Hospital resources 2021–22

Appendix information

National Public Hospital Establishments Database Data Quality statement

This document includes a data quality summary and additional information relevant to interpreting data from the National Public Hospital Establishments Database (NPHED) and other analyses based on these data, including variations in reporting and in the categorisation of hospitals as public or private.

Information relevant to interpretation of the ABS's Private hospitals Australia report is available on the ABS website Private Hospitals, Australia, 2016-17 financial year | Australian Bureau of Statistics.

National Public Hospital Establishments Database data quality statement summary

Data source information and key data quality issues

For 2021–22, the NPHED is based on data provided by state and territory health authorities for the Local Hospital Networks/Public hospital establishments National minimum data set (LHN/PHE NMDS).

The AIHW has undertaken the collection and reporting of the data, through arrangements underpinned by the National Health Information Agreement.

The LHN/PHE NMDS is defined in Local Hospital Networks/Public hospital establishments NMDS 2021–22.

The scope of the LHN/PHE NMDS includes 3 levels of heirarchical reporting:

- public hospital establishments, including public acute and psychiatric hospitals, and alcohol and drug treatment centres. It also includes public hospitals that provide subacute and non-acute care (for example, rehabilitation and palliative care hospitals)
- Local Hospital Networks (LHN)
- at the jurisdictional level, all public hospital services that are managed by a state or territory health authority and are included in the General list of In-scope Public Hospital Services, which has been developed under the National Health Reform Agreement (2011) and excluding data which are already reported in the PHE or LHN levels (above).

The LHN/PHE NMDS allows the collection of recurrent expenditure, revenue, admitted contracted care and staffing information whether delivered and/or managed by hospitals or other administrative units (LHNs and state/territory health authorities).

Similar information at the public hospital establishments-level has been reported in the *Australian hospital statistics* reports since the first report on the 1993–94 and 1994–95 collection periods. Information at the LHN-level and at the jurisdiction-level has been reported since 2014–15.

The LHN/PHE NMDS also includes data elements to allow the reporting of recurrent expenditure on contracted care and the number of beds available for contracted care—this information is not presented as not all states and territories provided it, and the information did not appear to be comparable among them.

Where possible, information is reported at the finest level (for example, by hospital establishment), and is not duplicated at higher levels of reporting. For example, expenditure

data reported at the state/territory health authority level does not include any data reported at the LHN level or at hospital level.

At the establishment-level, the NPHED holds data for each public hospital in Australia, including public acute hospitals, psychiatric hospitals, drug and alcohol hospitals and dental hospitals in all states and territories. Hence, public hospitals not administered by the state and territory health authorities (hospitals operated by correctional authorities for example, and hospitals in offshore territories) are not included. The collection does not include data for private hospitals.

Local hospital networks are defined as those entities recognised as such by the relevant state or territory health authority.

Summary of key data quality issues

States and territories are primarily responsible for the quality of the data they provide. However, the AIHW undertakes extensive validations on receipt of data, checking for valid values, logical consistency and historical consistency. Where possible, data in individual data sets are checked with data from other data sets. Potential errors are queried with the state/territory health authorities, and corrections and resubmissions may be made in response to these queries. Except as noted, the AIHW does not adjust data to account for possible data errors or missing or incorrect values.

Where possible, variations in reporting have been noted in the text. Comparisons between states and territories and between reporting years should be made with reference to the accompanying notes in the chapters and in the appendixes. The AIHW takes active steps to improve the consistency of these data over time.

- In 2021–22, the NPHED included all public hospitals. It also included LHN-level and/or state/territory health authority-level reporting for all states and territories.
- For Northern Territory, financial data was not available at the time of publication.
- The number of hospitals reported can be affected by administrative and/or reporting arrangements and is not necessarily a measure of the number of physical hospital buildings or campuses. Changes in the numbers of hospitals over time can also reflect the opening of new hospitals, the closure of hospitals, the reclassification of hospitals as non-hospital facilities (or vice-versa) and the amalgamation of existing hospitals. For example:
  - For 2017–18, the Perth Children's Hospital opened and the Princess Margaret Hospital closed.
  - For 2018–19, Northern Beaches, Forensic hospital, NSCCAS acute and post-acute centre (NSW), Karratha health campus (WA) and Wilfred lopes centre (TAS), Palmerston Regional Hospital (NT), James Nash House (SA) commenced reporting. Reporting ceased for Leigh Creek health service, Oodnadatta Clinic, Oakden Hospital (SA) Pingelly Hospital (WA), White Cliff MPS and Wynnum Hospital (NSW).
- In 2021–22, there was variation among states and territories in the administrative levels at which revenue, recurrent expenditure and staffing information were reported, including:
  - New South Wales, Queensland, and Western Australia reported this information for all 3 administrative levels

  - Victoria reported information at the LHN and state health authority levels, and none at the public hospital level. Before 2014–15, Victoria reported this information at the network level for hospitals within networks that consisted of more than one hospital, and at the hospital level for LHNs that consisted of individual hospitals. LHN-level reporting in Victoria is therefore likely to be equivalent to the combination of hospital level and LHN-level reporting for other jurisdictions
  - South Australia reported this information at the hospital and state health authority level. Revenue was reported at the LHN level. Other data attributable to the LHN level were included in the data provided at the hospital level
  - Tasmania reported this information at the hospital level and LHN level
  - the Australian Capital Territory reported this information at the hospital level
  - the Northern Territory reported this information at the hospital level. Territory health authority level data were included in the data reported at the hospital level. Note: financial data was not available at the time of publication.
- *Revenue* data are not presented in this report because the data provided by states and territories for the category *National Health Funding Pool* differed from funding reported by the National Health Funding Body (NHFB). These differences may be because:
  - the NHFB figures represent payments into the pool, not payments to service providers
  - there are differences in the timing of the reported data.
- *Available beds for admitted contracted care* and *Recurrent expenditure on contracted care* are not reported in this publication. Not all jurisdictions are able to report these data, and the comparability of the data was not considered adequate for reporting.
- Information on hospital accreditation reported for the NPHED may not be consistent with data reported by the Australian Commission on Safety on Quality in Health Care, and is not comparable across jurisdictions.
- Differences in accounting, counting and classification practices across jurisdictions and over time may affect the comparability of these data. There was apparent variation between states and territories in the reporting of revenue, recurrent expenditure, depreciation, available beds, and staffing categories.
- the range and types of patients treated by a hospital (casemix) can affect the comparability of bed numbers with, for example, different proportions of beds being available for special and more general purposes. In addition:
  - the average number of available beds presented in this report may differ from the counts published elsewhere. For example, counts based on a specified date, such as 30 June, may differ from the average available beds for the reporting period
- The collection of data by staffing category is not consistent among states and territories.
- The outsourcing of services with a large labour-related component (such as food services and domestic services) can have a substantial impact on estimates of costs, and this can vary among jurisdictions.

Hospital funding and expenditure information

In this report, data presented on the funding of hospitals are sourced from the AIHW's Health Expenditure Database (HED), which draws data from a wide variety of government and non-government sources. Hospital funding estimates in the HED can differ from hospital recurrent

expenditure reported to the NPHED—for example, depending on the administrative structures and reporting practices in the jurisdiction.

As a result, financial data reported from the HED are not directly comparable with data reported for public hospital services from the NPHED. Hospital expenditure reported for the purpose of the HED collection may cover activity that is not covered by the NPHED. The HED data include trust fund expenditure, whereas the NPHED does not.

The 2021–22 data from the HED will be available in the second half of 2023.

Hospital funding is reported here as the money provided for the overall public and private hospital systems within each jurisdiction and nationally.

The original (or indirect) sources of funds are reported here rather than the immediate (or direct) sources. As such, the Australian Government is regarded as the source of funds for the contributions that it made for public hospitals via intergovernmental agreements, and for the contributions it made to private hospitals via the private health insurance premium rebates. For the purpose of this report, the sources of funding are disaggregated as:

- Australian Government (including funding via intergovernmental agreements, Department of Veterans' Affairs and private health insurance premium rebates)
- state and territory governments
- non-government sources (including private health insurance, injury compensation insurers, self-funded patients and other sources of private revenue).

As noted above, financial data reported for public hospital services from the HED are not directly comparable with the expenditure data reported from the NPHED for the same period. The HED financial data included trust fund expenditure and central office costs, whereas the NPHED did not. The HED data for public hospital services reflect only that part of public hospitals' expenses that were used in providing hospital services. That is, they exclude expenses incurred in providing community and public health services, dental care, patient transport services and health research undertaken by public hospitals.

Private hospital information

The most recent data available for private hospitals and private free-standing day hospital facilities is for 2016–17, drawn from the Private Health Establishments Collection (PHEC) previously undertaken by the Australian Bureau of Statistics (ABS). The PHEC data were discontinued after the 2016–17 reference period and therefore data for later periods are not available. Data from the PHEC were reported in the ABS's Private Hospitals Australia reports (ABS 2018, and earlier).

Counts of private hospitals can also vary, depending on the source of the information. Therefore, there may be discrepancies between counts of private hospitals from the ABS's PHEC and the numbers of private hospitals contributing to the AIHW's National Hospital Morbidity Database (NHMD). The states and territories reported the latter information, which may not correspond with the way in which private hospitals reported to the ABS's PHEC.

Contracted care

There is some variation between jurisdictions as to whether hospitals that predominantly report public hospital services, but are privately owned and/or operated, are reported as public or private hospitals.

For example, Peel and Joondalup hospitals are private hospitals that predominantly treat public patients under contract to the Western Australian Department of Health. The public health services provided by these two hospitals are reported separately from the private hospital activity.

The Hawkesbury District Health Service was categorised as a private hospital until 2002–03 and has been categorised as a public hospital in AIHW reports since 2003–04. From 2017–18, public hospital activity for the Hawkesbury District Health Service will be reported separately from the private hospital activity.

A list of all public and private hospitals contributing to this report is in Table A.S1 in the *Hospital resources 2021–22 data tables*.

Data reported for the public hospital administrative levels

The collection of public hospital data at LHN level or at state/territory health authority level, in conjunction with the data reported at the individual hospital level, allows data to be reported by states and territories at the level relevant to service management and/or provision.

In sections of this report that present public hospital information on recurrent expenditure and full-time equivalent (FTE) staff, detailed information is presented for the total of all administrative levels. Summary data are presented for the three administrative levels:

- *Public hospitals*—presents information reported for individual public hospitals.
- *Local hospital network*—presents information reported at the LHN level.
- *State/territory health authority*—presents information reported at the state/territory health authority level.

For 2021–22, there was variation among states and territories in the administrative levels at which recurrent expenditure and staffing information were reported. Table 1.1 in the *Hospital resources 2021–22 data tables*, summarises the comparability of the data reported by administrative level for each state and territory.

Average annual changes are presented between 2017–18 and 2021–22, and between 2020–21 and 2021–22, unless otherwise stated.

Annual change rates are not adjusted for any changes in data coverage, changes in metadata and/or re-categorisation of the hospital as public or private, except where noted in the text.

The ‘major public hospital’ in each LHN was identified as the hospital with the greatest amount of admitted patient activity among the included hospitals.

Limitations of the data on staffing

From 2014–15, staffing information reported to the NPHED includes FTE staff reported for public hospitals, for LHNs and for state/territory health authorities. For more information, see ‘Data reported for the public hospital administrative levels’, and Table 1.1 in the *Hospital resources 2021–22 data tables*.

In addition, for 2021–22:

- for Western Australia and the Northern Territory, *Salaried medical officers* were not disaggregated into *Specialist medical officers* and *Other salaried medical officers* as these sub-categories were not comparable with the data for other jurisdictions

- the collection of data by staffing category for public hospitals was not consistent among states and territories. In particular, there was variation in the reporting of *Diagnostic and allied health professionals, Administrative and clerical staff* and *Domestic and other personal care staff*.

Staffing numbers can include staff on contract (for example, nurses and medical officers), but exclude staff contracted to provide products (for example, contractors employed to refurbish an area).

Different reporting practices and the use of outsourcing services with a large labour-related component (such as food services, domestic services and information technology) can have a substantial impact on staffing figures and may also explain some of the variation in average salaries reported between jurisdictions. The degree of outsourcing of higher paid versus lower paid staffing functions affects the comparison of averages. For example, outsourcing the provision of domestic services but retaining domestic service managers to oversee the activities of the contractors tends to result in higher average salaries for the domestic service staff. Information was not available on numbers of visiting medical officers who were contracted by public hospitals to provide services to public patients and paid on a sessional or fee-for-service basis in public hospitals.

Limitations of the data on expenditure on public hospital services

From 2014–15, recurrent expenditure reported to the NPHED includes expenditure on public hospital services by public hospitals, by LHNs and by state/territory health authorities and includes expenditure on the provision of contracted care by private hospitals. For more information, see Table 1.1 in the *Hospital resources 2020–21 data tables*. In addition:

- After 2014–15, for the purpose of reporting recurrent expenditure on public hospital services by public hospital peer group in this report, the AIHW assigned the recurrent expenditure reported by Victoria at LHN level to the 'major hospital' in the LHN—identified as the hospital with the greatest amount of admitted patient activity in the LHN.

Variation in expenditure on visiting medical officers may reflect differences in outsourcing arrangements. Variations in the outsourcing arrangements may also be reflected in variations in other recurrent expenditure categories reported in Table 2.7, in the *Hospital resources 2021–22 data tables*.

Estimated data indicators

For 2021–22, estimated data indicators were included for each category in *Salary and wage expenditure*, *Non-salary expenditure* and Revenue. The estimated data indicators specify whether the information reported reflected actual data, or estimated data.

More information on estimated data is available in Table A1 in the *Hospital resources 2021–22 data tables*.

Hospital beds

Differences in administrative practices and in the measures of beds used between public and private hospitals should be considered when interpreting the information presented in this section.

For public hospitals, counts of available beds are averaged over the reporting period and include:

- *Average available beds for same-day patients*—beds, chairs or trolleys exclusively or predominantly available to provide accommodation for same-day patients
- *Average available beds for overnight-stay patients*—beds exclusively or predominantly available to provide overnight accommodation for patients (other than neonatal cots and beds occupied by hospital-in-the-home patients).

Technical notes

Definitions

If not otherwise indicated, data elements were defined according to the definitions in the Local Hospital Networks/Public hospital establishments NMDS 2021–22.

Geographical classification

Information on the location of public hospitals is reported to the NPHED. The remoteness area of each public hospital was determined based on its street address.

Data on geographical location of the hospital location are defined using the ABS's Australian Statistical Geography Standard (ASGS) Remoteness Structure 2016 which categorises geographical areas in Australia into remoteness areas. The classification is as follows:

- *Major cities*—for example: Sydney, Melbourne, Brisbane, Adelaide, and Perth
- *Inner regional*—for example: Hobart, Launceston, Wagga Wagga and Bendigo
- *Outer regional*—for example: Darwin, Moree, Cairns, Charters Towers and Albany
- *Remote*—for example: Port Lincoln, Esperance, Queenstown, and Alice Springs
- *Very remote*—for example: Mount Isa, Coober Pedy, Port Hedland, and Tennant Creek.

Australian Refined Diagnosis Related Groups

In this report, Australian Refined Diagnosis Related Groups (AR-DRG) sourced from the National Hospital Morbidity Database (NHMD) are used to measure the complexity of cases in hospitals (for example, counts of AR-DRGs for which a hospital reported at least 5 separations) and to derive the clinical specialties that are provided by hospitals.

For more information on the AR-DRG classification, see the IHPA website - AR-DRGs | IHACPA

Presentation of data

Throughout the publication, percentages may not add up to 100.0 because of rounding. Percentages and rates printed as 0.0 or 0 generally indicate a zero. The symbol '<0.1' has been used to denote less than 0.05 but greater than 0.

Suppression of data

The AIHW operates under a strict privacy regime which has its basis in Section 29 of the Australian Institute of Health and Welfare Act 1987 (AIHW Act). Section 29 requires that confidentiality of data relating to persons (living and deceased) and organisations be maintained. The Privacy Act 1988 governs confidentiality of information about living individuals.

The AIHW is committed to reporting that maximises the value of information released for users while being statistically reliable and meeting legislative requirements described above.

Data (cells) in tables may be suppressed to maintain the privacy or confidentiality of a person or organisation, or because a proportion or other measure related to a small number of events and may therefore not be reliable.

Analysis methods

Counting activity

Counts of separations and patient days were sourced from admitted patient care data reported for the NHMD for 2021–22.

Records for 2021–22 are for hospital separations in the period from 1 July 2021 to 30 June 2022. Data on patients who were admitted on any date before 1 July 2021 are included, if they also separated between 1 July 2021 and 30 June 2022. A record is included for each separation, not for each patient, so patients who separated more than once in the year have more than one record in the NHMD.

Records for *Hospital boarders* and *Posthumous organ procurement* were excluded from counts of separations. Records for *Newborn* episodes without qualified days are also excluded unless specified otherwise.

A patient day (or day of patient care) means an admitted patient occupied a hospital bed (or chair in the case of some same-day patients) for all or part of a day. The length of stay for an overnight patient is calculated by subtracting the date the patient is admitted from the date of separation and deducting days the patient was on leave. A same-day patient is allocated a length of stay of 1 day.

Patient day statistics can be used to provide information on hospital activity that, unlike separation statistics, account for differences in length of stay. As the database contains records for patients separating from hospital during the reporting period (1 July 2021 to 30 June 2022), this means that not all patient days reported will have occurred in that year.

It is expected, however, that patient days for patients who separated in 2021–22, but who were admitted before 1 July 2021, will be balanced overall by the patient days for patients in hospital on 30 June 2022 who will separate in future reporting periods.

Estimated resident populations

All populations are based on the estimated resident population (ERP) as at 30 June of the start of the reporting period, that is 30 June 2021. The ERP for previous years has been rebased with the 2021 Census and hence will differ with previously published data.

Hospital peer groups

This report uses the AIHW current peer group classification, developed by the AIHW in consultation with the Australian Hospital Statistics Advisory Committee and the Private Hospital Statistics Advisory Committee in 2013 and 2014.

Peer group classifications are outlined in the AIHW report, *Australian hospital peer groups*.

The peer group to which each public hospital is assigned is included in Table AS.1 in the *Hospital resources 2021–22 data tables*.