Data quality information — Health management issues, chapter 12

Data Quality Information

Data quality information (DQI) has been prepared for the first time for the 2011 Report on Government Services. DQI provides information against the seven ABS data quality framework dimensions, for a selection of performance indicators in the Health management issues chapter. DQI for additional indicators will be progressively introduced in future reports.

Where RoGS indicators align with National Agreement indicators, DQI has been sourced from the Steering Committee's reports on National Agreements to the COAG Reform Council.

Technical DQI has been supplied or agreed by relevant data providers. Additional Steering Committee commentary does not necessarily reflect the views of data providers.

DQI are available for the following performance indicators:

Breast cancer

Participation rate of women in the BreastScreen Australia Program target age group

Data quality information for this indicator has been drafted by the Australian Institute of Health and Welfare, with additional Steering Committee comments.

Indicator definition and description

Element	Effectiveness — Access
Indicator	Participation rate of women in the BreastScreen Australia Program target age group.
Measure (computation)	Definition This measure presents the number of women 40 years or over screened in a 2 year period as a proportion of the total female population 40 years or over and age-standardised to the Australian standard population at 30 June 2001, for 50–69 years (the national target age group) and for 40 years or over. The participation rate is also presented for women in 10 year age groups from 40–49 years to 80 years or over. The total female population aged 40 years or over is the average of the Australian Bureau of Statistics (ABS) estimated resident female population aged 40 years or over for the 2 year reporting period. The average population is also used for each of the reported age groups. Numerator/s Total number of women aged 40 years or over and in each of the reported age groups who were screened in the two-year period. Denominator/s Total number of women aged 40 years or over and in each of the reported age groups. Computation/s: 100 × (Numerator ÷ Denominator) and, for 40 years or over and 50–69 years, age-standardised to the Australian population at 30 June 2001.
Data source/s	Numerator/s: State and territory BreastScreen program registers. Denominator/s: For BreastScreen participation: Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP) for females aged 40 years or over. For data by remoteness: ABS' Australian Standard Geographical Classification.

Data Quality Framework Dimensions

Institutional environment	BreastScreen Australia is a joint program of the Australian Government and state and territory governments. The target age group is women aged 50–69 years. BreastScreen Australia program registers in each state and territory are maintained by jurisdictional Program managers. Data from state and territory registers are provided to the Australian Institute of Health and Welfare (AIHW) annually as unit record data. BreastScreen Australia is monitored annually. Results are compiled and

reported at the national level by the AIHW in an annual *BreastScreen Australia monitoring report*.

The Institute is an independent statutory authority within the Health and Ageing portfolio, which is accountable to the Parliament of Australia through the Minister. For further information see the AIHW website (www.aihw.gov.au).

Relevance

BreastScreen Australia registers collect information on all breast cancer screening undertaken as part of BreastScreen Australia. The use of ERP based on Census data for denominators provide the most comprehensive data coverage possible. While BreastScreen data are complete, some breast cancer screening may occur outside the program, and thus this is not a measure of all breast cancer screening in Australia. It is not possible to estimate the number of women screened outside BreastScreen Australia. The BreastScreen Australia data used to calculate this indicator are of high quality.

For participation by state and territory, the numerator is the number of women aged 40 years or over screened in each state and territory in 2008 and 2009, extracted from unit record data supplied by each state and territory. The denominator is the average of the 2008 and 2009 ABS ERP for women aged 40 years or over in each state and territory.

Caution is required when examining differences across states and territories of Australia due to the substantial differences in population, area, geographic structure, policies and other factors.

For participation by remoteness, the numerator is the number of women screened in 2008 and 2009 aged 40 years or over who reside in each of the remoteness categories. A postal area (POA) to SLA to remoteness concordance is used to allocate women screened to remoteness category based on their postcode nationally. The denominator is the average of the 2008 and 2009 ABS remoteness ERPs for women aged 40 years or over.

Caution is required when examining differences across remoteness for several reasons. First, while the postcode of women screened is interpreted as postcode of residence, some women may supply an address other than where they reside, or their postcode may be invalid or missing. Second, because the concordances are based on the 2006 census, postcodes and boundaries may have changed over time, creating inaccuracies. Third, many valid postcodes are omitted from the remoteness concordance, meaning that many screened women are unable to be allocated to a remoteness category.

Breakdown of remoteness by state and territory may introduce an additional source of inaccuracy, since screened women, once allocated a category, also need to be allocated to the state or territory. Because some postcodes cross state and territory boundaries, there is the potential for some women to be allocated to a state or territory different to the one in which they reside.

Timeliness

Data available for the 2011 ROGS report is based on the two-year calendar period 1 January 2008 to 31 December 2009. Data are presented as a rate for the two-year period to reflect the recommended screening interval.

Accuracy

This indicator is calculated on data that have been supplied to the AIHW by individual state and territory registers. Prior to publication, the results of analyses are referred back to states and territories for checking and clearance. Any errors found by states and territories are corrected once confirmed. Thus participation by state and territory, based on the state or territory in which the woman was screened, is both robust and readily verified.

However, states and territories are unable to check or verify participation by remoteness, since their data, once supplied to the AIHW, are nationalised and thereby lose their state or territory identity. Further, while previous *BreastScreen Australia monitoring* reports can be used to verify these data at the national level, they have never reported participation by remoteness data disaggregated by state and territory across all of Australia, and thus these data would be unable to be verified.

Participation by remoteness data disaggregated by state and territory across all of Australia has previously been published in the Report on Government Services, for the period 2004 and 2005 and the period 2005 and 2006. Data for these periods are disaggregated using concordances based on the 2001 census and cannot be directly compared to data for the period 2008 and 2009. The requirement for caution when examining differences across remoteness areas, described above and below in relation to the 2006 Census-based concordances, applies equally to 2001 Census-based concordances. ASGC boundaries based on the 2001 Census differ from boundaries based on the 2006 Census — minor boundary differences can result in apparently large variations where numerators are small numbers.

The need to apply concordances to numerators and denominators introduces an unavoidable level of inaccuracy. As denominator populations for disaggregation by remoteness are based on SLA, the numerator counts for this indicator also need to be based on SLA. Since the allocation of women screened is based on the woman's postcode, this required the generation of a POA to SLA to remoteness concordance. However, postcode data are limiting. These concordances are based on 2006 boundaries and classifications, while the current data for this indicator are for 2008–2009. Overall, many postcodes may not have valid SLA-based remoteness data available, and many may have changed classification group since 2006 and be giving inaccurate information now.

There are several sources of missing values. First, the state or territory may not have a postcode for all women screened, or the postcode supplied may not be valid. For those women that do have a valid postcode, many cannot be allocated to a remoteness category, as their postcode may not be included in the concordances. Further, this may affect some remoteness categories more than others.

The number of women screened in 2008–2009 that are unable to be allocated to a category are as follows (based on state or territory of postcode; no adjustments have been made to account for missing women in the data; does not include all missing data):

Remoteness: 1,079 women excluded (NSW: 221 excluded; Vic: 66 excluded; Qld: 304 excluded; WA: 462 excluded; SA: 0 excluded; Tas: 1 excluded; ACT: 24 excluded; NT: 1 excluded).

Women residing in postcodes that cross boundaries are allocated to the state or territory according to ABS classifications (e.g. 0872 includes women in NT, SA and WA, but is allocated to NT). If a postcode is not included in the poa to state and territory concordance, the women's screening data are allocated to the jurisdiction that supplied that information, by default.

Women are counted only once in the two-year period 1 January 2008 to 31 December 2009, even if they were screened more than once during this period. All women screened in each state and territory are included in order to present the most accurate national picture of breast cancer screening.

No cell suppression was required for the data presented.

The Estimated Resident Population data are provided by the ABS.

Coherence
Some of these data are published annually in Program monitoring reports prepared by the AIHW. The most recent of these reports is *BreastScreen Australia monitoring report 2006–2007 and 2007–2008*, published in 2010. This report includes participation by state and territory, participation by Indigenous status, and participation by remoteness and socioeconomic status categories nationally for the two-year period 2007–2008. However, there were differences in the concordances used and data included compared to this report. Data for 2008–2009 will not be published until 2011, and while also covering participation by state and territory, participation by Indigenous status, and participation by remoteness and socioeconomic status categories nationally, will differ from the current report due to slightly different methods (adjustments to account for missing postcodes for remoteness) that are considered optimal for national monitoring.

Accessibility
The BreastScreen Australia annual reports are available via the AIHW website where they can be downloaded free of charge.

Interpretability
While numbers of women screened are easy to interpret, calculation of age-standardised rates is more complex and the concept may be confusing to some users. Information on how and why age-standardised rates have been calculated and how to interpret them is available in all AIHW BreastScreen Australia monitoring reports, for example, *BreastScreen Australia monitoring report 2006–2007 and 2007–2008*.

Data Gaps/Issues Analysis

Key data gaps/issues
The Steering Committee notes the following issues:

- State and territory and remoteness are based on postcode of residential address at the time of screening.
- Data quality issues arising from the inability to accurately concord postcode — remoteness category data for all participants; 5 year intervals between remoteness category boundary updates mean accuracy reduces over time; work is underway at the ABS to improve these aspects of concordance application.
- Data quality issues arising from variations in practice within and between jurisdictions in terms of the quality of postcode of residence data collected.

Mental health

Clinical mental health service use by special needs groups

Data quality information for this indicator has been sourced from the Steering Committee's report to the COAG Reform Council on the National Healthcare Agreement (data supplied by AIHW) with additional Steering Committee comments.

<u>**Indicator definition and description**</u>

Element	Equity — Access
Indicator	Clinical mental health service use by special needs groups
Measure (computation)	The *numerator* is the number of people receiving mental health services, separately for three service types.
	The *denominator* is the Estimated Resident Population (ERP) as at 30 June 2008.
	Calculation is 100 × (Numerator ÷ Denominator), presented as a percentage and age-standardised to the Australian population as at 30 June 2001, using 5-year age groups to 84 years with ages over 84 years combined. Indigenous population data are not available for all states and territories for 5-year age groups beyond 64 years, so Indigenous disaggregations were standardised to 64 years with ages over 64 years combined.
	These are calculated separately for public, private and Medicare Benefits Schedule (MBS)-funded services.
Data source/s	*Numerators*:
	For Public data: State/Territory community mental health care data.
	For Private data: Private Mental Health Alliance (PMHA) Centralised Data Management Service (CDMS) data.
	For MBS data: Australian Government Department of Health and Ageing (DoHA) Medicare Statistics data.
	Denominator:
	Australian Bureau of Statistics (ABS) Estimated Resident Population (ERP) as at 30 June 2008.
	<u>For data by Indigenous status</u>: ABS Indigenous Experimental Estimates and Projections (Indigenous Population) Series B as at 30 June 2008.
	<u>For data by socioeconomic status</u>: calculated by AIHW using the ABS' Index of Relative Socioeconomic Disadvantage and ERP by Statistical Local Area (SLA) and, where applicable, ABS Postal Area to SLA concordance. Each SLA in Australia is ranked and divided into quintiles and deciles in a population-based manner, such that each quintile has approximately 20 per cent of the population and each decile has approximately 10 per cent of the population.
	<u>For data by remoteness</u>: ABS' Australian Standard Geographical Classification and, where applicable, ABS Postal Area to Remoteness Area concordance.

Institutional environment

The AIHW prepared the denominator and calculated the indicator based on numerators supplied by other data providers. The AIHW is an independent statutory authority within the Health and Ageing portfolio, which is accountable to the Parliament of Australia through the Minister. For further information see the AIHW website.

Numerators for this indicator were prepared by State and Territory health authorities, the PMHA and DoHA and quality-assessed by the AIHW.

The AIHW drafted the initial data quality statement. The statement was finalised by AIHW following input from State and Territory health authorities, PMHA, and DoHA. The AIHW did not have the relevant datasets required to independently verify the data tables for this indicator.

Public data

The State and Territory health authorities receive these data from public sector community mental health services. States and territories use these data for service planning, monitoring and internal and public reporting.

Private data

The PMHA's Centralised Data Management Service provided data submitted by private hospitals with psychiatric beds. The data are used by hospitals for activities such as quality improvement.

MBS data

Medicare Australia collects the MBS data under the Medicare Australia Act 1973. These data are then regularly provided to DoHA. The MBS claims data are an administrative by-product of Medicare Australia administering the Medicare fee-for-service payment systems.

Relevance

Estimates are based on counts of individuals receiving care within the year, by each service type, where each individual is generally counted once regardless of the number of services received. Persons can receive services of more than one type within the year; a count of persons receiving services regardless of type is not available.

A number of persons receiving mental health treatment are not captured in these data sources. These include:

- individuals receiving only admitted and/or residential services from State and Territory public sector specialised mental health services.
- individuals receiving mental health services (other than as admitted patients in private hospitals) funded through other third party funders (eg transport accident insurers, workers compensation insurers) or out of pocket sources.

There is likely to be considerable overlap between the MBS data and private data, as most patients accessing private hospital services would access MBS items in association with the private hospital service.

Public data

Person counts for State and Territory mental health services are counts of persons receiving one or more service contacts provided by public sector community mental health services. South Australia and Tasmania submitted data that were not based on unique patient identifier or data matching approaches.

Private data

Private hospital estimates are counts of individuals receiving admitted patient specialist psychiatric care in private hospitals.

MBS data

MBS data are counts of individuals receiving mental health-specific Medicare services for which claims data are available.

Analyses by state/territory, remoteness and socioeconomic status are based on postcode of residence of the client as recorded by Medicare Australia at the date of last service received in the reference period. As clients may receive services in locations other than where they live, these data do not necessarily reflect the location in which services were received. Further, all MBS services received by clients who moved location during the reference period are allocated to the postcode of their address at date of last service received.

This measure does not include claims that are reimbursed through the Department of Veterans' Affairs (DVA). For 2008-09, it is estimated that DVA clients comprised less than 2 per cent of people receiving Australian Government (MBS- and DVA-reimbursed) clinical mental-health services. The DVA, AIHW and DOHA have been working collaboratively to achieve alignment of DVA and MBS data and it is anticipated that DVA data will be included in this PI for the next reporting cycle.

Timeliness   The reference period for these data is 2008-09.

Accuracy   Cells have been suppressed to protect confidentiality (where the presentation could identify a patient or a single service provider).

Public data

State and Territory jurisdictions differ in their capacity to provide accurate estimates of person receiving services (see above). Additionally, jurisdictions differ in their approaches to counting clients under care. For example, people who are assessed for a mental health service but do not go on to be treated for a mental illness are included in the data by some jurisdictions but not others. Therefore, comparisons between jurisdictions should be made with caution.

The Indigenous status data should be interpreted with caution due to the varying and, in some instances, unknown quality of Indigenous identification across jurisdictions. The Other Australians category includes patients where Indigenous status was missing or not reported (around 11 per cent of all clients).

There is variation in the underlying concept used to allocate remoteness and socioeconomic status across jurisdictions (ie location of service provider, location of client or a combination of both). In addition, the underlying concordances used by jurisdictions to allocate remoteness may vary. Disaggregation by remoteness and socioeconomic status should therefore be interpreted with caution.

Private data

Not all private psychiatric hospitals are included in the PMHA's CDMS.

Those that are included account for approximately 75 per cent of all activity in the sector. The data provided are an estimate of overall activity.

Actual counts are multiplied by a factor that accounts for the proportion of data missing from the CDMS collection. That adjustment is performed at the level of State and Territory, since non-participation rates varied between jurisdictions.

Indigenous status information is not collected for these data.

MBS data

As with any administrative system a small degree of error may be present in the data captured.

Medicare claims data used for statistical purposes are based on enrolment postcode of the patient. This postcode may not reflect the current postcode of the patient if an address change has not been notified to Medicare Australia.

The data provided are based on the date on which a Medicare claim was processed by Medicare Australia, not when the service was rendered. The use of data based on when the claim was processed, rather than when the service was rendered, produces little difference in the total number of persons included in the numerator for the reference period.

People who received more than one type of MBS service are counted once only in the calculations for this indicator.

Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. Indigenous rates are therefore modelled and should be interpreted with caution. These statistics are not derived from the total Australian Indigenous population, but from those Aboriginal and Torres Strait Islander people who have voluntarily identified as Indigenous to Medicare Australia. The statistics have been adjusted to reflect demographic characteristics of the overall Indigenous population, but this adjustment may not address all the differences in the service use patterns of the enrolled population relative to the total Indigenous population. The level of VII enrolment (50 per cent nationally as at August 2010) varies across age-sex-remoteness-State/Territory sub-groups and over time which means that the extent of adjustment required varies across jurisdictions and over time. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians. For an explanation of the methodology, see *Expenditure on health for Aboriginal and Torres Strait Islander people 2006-07*.

Coherence

Public data

There has been no major change to the methodology used to collect the data in 2008-09 for the majority of jurisdictions, therefore their data is comparable to 2007-08. However New South Wales has recently implemented a state wide unique patient identifier for mental health care. During this phase of implementation, New South Wales has indicated that there are differences in the completeness of coverage between areas and over time.

South Australia has also advised that in 2008-09 several services spread across metropolitan Adelaide were consolidated into a single service located in a "least disadvantaged" area (SEIFA quintile 5). As a result this quintile is now reporting the highest age standardised rate of mental health illness.

Additionally, due to system-related issues impacting data quality, Tasmania is unable to provide data by remoteness and socioeconomic status for 2008-09.

Private data

There has been no change to the methodology used to collect the data in 2008-09. Therefore, the data is comparable to 2007-08.

MBS data

The same methodology to attribute demographic information to MBS data has been used in 2008-09 as in previous data.

There were no changes in items selected in 2008-09 compared to the previous period.

The AIHW publication series Mental health services in Australia contains data that is comparable in coverage (using different MBS item splits) and includes a summary of MBS mental health-related items.

The data used in this indicator are also published in the COAG National Action Plan on Mental Health — progress report 2008-09. There may be some differences between the data published in these two sources as in the COAG National Action Plan on Mental Health — progress report 2008-09:

- rates may be calculated using different ERPs other than the June 2008 ERPs used for this indicator,
- the 2008-09 figures are based on preliminary data for the public and private sectors and may not cover the full financial year,
- MBS numbers are extracted using a different methodology. The COAG National Action Plan on Mental Health — progress report 2008-09 counts a patient in each state they resided in during the reference period but only once in the total whereas this indicator counts a patient in only one State/Territory.

The indicator specifications and analysis methodology used for this report are equivalent to the National Healthcare Agreement: Baseline performance report 2008-09.

Accessibility

Information is available in the COAG National Action Plan on Mental Health — progress report 2008-09.

Medicare claims statistics are available at:

http://www.health.gov.au/internet/main/publishing.nsf/Content/Medicare+Statistics-1

https://www.medicareaustralia.gov.au/statistics/mbs_item.shtml

Disaggregation of MBS data by SEIFA is not publicly available elsewhere.

Interpretability

Information is available for MBS claims data from:

http://www.health.gov.au/internet/mbsonline/publishing.nsf/content/medicare-benefits-schedule-mbs-1

Data Gaps/Issues Analysis

Key data gaps/issues

The Steering Committee also notes the following issues:

- Further work is required to obtain comprehensive and consistent data on people with mental illness across the full scope of service streams.
- Disaggregation of this indicator for private patients by Indigenous status is a priority.