13,701	28,034	48.9	39.6	68.4	53.9	Healthy for Life
	12 months	18,209	28,034	65.0	59.1	86.0	†	
HbA1c result	≤7% 6 months	4,568	13,701	33.3	26.7	41.8	30.6	Healthy for Life
	≤7% 12 months	6,223	18,209	34.2	28.1	42.6	†	
Kidney function test recorded for clients with chronic diseases	Type 2 diabetes	16,556	26,847	61.7	50.0	76.6	†	
	CVD	6,468	11,657	55.5	50.0	84.6	†	

(continued)

Table A2.1 (continued): National key performance indicator results, December 2013

Indicator	Subcomponent	Numerator	Denominator	Mean (%)	Bottom quartile (%)	Top quartile (%)	Comparable national data (%)	Comparable national data collection
Clients with type 2 diabetes with blood pressure test recorded	..	17,942	27,875	64.4	59.6	83.6	65.4	Healthy for Life
Clients with type 2 diabetes with blood pressure ≤130/80mmHg	..	7,853	17,942	43.8	34.8	54.0	42.0	Healthy for Life
Smoking status recorded	..	122,037	165,311	73.8	62.7	89.6	†	
Smoking status result	Current	64,650	122,037	53.0	48.5	60.0	43.7 ^(a)	AATSIHS 2012–13
	Never	39,992	122,037	32.8	26.1	37.1	35.9	AATSIHS 2012–13
Alcohol consumption recorded	..	86,715	170,703	50.8	34.6	73.8	†	
BMI result	Overweight or obese	56,732	83,542	67.9	64.7	76.6	73.5	AATSIHS 2012–13
Child immunisation ^(b)	12 to <24 months	4,745	6,971	68.1	51.5	98.1	85.6	ACIR
	24 to <36 months	4,765	7,035	67.7	50.5	100.0	91.7	ACIR
	60 to <72 months	4,119	6,400	64.4	33.3	100.0	93.1	ACIR

.. not applicable.

† The nKPIs are the only source of national data for Indigenous Australians for these indicators.

(a) Comparable national data refer to the proportion smoking (daily and occasionally).

(b) The nKPI collection currently underestimates the proportion of Indigenous children who have been immunised because it relies on organisations' internal records.

Notes

1. Data are for services that provided valid data. The total number of services that participated in the nKPI was 206.
2. ACIR data are as at 31 December 2011 (AHMAC 2012); Healthy for Life data are as at 30 June 2011 (AIHW 2013b); Medicare Australia data are for January 2012 to December 2012 (Medicare Australia 2013); AATSIHS data are for 2012–13 (ABS 2013); NATSIHS 2004–05 (ABS 2006); NPDC data are for 2011 (unpublished).
3. ACIR data are for children aged 12 to <15 months, 24 to <27 months, and 60 to <63 months, while nKPI data are for children 12 to <24 months, 24 to <36 months, and 60 to <72 months.

Sources: ACIR; AIHW's Healthy for Life data collection; AIHW's nKPI data collection; AIHW's NPDC; Medicare Australia; AATSIHS.

Table A2.2: National key performance indicator results, December 2013, with non-Indigenous comparisons

Indicator	Component	nKPI result	Indigenous comparison	Non-Indigenous comparison	General population comparison	Comparison source
First antenatal visit	Within 13 weeks	38%	50.31%	67.87%	..	National Perinatal Data Collection ^(a)
Birthweight result	Low	13%	11.2%	4.6%	..	National Perinatal Data Collection ^(b)
Cervical screening	Last 2 years	32%	..	..	57.7%	National Cervical Screening Program ^(c)
	Last 3 years	40%	..	..	70.2%	
	Last 5 years	46%	..	..	83.3%	
Influenza immunisation		36%	..	..	74.6%	Adult Vaccination Survey ^(d)
Smoking status	Current smoker	53%	43.0%	16.9%		NATSIHS 2012–13 ^(e) Australian Health Survey 2011–13 ^(e)
	Ex-smoker	14%	20.5%	29.8%		
	Never-smoked	33%	36.5%	53.2%		
BMI	Overweight	27%	29.8%	37.5%		NATSIHS 2012–3 ^(e) and Australian Health Survey 2011–13 ^(e)
	Obese	41%	42.8%	29.2%		

.. not applicable.

Notes

- (a) Comparison data are from 2010–11 and use a cut-off of less than 14 weeks rather than less than 13 weeks. They do not include data from Victoria, New South Wales or Queensland, and reflect all babies, not just those with primary health care records.
- (b) Comparison data are from 2011 and reflect all babies, not just those with primary health care records.
- (c) Comparison data are from 2012 and are not restricted to the 'regular client' definition.
- (d) Comparison data are from 2009 and include people 65 years and over. They are based on a population survey, not health organisation records.
- (e) Comparison data are from 2012–13 and 2011–13, and are based on population surveys, not health organisation records.

Appendix 3

Data quality

The quality and completeness of the data submitted by organisations are important determinations of the quality of the national analyses. Data may be incomplete for a number of reasons:

- internal inconsistency (numerator is greater than denominator, numbers not matching between linked indicators, subgroup totals not adding up to the total, and so on)
- organisations commenting when submitting data that their data are incomplete or incorrect and could not be corrected
- organisations indicating that they did not provide a particular service so no data are available (that is, health assessments were not part of an organisation's regular service)
- an organisation sharing an information recording system with another organisation and hence unable to separate its clients from all clients of the combined organisations
- auspiced organisations that collect data from a number of organisations often sharing a single patient information recall system and a single governance body. The data for individual organisations are combined and include duplicate clients.

This means that data for some indicators must be excluded for organisations if unresolved data quality issues remain. This results in different numbers of organisations with valid data for different indicators. For example, if 200 organisations submitted data for all reporting periods and all organisations provided valid data for PI01, PI01 will have 200 organisations contributing data. Some of the same 200 organisations may not have valid data for PI03 and this will result in fewer organisations contributing data to that indicator (see Table A3.1 for the number of organisations contributing valid data for each indicator for the December 2013 collection period).

- In addition, when analysing and presenting data at the national level:
- there are some paired indicators where the numerator for one is the denominator for the other (for example, PI05 and PI06, PI09 and PI10, and PI23 and PI24); if data for one indicator in a pair are excluded due to data quality issues, data from the other indicator in the pair are also excluded
- some jurisdictions have an insufficient number of organisations to perform meaningful analysis. Therefore, Tasmanian data are combined with Victorian data, and data from the Australian Capital Territory are combined with data from New South Wales
- it should be noted that some organisations (like the Queensland Aboriginal and Islander Health Council) use nKPI data to issue their own reports. These data may be reported differently because of different data 'cleaning' processes
- More information on data quality can be found on the AIHW's METeOR website <<http://meteor.aihw.gov.au/content/index.phtml/itemId/593841>>.

Table A3.1: Number of organisations contributing valid data and number of clients by indicator, December 2013

Measure	Number of organisations with valid data ^(a)	Number of organisations included in the analyses ^(b)	Number of clients
PI01: Birthweight recorded	199	193	6,585
PI02: Birthweight result	197	176	3,944
PI03: MBS health assessments			
Aged 0–4	195	193	30,359
Aged 25+	193	192	126,625
PI04: Child immunisation			
At age 1	193	188	6,971
At age 2	193	191	7,035
At age 5	193	189	6,400
PI05: HbA1c test recorded	185	183	28,034
PI06: HbA1c result			
6 months	185	177	13,701
12 months	185	178	18,209
PI07: MBS GPMP	186	185	28,210
PI08: MBS TCA	186	185	28,210
PI09: Smoking status recorded	190	190	165,311
PI10: Smoking status result	190	190	122,037
PI12: BMI result	186	186	83,542
PI13: First antenatal visit before 13 weeks	184	133	3,715
PI14: Clients aged 50+ immunised against influenza	186	184	41,926
PI15: Immunised against influenza for clients with type 2 diabetes or COPD			
Clients with type 2 diabetes immunised against influenza	188	178	11,826
Clients with COPD immunised against influenza	191	146	1,477
PI16: Alcohol consumption recorded	195	195	170,703
PI18: Kidney function test recorded for clients with type 2 diabetes or CVD			
Kidney function test recorded for clients with type 2 diabetes	183	181	26,847
Kidney function test recorded for clients with CVD	188	173	11,657
PI22: Cervical screening (2, 3 and 5 years)	190	180	75,707
PI23: Clients with type 2 diabetes with blood pressure test recorded	179	177	27,875
PI24: Clients with type 2 diabetes with blood pressure \leq 130/80mmHg	179	175	17,942

(a) Organisations with valid data after excluding those due to inconsistent data or organisation comments.

(b) Excludes organisations providing data with '0' denominator for indicators as they had no clients to provide services to be counted in those indicators.

Interpreting changes over time

There are a number of factors that should be kept in mind when interpreting changes over time. These are discussed below.

New organisations

The organisations that reported data for each indicator changed in each reporting period. In June 2012, 90 organisations participating in Healthy for Life reported data for nKPIs. Healthy for Life was a continuous quality improvement program for organisations providing care to Indigenous people funded by the Australian Government. Organisations reported on a number of indicators to the AIHW, many of which were similar to the nKPIs. In return, the AIHW provided organisations with reports and PowerPoint presentations to assist them in their local continuous quality improvement processes. Previous participation in Healthy for Life was associated with better performance against the nKPIs (AIHW 2014).

The number of organisations that reported in the nKPI process increased to 173 in December 2012, 206 in June 2013 and 207 in December 2013. The inclusion of additional organisations could lead to changes in national performance over time even if there is no change in the performance of other organisations. This effect can be amplified for state, territory and remoteness averages. Twenty-six (26) Northern Territory Government organisations began reporting in June 2013, while only 2 reported in the preceding period. This addition should be kept in mind when interpreting time trend data, especially for the Northern Territory and *Very remote* areas, since most of the Northern Territory Government organisations are in *Very remote* areas.

Role of improved data recording

Several issues have been suggested as possible impediments to data quality, such as the incomplete recording of client information, including Indigenous status, unfamiliarity with electronic information systems and extraction tools, possible flaws with these tools, inconsistent data entry, and lack of compatibility between electronic systems (Bailie et al. 2013).

As organisations become more familiar with the nKPI system, they will be able to improve their systems and processes. For example, some organisations may systematise the way that they record client data to facilitate or ensure electronic extraction when reporting the nKPIs; others may need only to improve recording of client data. Some of these issues can be solved in time for the first round of reporting while others may take more time.

In many cases, such improvement does not represent improved service delivery or client care, though systematising data storage may lead to more efficient or effective care in some instances.

Regular clients

All of the indicators, except the 2 on birthweight, are based on regular clients at the organisation. The definition of a regular client is anyone who has visited an organisation 3 or more times in the past 2 years, regardless of whether the visit was billed to Medicare. A single definition of a regular client has been agreed for reporting against the nKPIs to ensure national consistency. This definition is consistent with that of the Royal Australian College of General Practitioners of someone with an active medical record.

Table A3.2: Number of organisations included in analyses^(a) by indicator, June 2012–December 2013

Measure	June 2012	Dec 2012	Jun 2013	Dec 2013
PI01: Birthweight recorded	80	148	160	193
PI02: Birthweight result			142	176
PI03: MBS health assessments				
Aged 0–4	77	143	185	193
Aged 25+	78	143	185	192
PI04: Child immunisation				
At age 1	..	..	186	188
At age 2	..	..	187	191
At age 5	..	..	183	189
PI05: HbA1c test recorded	78	138	172	183
PI06: HbA1c result				
6 months	76	133	165	177
12 months	78	135	168	178
PI07: MBS GPMP	76	143	179	185
PI08: MBS TCA	76	142	179	185
PI09: Smoking status recorded	79	155	190	190
PI10: Smoking status result			159	190
PI12: BMI result	82	149	179	186
PI13: First antenatal visit before 13 weeks			141	133
PI14: Clients aged 50+ immunised against influenza	..	..	183	184
PI15: Immunised against influenza for clients with type 2 diabetes or COPD				
Clients with type 2 diabetes immunised against influenza	..	..	171	178
Clients with COPD immunised against influenza	..	..	142	146
PI16: Alcohol consumption recorded	78	151	194	195
PI18: Kidney function test recorded for clients with type 2 diabetes or CVD				
Kidney function test recorded for clients with type 2 diabetes	..	..	175	181
Kidney function test recorded for clients with CVD	..	..	174	173
PI22: Cervical screening (2, 3 and 5 years)			179	180
PI23: Clients with type 2 diabetes with blood pressure test recorded	78	144	176	177
PI24: Clients with type 2 diabetes with blood pressure ≤130/80mmHg	77	143	175	175

.. not applicable.

(a) Excludes organisations that did not provide valid data for the indicator. Also excludes organisations providing data with a '0' denominator for indicators as they had no clients to provide services to be counted in those indicators.

There are a number of scenarios in which a client would or would not be considered a regular client, which should be considered when interpreting the data. These may include scenarios as described below:

- Some clients may attend an organisation 3 times in 2 years but have another primary health care organisation as their primary source of care. This will lead to double-counting of that person. It will also provide an invalid measure of the extent to which that person is receiving appropriate care from the provider they visit 3 or more times, but which is not their main provider.
- Some clients may be the normal clients of an organisation, but not attend 3 times in a 2 year period for a number of reasons, including that the client could be in good health or did not regularly attend primary health care organisations when they were well. It is possible that the nKPI data may be biased towards less healthy clients, as unwell people are more likely to attend primary health care organisations.

- Clients may access different health care organisations within the same general location. Clients seeking health care may not use the same organisation consistently. They may use various organisations for different purposes, for example favouring one when they want increased privacy and another because it bulk bills (Baillie et al. 2013). This behaviour may be more common in regions with more health care options and less frequent in *Very remote* areas where local health care options are more limited. This could result in variations in the make-up of regular clients between regions. Relatively urban organisations in *Very remote* areas may have higher levels of regular clients who are not their normal clients than other remote organisations. This is because they may be regional centres used in transit and because they provide a wider array of healthcare options.
- Some clients may be transient and stay in a community only temporarily. Organisations with a large fraction of transient clients that are counted as regular clients may appear to have poorer results than other organisations. They may have less capacity to follow up on patients, including those with chronic diseases. These organisations might also choose to allow a client's normal primary health care organisation to provide some MBS item services, including health checks, GPMPs and TCAs.

In addition, the nKPI 'regular client' definition may differ from what some organisations consider to be their normal clients. Analysis by some organisations has found that the nKPI definition leads to a higher count of regular clients compared with their local definition. This is known to be the case in the Northern Territory where organisations also report against the Northern Territory Aboriginal Health Key Performance Indicators (NTAHKPI) which uses a place or residence qualifier in their definition of regular client.

Data collection and transmission

Data for most organisations are transmitted electronically from the organisation's Patient Information Record System (PIRS) to the Clinical Audit Tool. From there, data are transferred to the OCHREStreams web portal, from which the AIHW downloads data. Theoretically, this transmission could diminish data integrity, and there have been reports of problems with data extraction (Baillie et al. 2013). However, organisations review their data on OCHREStreams before submission and receive reports on their data from the AIHW after the AIHW has accepted data. As with any information reporting system, the apparent performance of an organisation depends not only on performing the underlying activity, but also on accurately collecting and recording that information. On the whole, the nKPI data indicate that further investigation into data gathering and reporting processes is warranted, especially for some indicators.

Data quality review

A data quality review of the nKPIs undertaken by independent analysts on behalf of the Department of Health identified a number of areas of focus for improving future nKPI data collections. This review made a number of recommendations which are aimed at improving the accuracy and completeness of data. The recommendations for the AIHW include:

- Raise awareness of the data sources used for nKPI reporting of birthweight through a published user guide.
- Develop support materials to build health services' understanding of the specific data requirements of the nKPIs.
- Monitor rate of data quality improvement over next two collections from organisations which use MMeX as their PIRS.
- Monitor the ongoing need for exception reporting, as indicator data from health service systems improves, with a view to phasing them out over time.
- Monitor overall data quality improvements in MBS-related indicators as other recommendations are implemented.

In response to these recommendations, the AIHW is developing a user guide which provides additional information on the nKPIs for use by organisations. The AIHW will also undertake a project that looks at the circumstances in which organisations submit data with quality issues, with a view to reducing the amount of exception reports generated and data modifications over time. The AIHW will monitor improvements in MBS-related indicators as well as working with the Improvement Foundation (IF), which maintains OCHREStreams, to test the data for organisations using the MMeX system.

Appendix 4

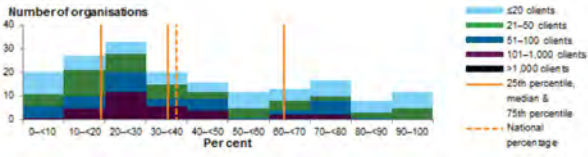
Guide to the figures

Table A4.1: Explanatory guide to figures in Chapter 2

Reference figures with example	Description																																								
<p>Figures 2.A1, 2.B1, 2.C1, 2.D1, 2.E1, 2.F1, 2.G1, 2.H1, 2.I1, 2.J1, 2.K1, 2.L1, 2.M1, 2.N1, 2.O1, 2.P1, 2.Q1, 2.R1, 2.S1, 2.T1, 2.U1</p> <table border="1"> <caption>Data for Figure 2.A1-2.U1 (Approximate values)</caption> <thead> <tr> <th>Jurisdiction</th> <th>Jun 2012</th> <th>Dec 2012</th> <th>Jun 2013</th> <th>Dec 2013</th> </tr> </thead> <tbody> <tr> <td>NSW/ACT</td> <td>61</td> <td>64</td> <td>68</td> <td>68</td> </tr> <tr> <td>Vic/Tas</td> <td>52</td> <td>56</td> <td>61</td> <td>69</td> </tr> <tr> <td>Qld</td> <td>42</td> <td>39</td> <td>45</td> <td>44</td> </tr> <tr> <td>WA</td> <td>55</td> <td>56</td> <td>60</td> <td>60</td> </tr> <tr> <td>SA</td> <td>52</td> <td>41</td> <td>55</td> <td>55</td> </tr> <tr> <td>NT</td> <td>50</td> <td>61</td> <td>60</td> <td>70</td> </tr> <tr> <td>National</td> <td>51</td> <td>55</td> <td>61</td> <td>61</td> </tr> </tbody> </table>	Jurisdiction	Jun 2012	Dec 2012	Jun 2013	Dec 2013	NSW/ACT	61	64	68	68	Vic/Tas	52	56	61	69	Qld	42	39	45	44	WA	55	56	60	60	SA	52	41	55	55	NT	50	61	60	70	National	51	55	61	61	<p>These bar charts present either: (i) the percentage of clients who had a health care process recorded or (ii) health outcomes. Data are presented by jurisdiction in which the organisations are located and at the national level.</p> <p>Data are provided for all reporting periods for which time series data are available.</p> <p>Data are combined for New South Wales/Australian Capital Territory and for Victoria/Tasmania to avoid individual services in smaller jurisdictions being identified.</p> <p>For indicators for which data were collected for different reference periods, or different categories of outcomes, the details are shown as stacked bars.</p> <p>These figures are useful in understanding the performance of services or the outcomes for clients attending health organisations in different jurisdictions.</p> <p>For example, this chart shows that in Western Australia, the percentage of Aboriginal and Torres Strait Islander babies born in the previous year who had their birthweight recorded was 55% as at June 2012, 56% as at December 2012, 58% as at June 2013 and 60% as at December 2013.</p>
Jurisdiction	Jun 2012	Dec 2012	Jun 2013	Dec 2013																																					
NSW/ACT	61	64	68	68																																					
Vic/Tas	52	56	61	69																																					
Qld	42	39	45	44																																					
WA	55	56	60	60																																					
SA	52	41	55	55																																					
NT	50	61	60	70																																					
National	51	55	61	61																																					
<p>Figures 2.A2, 2.B2, 2.C2, 2.D2, 2.E2, 2.F2, 2.G2, 2.H2, 2.I2, 2.J2, 2.K2, 2.L2, 2.M2, 2.N2, 2.O2, 2.P2, 2.Q2, 2.R2, 2.S2, 2.T2, 2.U2</p> <table border="1"> <caption>Data for Figure 2.A2-2.U2 (Approximate values)</caption> <thead> <tr> <th>Remoteness Category</th> <th>Low Birthweight</th> <th>Normal Birthweight</th> <th>High Birthweight</th> </tr> </thead> <tbody> <tr> <td>Major cities</td> <td>12% (Jun 2013), 10% (Dec 2013)</td> <td>86% (Jun 2013), 88% (Dec 2013)</td> <td>1% (Jun 2013), 1% (Dec 2013)</td> </tr> <tr> <td>Inner regional</td> <td>12% (Jun 2013), 13% (Dec 2013)</td> <td>85% (Jun 2013), 86% (Dec 2013)</td> <td>3% (Jun 2013), 1% (Dec 2013)</td> </tr> <tr> <td>Outer regional</td> <td>12% (Jun 2013), 12% (Dec 2013)</td> <td>86% (Jun 2013), 86% (Dec 2013)</td> <td>2% (Jun 2013), 2% (Dec 2013)</td> </tr> <tr> <td>Remote</td> <td>13% (Jun 2013), 14% (Dec 2013)</td> <td>84% (Jun 2013), 82% (Dec 2013)</td> <td>4% (Jun 2013), 4% (Dec 2013)</td> </tr> <tr> <td>Very remote</td> <td>13% (Jun 2013), 13% (Dec 2013)</td> <td>84% (Jun 2013), 82% (Dec 2013)</td> <td>2% (Jun 2013), 4% (Dec 2013)</td> </tr> </tbody> </table>	Remoteness Category	Low Birthweight	Normal Birthweight	High Birthweight	Major cities	12% (Jun 2013), 10% (Dec 2013)	86% (Jun 2013), 88% (Dec 2013)	1% (Jun 2013), 1% (Dec 2013)	Inner regional	12% (Jun 2013), 13% (Dec 2013)	85% (Jun 2013), 86% (Dec 2013)	3% (Jun 2013), 1% (Dec 2013)	Outer regional	12% (Jun 2013), 12% (Dec 2013)	86% (Jun 2013), 86% (Dec 2013)	2% (Jun 2013), 2% (Dec 2013)	Remote	13% (Jun 2013), 14% (Dec 2013)	84% (Jun 2013), 82% (Dec 2013)	4% (Jun 2013), 4% (Dec 2013)	Very remote	13% (Jun 2013), 13% (Dec 2013)	84% (Jun 2013), 82% (Dec 2013)	2% (Jun 2013), 4% (Dec 2013)	<p>These bar charts present either: (i) the percentage of clients who had a health care process recorded or (ii) health outcomes recorded. Data are presented by Australian Statistical Geography Standard remoteness categories in which organisations are located.</p> <p>Data are provided for 4 reporting periods if time series data are available.</p> <p>For indicators for which data were collected for different reference periods, or different categories of outcomes, the details are shown as stacked bars.</p> <p>These figures are useful in understanding the performance of services or the outcomes for clients attending health organisations in different remoteness areas.</p> <p>For example, this chart shows that in <i>Major cities</i>, the proportion of Aboriginal and Torres Strait Islander babies born in the previous year who had a low birthweight was 12% as at June 2013 and 10% as at December 2013; the proportion with a normal birthweight was 86% as at June 2013 and 88% as at December 2013; and the proportion with a high birthweight was 1% as at both June and December 2013.</p>																
Remoteness Category	Low Birthweight	Normal Birthweight	High Birthweight																																						
Major cities	12% (Jun 2013), 10% (Dec 2013)	86% (Jun 2013), 88% (Dec 2013)	1% (Jun 2013), 1% (Dec 2013)																																						
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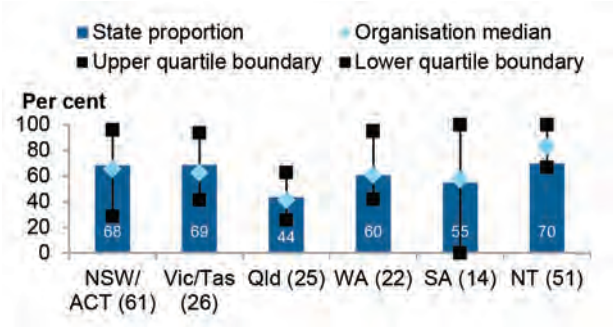
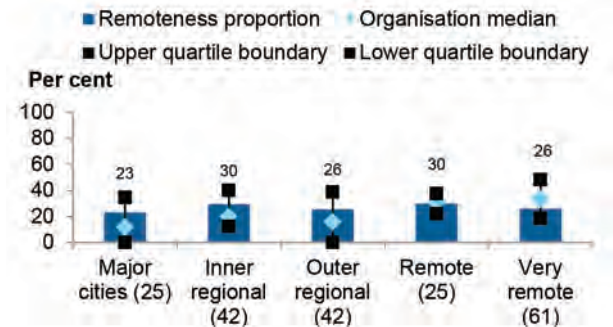
(continued)

Table A4.1 (continued): Explanatory guide to figures in Chapter 2

Reference figures with example	Description
<p data-bbox="145 286 810 342">Figures 2.A3, 2.B3, 2.C3, 2.D3, 2.E3, 2.F3, 2.G3, 2.H3, 2.I3, 2.J3, 2.K3, 2.L3, 2.M3, 2.N3, 2.O3, 2.P3, 2.Q3, 2.R3, 2.S3, 2.T3, 2.U3</p> 	<p data-bbox="826 286 1445 427">These bar charts show the distribution of organisations by their achievement against a particular indicator—for example, the number of services by the percentage of babies whose birthweight has been recorded, or the number of services by the percentage of clients who had never smoked.</p> <p data-bbox="826 434 1445 909">This distribution enables the reader to understand how widely the organisation performance or outcomes for clients differ across organisations. It enables the reader to see how many organisations have recorded information for, for example, <10% clients or 100% of clients. This is aided by the breakdown of client populations, which enables the reader to see the number of clients in the denominator within each percentile. The chart also presents median and interquartile values as these also show how different organisations are performing. For example, the lower quartile boundary shows the point below which 25% of the organisations are performing, the median shows where 50% of the organisations are performing and the upper quartile boundary shows the value above which 25% of the services are performing. The national percentage is also shown, and is based on the average of all clients, rather than all organisations (like the median and interquartile values).</p> <p data-bbox="826 916 1406 972">The chart also shows how far above or below the national percentage each organisation is performing.</p> <p data-bbox="826 978 1445 1317">For example, this chart shows 9 organisations had recorded HbA1c results for 90–100% of their Aboriginal and Torres Strait Islander clients with type 2 diabetes in the past 6 months as at December 2013. Of these, 5 organisations had 0–20 Aboriginal and Torres Strait Islander regular clients with type 2 diabetes and 4 organisations had 21–50 Aboriginal and Torres Strait Islander regular clients with type 2 diabetes. The median proportion of clients who had an HbA1c result recorded was 53%. The lower quartile of organisations recorded an HbA1c result for fewer than 40% of their clients and the upper quartile recorded HbA1c results for over 68% of their clients. The national average for all clients was 49%.</p>

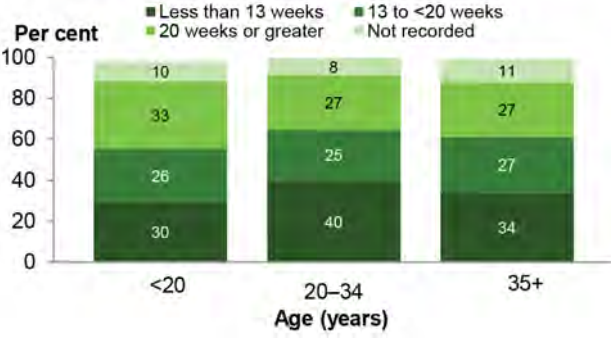
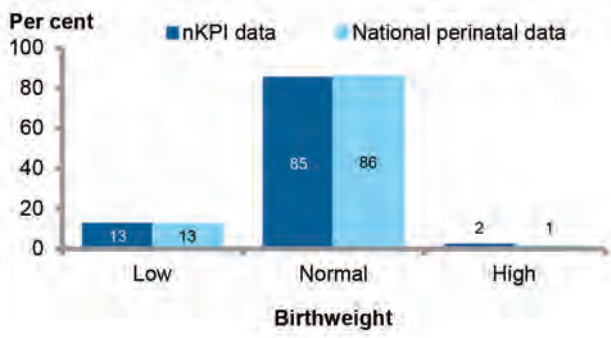
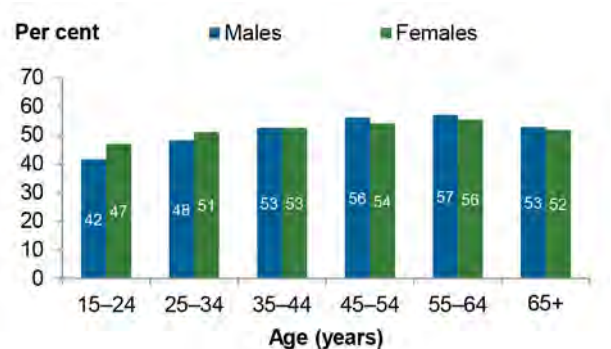
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Table A4.1 (continued): Explanatory guide to figures in Chapter 2

Reference figures with example	Description																												
<p data-bbox="145 286 432 315">Figures 2.B4, 2.D4, 2.F4, 2.V2</p>  <table border="1" data-bbox="167 459 783 784"> <caption>Data for Figure 2.B4: State proportion and interquartile range by jurisdiction</caption> <thead> <tr> <th>Jurisdiction</th> <th>State proportion (%)</th> <th>Upper quartile boundary (%)</th> <th>Lower quartile boundary (%)</th> </tr> </thead> <tbody> <tr> <td>NSW/ACT (61)</td> <td>68</td> <td>~95</td> <td>~35</td> </tr> <tr> <td>Vic/Tas (26)</td> <td>69</td> <td>~95</td> <td>~40</td> </tr> <tr> <td>Qld (25)</td> <td>44</td> <td>~65</td> <td>~25</td> </tr> <tr> <td>WA (22)</td> <td>60</td> <td>~95</td> <td>~40</td> </tr> <tr> <td>SA (14)</td> <td>55</td> <td>~95</td> <td>~10</td> </tr> <tr> <td>NT (51)</td> <td>70</td> <td>~95</td> <td>~65</td> </tr> </tbody> </table>	Jurisdiction	State proportion (%)	Upper quartile boundary (%)	Lower quartile boundary (%)	NSW/ACT (61)	68	~95	~35	Vic/Tas (26)	69	~95	~40	Qld (25)	44	~65	~25	WA (22)	60	~95	~40	SA (14)	55	~95	~10	NT (51)	70	~95	~65	<p data-bbox="820 286 1450 510">Two types of information are presented in these charts: the proportion of clients for whom information has been collected, and the range of results for organisations within a jurisdiction. The percentage of clients for whom information has been collected within a jurisdiction is shown as a column, also with a data label within the graph. This is the combined numerator and denominator information for all organisations within the jurisdiction.</p> <p data-bbox="820 517 1450 656">The interquartile range for a jurisdiction is included to indicate the variation of performance of organisations within a jurisdiction. Median values for organisations within a jurisdiction show the point above and below which 50% of the organisations are performing.</p> <p data-bbox="820 663 1450 857">There are instances when the interquartile limits for a jurisdiction sit above the overall average for all clients in a jurisdiction—for example, the Northern Territory in Figure 2.B4. In these cases, most organisations have a higher result based off a smaller number of clients, while a few organisations with low results and large numbers of clients are pushing the overall jurisdiction result down.</p> <p data-bbox="820 864 1450 1059">This example shows that, for example, the proportion of Aboriginal and Torres Strait Islander babies born in the previous year in Queensland who had their birthweight recorded was 44% as at December 2013. The median result for these organisations was 41% of babies. The lower quartile of organisations had results of 26% or less, while the upper quartile organisations had results of 63% or more.</p> <p data-bbox="820 1066 1450 1095">Note that issues around data validity remain for Figure 2.V2.</p>
Jurisdiction	State proportion (%)	Upper quartile boundary (%)	Lower quartile boundary (%)																										
NSW/ACT (61)	68	~95	~35																										
Vic/Tas (26)	69	~95	~40																										
Qld (25)	44	~65	~25																										
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NT (51)	70	~95	~65																										
<p data-bbox="145 1144 379 1173">Figures 2.B5, 2.D5, 2.F5</p>  <table border="1" data-bbox="167 1254 783 1579"> <caption>Data for Figure 2.B5: Remoteness proportion and interquartile range by remoteness level</caption> <thead> <tr> <th>Remoteness Level</th> <th>Remoteness proportion (%)</th> <th>Upper quartile boundary (%)</th> <th>Lower quartile boundary (%)</th> </tr> </thead> <tbody> <tr> <td>Major cities (25)</td> <td>23</td> <td>~45</td> <td>~15</td> </tr> <tr> <td>Inner regional (42)</td> <td>30</td> <td>~45</td> <td>~15</td> </tr> <tr> <td>Outer regional (42)</td> <td>26</td> <td>~45</td> <td>~15</td> </tr> <tr> <td>Remote (25)</td> <td>30</td> <td>~45</td> <td>~15</td> </tr> <tr> <td>Very remote (61)</td> <td>26</td> <td>~45</td> <td>~15</td> </tr> </tbody> </table>	Remoteness Level	Remoteness proportion (%)	Upper quartile boundary (%)	Lower quartile boundary (%)	Major cities (25)	23	~45	~15	Inner regional (42)	30	~45	~15	Outer regional (42)	26	~45	~15	Remote (25)	30	~45	~15	Very remote (61)	26	~45	~15	<p data-bbox="820 1144 1450 1361">Two types of information are presented in these charts: the proportion of clients for whom information has been collected, and range of results for organisations within a level of remoteness. The percentage of clients for whom information has been collected within a jurisdiction is shown as a column, also with a data label within the graph. This is the combined numerator and denominator information for all organisations within the jurisdiction.</p> <p data-bbox="820 1368 1450 1507">The interquartile range for a level of remoteness is included to indicate the variation of performance of organisations within a level of remoteness. Median values for organisations within a level of remoteness show the point above and below which 50% of the organisations are performing.</p> <p data-bbox="820 1514 1450 1709">This example shows, among other things, that 26% of children aged 0–4 in <i>Very remote</i> areas received an MBS health assessment in the previous 12 months to December 2013. The median result for <i>Very Remote</i> organisations was 33%. The lower quartile of <i>Very Remote</i> organisations had results of 18% or less, while the upper quartile organisations had results of 48% or more.</p>				
Remoteness Level	Remoteness proportion (%)	Upper quartile boundary (%)	Lower quartile boundary (%)																										
Major cities (25)	23	~45	~15																										
Inner regional (42)	30	~45	~15																										
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Remote (25)	30	~45	~15																										
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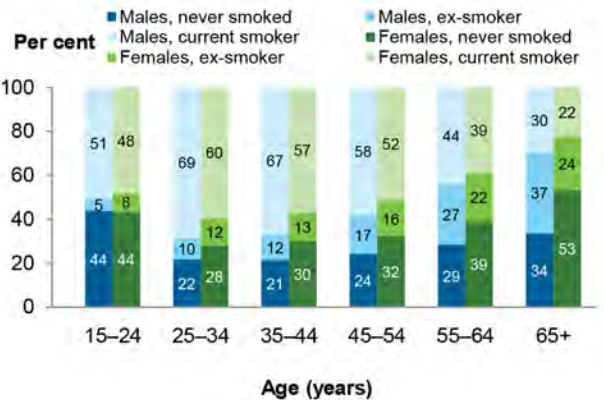
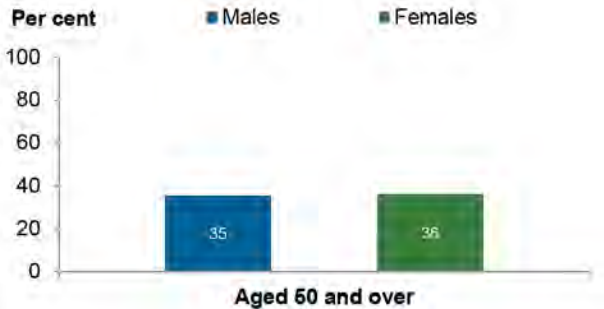
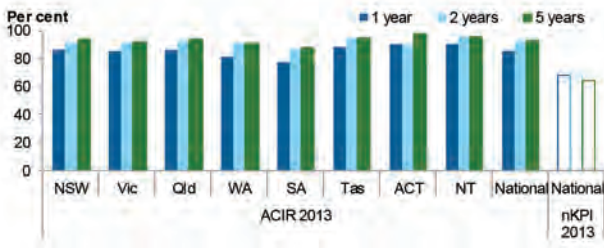
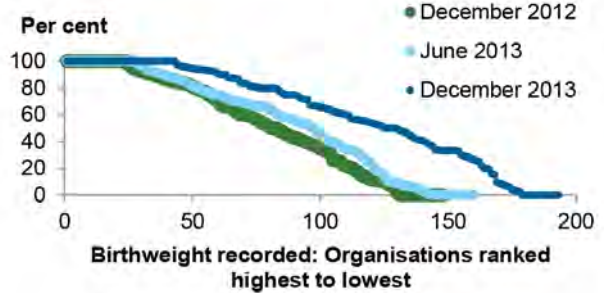
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Table A4.1 (continued): Explanatory guide to figures in Chapter 2

Reference figures with example	Description																					
<p>Figure 2.A4</p>  <table border="1" data-bbox="172 342 786 678"> <caption>Data for Figure 2.A4: Antenatal care attendance by age group</caption> <thead> <tr> <th>Age (years)</th> <th>Less than 13 weeks</th> <th>13 to <20 weeks</th> <th>20 weeks or greater</th> <th>Not recorded</th> </tr> </thead> <tbody> <tr> <td><20</td> <td>30</td> <td>26</td> <td>33</td> <td>10</td> </tr> <tr> <td>20-34</td> <td>40</td> <td>25</td> <td>27</td> <td>8</td> </tr> <tr> <td>35+</td> <td>34</td> <td>27</td> <td>27</td> <td>11</td> </tr> </tbody> </table>	Age (years)	Less than 13 weeks	13 to <20 weeks	20 weeks or greater	Not recorded	<20	30	26	33	10	20-34	40	25	27	8	35+	34	27	27	11	<p>This stacked bar chart shows the pattern of attendance at antenatal care by pregnant women at different ages.</p> <p>For example, of Aboriginal and Torres Strait Islander clients aged less than 20 years, 30% had their first antenatal visit before 13 weeks of pregnancy, 26% had their first visit between 13 weeks but before 20 weeks of pregnancy, 33% had their first visit when they were 20 weeks pregnant or later and for 10% of clients their first antenatal visits were not recorded.</p>	
Age (years)	Less than 13 weeks	13 to <20 weeks	20 weeks or greater	Not recorded																		
<20	30	26	33	10																		
20-34	40	25	27	8																		
35+	34	27	27	11																		
<p>Figure 2.C4</p>  <table border="1" data-bbox="172 779 786 1115"> <caption>Data for Figure 2.C4: Birthweight results comparison</caption> <thead> <tr> <th>Birthweight</th> <th>nKPI data</th> <th>National perinatal data</th> </tr> </thead> <tbody> <tr> <td>Low</td> <td>13</td> <td>13</td> </tr> <tr> <td>Normal</td> <td>85</td> <td>86</td> </tr> <tr> <td>High</td> <td>2</td> <td>1</td> </tr> </tbody> </table>	Birthweight	nKPI data	National perinatal data	Low	13	13	Normal	85	86	High	2	1	<p>This bar chart compares nKPI and NPDC birthweight results (low, normal or high) for Aboriginal and Torres Strait Islander babies.</p> <p>In this chart, for example, according to nKPI data, 85% of Aboriginal and Torres Strait Islander babies born in the previous year had a normal birthweight while NPDC data indicate that 86% of Aboriginal and Torres Strait Islander babies had a normal birthweight.</p>									
Birthweight	nKPI data	National perinatal data																				
Low	13	13																				
Normal	85	86																				
High	2	1																				
<p>Figure 2.E4, 2.H4, 2.I4, 2.J4, 2.K4, 2.O4, 2.P4, 2.Q4, 2.R4, 2.T4</p>  <table border="1" data-bbox="172 1227 786 1574"> <caption>Data for Figure 2.E4, 2.H4, 2.I4, 2.J4, 2.K4, 2.O4, 2.P4, 2.Q4, 2.R4, 2.T4: Client percentage by age and sex</caption> <thead> <tr> <th>Age (years)</th> <th>Males</th> <th>Females</th> </tr> </thead> <tbody> <tr> <td>15-24</td> <td>42</td> <td>47</td> </tr> <tr> <td>25-34</td> <td>48</td> <td>51</td> </tr> <tr> <td>35-44</td> <td>53</td> <td>53</td> </tr> <tr> <td>45-54</td> <td>58</td> <td>54</td> </tr> <tr> <td>55-64</td> <td>57</td> <td>56</td> </tr> <tr> <td>65+</td> <td>53</td> <td>52</td> </tr> </tbody> </table>	Age (years)	Males	Females	15-24	42	47	25-34	48	51	35-44	53	53	45-54	58	54	55-64	57	56	65+	53	52	<p>These bar charts present the percentage of clients by age and sex.</p> <p>This chart shows, for example, that 38% of Aboriginal and Torres Strait Islander males with type 2 diabetes aged 35-44 received a Team Care Arrangement (TCA) in the past 2 years as at December 2013.</p>
Age (years)	Males	Females																				
15-24	42	47																				
25-34	48	51																				
35-44	53	53																				
45-54	58	54																				
55-64	57	56																				
65+	53	52																				

(continued)

Table A4.1 (continued): Explanatory guide to figures in Chapter 2 and Appendix 5

Reference figures with example	Description
<p>Figure 2.L4, 2.M4, 2.N4, 2.S4, 2.U4</p> 	<p>These stacked bar charts present the percentage of clients by age and sex distribution. Different reporting periods or different categories of outcomes are shown in the stacked bars.</p> <p>For example, in this chart, of the males aged 35–44 who had their smoking status recorded, 21% had never smoked, 12% were ex-smokers and 67% were current smokers</p>
<p>Figure 2.G4</p> 	<p>This chart shows the proportion of Aboriginal and Torres Strait Islander males and females aged 50 years and over who were immunised against influenza.</p>
<p>Figure 2.V1</p> 	<p>This chart shows ACIR child immunisation rates, by jurisdiction and with a national total. National nKPI data are outlined and presented to the far right due to issues with data validity.</p> <p>For example, according to nKPI data, 68% of Aboriginal and Torres Strait Islander children nationally are fully immunised at 1 year and 2 years, and 64% of Aboriginal and Torres Strait Islander children nationally are fully immunised at 5 years. According to ACIR data the proportions in every jurisdiction are considerably higher.</p>
<p>Figure 3.2</p> 	<p>This chart shows the detailed distribution of performance across organisations for each process-of-care measure. The performance of organisations can range from 0 to 100%, depending on what proportion of clients they provided a particular service to. In addition, the shape of the curve shows the extent to which organisations are reporting that they are providing the services. If all organisations are performing at 100%, one would expect to see a straight line parallel to the x-axis. The downward sloping lines indicate the deviation of organisations away from this optimal point.</p>

Glossary

Aboriginal: A person of Aboriginal descent who identifies as an Aboriginal and is accepted as such by the community in which he or she lives.

albumin/creatinine ratio (ACR): A measure of renal function that assesses albumin in the urine.

auspiced service: An independent or semi-independent body that has been funded by an Australian Government funded organisation to provide health services.

birth: Birth of a viable fetus, which is defined as a birth occurring after 20 weeks of pregnancy or the fetus weighing greater than 400 grams at birth (live, still, singleton, multiple).

birthweight: Birthweight is defined as low (birthweight of less than 2,500 grams), normal (birthweight of 2,500–4,499 grams) or high (birthweight of 4,500 grams and over).

body mass index (BMI): A measure of an adult's weight (body mass) relative to height used, to assess the extent of weight deficit or excess where height and weight have been measured. BMI is the weight in kilograms divided by the square of the height in metres.

cardiovascular disease (CVD): Any disease of the circulatory system, namely the heart (cardio) or blood vessels (vascular).

cervical screening: A procedure involving a Pap test, which is used to detect cancer and pre-cancerous abnormalities of the cervix.

chronic obstructive pulmonary disease (COPD): Serious, progressive and disabling long term lung disease where damage to the lungs, usually because of both emphysema and chronic bronchitis, obstructs oxygen intake and causes increasing shortness of breath.

continuous quality improvement (CQI): A tool for improving the quality of services provided by organisations involving a systematic approach to collecting and reviewing data or information in order to identify areas for improvement.

estimated glomerular filtration rate (eGFR): A measure of how well the kidneys filter waste from the blood. The eGFR is the best measure of kidney function.

episode of health care: Client contact between an individual and a service by one or more staff to provide health care.

first antenatal visit: The contact at which the initial antenatal check-ups are done; for example, to confirm pregnancy, establish history and conduct blood tests.

full-time equivalent (FTE): An equivalent ratio that represents the number of hours a staff member works; for example, a service having two nurses, one working full-time and one working half-days, would indicate 1.5 FTE for both nursing positions combined.


fully immunised: Describes children who have received all immunisations according to the ACIR. Children aged 12 months to less than 24 months are required to have received all immunisations that are due at 6 months of age—3 doses of DTPa, 3 doses of Polio, 2 or 3 doses of Hib and 2 or 3 doses of Hep B. Children aged 24 months to less than 36 months are required to have received all immunisations that are due at 12 months of age—3 doses of DTPa, 3 doses of Polio, 3 or 4 doses of Hib, 3 doses of Hep B and 1 dose of MMR. Children aged 60 months to less than 72 months are required to have received all immunisations that are due at 4 years of age—4 doses of DTPa, 4 doses of Polio and 2 doses of MMR.

General Practitioner Management Plan (GPMP): Chronic disease management plan carried out according to the MBS Schedule (Item 721).

haemoglobin A1c (HbA1c or glycated haemoglobin): A measurement that acts as an indicator of time-averaged blood glucose levels (over the previous 2–3 months). It is used as the best marker of long-term diabetes control (Jones et al. 2011).

indicator measure: See definition for measure.

Indigenous baby: A baby with at least one parent who identifies as Indigenous (born both to mothers who are Indigenous and mothers who are non-Indigenous).



influenza: An acute contagious viral respiratory infection marked by fever, muscle aches, headache, cough and sore throat.

MBS health assessment: Health assessment for those aged 0–4 and 25 and over carried out according to the MBS Schedule (Item 715).

MMeX: An e-Health platform that includes a client information management system.

national Key Performance Indicators (nKPIs): A set of indicators that monitors the major health issues of the regular client population of Indigenous-specific primary health care services.

national Key Performance Indicator measure (nKPI measure): An nKPI or a part of an nKPI which was analysed and described separately from the other parts of the nKPI.

OCHREStreams: A web portal that aims to reduce the burden of reporting for organisations that provide primary health care and other services to Aboriginal and Torres Strait Islander Australians (health services).

regular client: A client who has visited a particular primary health care provider 3 or more times in the last 2 years.

remoteness: A measure in the Australian Statistical Geography Standard used to classify areas across Australia based on their distance from different services. The main categories are *Major cities*, *Inner regional*, *Outer regional*, *Remote* and *Very remote*.

smoking status: Current smoker—includes those who smoke daily, weekly or less often than weekly; ex-smoker—a person who does not smoke at all now, but has smoked at least 100 cigarettes, or a similar amount of other tobacco product, in his/her lifetime; never smoked—a person who does not smoke now and has smoked fewer than 100 cigarettes or a similar amount of other tobacco product in his/her lifetime.

Team Care Arrangement (TCA): Chronic disease management plan carried out according to the MBS Schedule (Item 723).

time-stamped records: Records that are associated with a particular time and/or date of the record being made or the activity being recorded.

type 2 diabetes: The most common form of diabetes, occurring mostly in people aged 40 or over, and marked by reduced or less effective insulin.

vaccination: The process of administering a vaccine to a person to produce immunity against infection.

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This is the second national report on the national Key Performance Indicators (nKPIs) data collection. It captures data from over 200 primary health care organisations that receive funding from the Australian Government Department of Health to provide services primarily to Aboriginal and Torres Strait Islander people. It presents data for 19 'process-of-care' and 'health outcomes' indicators, which focus on the prevention and management of chronic disease and maternal and child health. The report shows improvements against most of the 'process of care' indicators.

