# 13 Mental Health Management

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This chapter reports on the Australian, State and Territory governments’ management of mental health and mental illnesses. Performance reporting focuses on State and Territory governments’ specialised mental health services, and mental health services subsidised under the Medicare Benefits Schedule (MBS) (provided by General Practitioners (GPs), psychiatrists, psychologists and other allied health professionals).

Further information on the Report on Government Services including other reported service areas, the glossary and list of abbreviations is available at https://www.pc.gov.au/research/ ongoing/report-on-government-services.

## 13.1 Profile of mental health management

Mental health relates to an individual’s ability to negotiate the daily challenges and social interactions of life without experiencing undue emotional or behavioural incapacity (DHAC 1999). The World Health Organization describes positive mental health as:

… a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community (WHO 2001).

Mental illness is a term that describes a diverse range of behavioural and psychological conditions. These conditions can affect an individual’s mental health, functioning and quality of life. Each mental illness is unique in its incidence across the lifespan, causal factors and treatments.

### Service overview

There are a range of services provided or funded by Australian, State and Territory governments that are specifically designed to meet the needs of people with mental health issues; the key services are:

* MBS subsidised mental health specific services that are partially or fully funded under Medicare on a fee-for-service basis and are provided by GPs, psychiatrists, psychologists or other allied health professionals under specific mental health items.
* State and Territory government specialised mental health services (treating mostly low prevalence, but severe, mental illnesses), which include:
* Admitted patient care in public hospitals — specialised services provided to inpatients in stand-alone psychiatric hospitals or psychiatric units in general acute hospitals[[1]](#footnote-1).
* Community-based public mental health services, comprising:
* ambulatory care services and other services dedicated to assessment, treatment, rehabilitation and care, and
* residential services that provide beds in the community, staffed onsite by mental health professionals.
* Not for profit, non-government organisation (NGO) services, funded by the Australian, State and Territory governments focused on providing well-being, support and assistance to people who live with a mental illness.
* The National Disability Insurance Scheme (NDIS), which began full roll out in July 2016. People with a psychiatric disability who have significant and permanent functional impairment will be eligible to access funding through the NDIS. In addition, people with a disability other than a psychiatric disability, may also be eligible for funding for mental health related services and support if required.

There are also other health services (for example, specialist homelessness services) provided and/or funded by governments that make a significant contribution to the mental health treatment of people with a mental illness, but are not specialised or specific mental health services. Information on these non-specialised services provided in hospitals can be found in *Mental Health Services in Australia* (AIHW 2018).

### Roles and Responsibilities

State and Territory governments are responsible for the funding, delivery and/or management of specialised mental health services including inpatient/admitted care in hospitals, community-based ambulatory care and community-based residential care.

The Australian Government is responsible for the oversight and funding of a range of mental health services and programs that are primarily provided or delivered by private practitioners or NGOs. These services and programs include MBS subsidised services provided by GPs (under both general and specific mental health items), private psychiatrists and other allied mental health professionals, Pharmaceutical Benefits Scheme (PBS) funded mental health related medications and other programs designed to prevent suicide or increase the level of social support and community-based care for people with a mental illness and their carers. The Australian Government also funds State and Territory governments for health services, most recently through the approaches specified in the National Health Reform Agreement (NHRA) which includes a mental health component.

A number of national initiatives and nationally agreed strategies and plans underpin the delivery and monitoring of mental health services in Australia including:

* the *Mental Health Statement of Rights and Responsibilities* (Australian Health Ministers 1991)
* the *National Mental Health Policy* 2008
* the *National Mental Health Strategy* (DoH 2014)
* five-yearly National Mental Health Plans, with the most recent ― the *Fifth National Mental Health and Suicide Prevention Plan* — endorsed in August 2017 (COAG 2017).

### Funding

Nationally, real government recurrent expenditure of around $8.7 billion was allocated to mental health services in 2016‑17, equivalent to $355.94 per person in the population (table 13A.1 and figure 13.1). State and Territory governments made the largest contribution ($5.7 billion or 65.4 per cent, which includes Australian Government funding under the NHRA), with Australian Government expenditure of $3.0 billion (table 13A.1).

Expenditure on MBS subsidised services was the largest component of Australian Government expenditure on mental health services in 2016‑17 ($1.2 billion or 39.3 per cent) (table 13A.2). This comprised MBS payments for psychologists and other allied health professionals (18.2 per cent), consultant psychiatrists (11.6 per cent) and GP services (9.5 per cent) (table 13A.2). Another significant area of Australian Government expenditure on mental health services in 2016‑17 was expenditure under the PBS for mental health related medications ($496.1 million) (table 13A.2).

Nationally, expenditure on admitted patient services is the largest component of State and Territory governments’ expenditure on specialised mental health services ($2.6 billion or 45.0 per cent) in 2016‑17, followed by expenditure on community-based ambulatory services ($2.1 billion or 36.9 per cent) (table 13A.3). State and Territory governments’ expenditure on specialised mental health services, by source of funds and depreciation (which is excluded Community-based from reporting) are in tables 13A.4 and 13A.5 respectively.

| Figure 13.1 Real government recurrent expenditure on mental health services, by funding source (2016‑17 dollars)**a** |
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| | Figure 13.1 Real government recurrent expenditure on mental health services, by funding source (2016-17 dollars)  More details can be found within the text surrounding this image. | | --- | |
| a See tables 13A.1; 13A.2 and 13A.4 for detailed footnotes and caveats. |
| *Source*: Department of Health (unpublished); Australian Institute of Health and Welfare (AIHW) (unpublished) Mental Health Establishments (MHE) National Minimum Data Set (NMDS); table 13A.1. |
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### Size and scope of sector

In 2016‑17, 1.8 per cent and 10.2 per cent of the total population received State and Territory governments’ specialised mental health services and MBS/ Department of Veterans’ Affairs (DVA) services, respectively (figure 13.2). While the proportion of the population using State and Territory governments’ specialised mental health services has remained relatively constant, the proportion using MBS/DVA services has increased steadily over time from 5.9 per cent in 2008‑09 to 10.2 per cent in 2016‑17 (table 13A.7). Much of this growth has come from greater utilisation of GP mental health specific services (from 4.4 per cent to 8.3 per cent) and other allied health services (1.7 per cent to 3.2 per cent) over that period (table 13A.7).

| Figure 13.2 Population receiving mental health services, by service type, 2016‑17**a** |
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| | Figure 13.2 Population receiving mental health services, by service type, 2016-17  More details can be found within the text surrounding this image. | | --- | |
| a See table 13A.7 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (unpublished) derived from data provided by State and Territory governments and Australian Government, Department of Health and DVA; ABS (unpublished) Estimated Residential Population, 30 June (prior to relevant period); table 13A.7. |
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Information on the proportion of *new* consumers who accessed State and Territory governments’ specialised and MBS subsidised mental health services are available in tables 13A.8–9.

#### MBS subsidised mental health services

In 2016‑17, GPs provided 3.4 million MBS subsidised specific mental health items. A further 7.7 million MBS subsidised mental health services were provided by psychiatrists (2.4 million), psychologists (4.9 million) and other allied health professionals (0.4 million). Service usage rates varied across states and territories (table 13A.10).

#### State and Territory governments’ specialised mental health services

Across states and territories, the mix of admitted patient and community-based services and care types can differ. As the unit of activity varies across these three service types, service mix differences can be partly understood by considering items which have comparable measurement such as expenditure (table 13A.3), numbers of full time equivalent (FTE) direct care staff (table 13A.11), accrued mental health patient days (table 13A.12) and mental health beds (table 13A.13).

Additional data are also available on the most common principal diagnosis for admitted patients, community‑based ambulatory contacts by age group and specialised mental health care by Indigenous status in *Mental Health Services in Australia* (AIHW 2018).

#### National Disability Insurance Scheme

By 2019‑20, the number of participants in the NDIS with a significant and enduring primary psychosocial disability is estimated to be approximately 64 000 (NDIA 2017). In 2017‑18, there were 13 482 NDIS participants (active with an approved plan) with a psychosocial disability (NDIA 2018).

## 13.2 Framework of performance indicators

Box 13.1 describes the vision and objectives for mental health services. The vision and objectives draw on governments’ broad objectives as expressed in the *National Mental Health Policy 2008* and the *Fifth National Mental Health and Suicide Prevention Plan*.

| Box 13.1 Objectives |
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| Mental health services aim to:   * promote mental health and wellbeing, and where possible prevent the development of mental health problems, mental illness and suicide, and * when mental health problems and illness do occur, reduce the impact (including the effects of stigma and discrimination), promote recovery and physical health and encourage meaningful participation in society, by providing services that: * are high quality, safe and responsive to consumer and carer goals * facilitate early detection of mental health issues and mental illness, followed by appropriate intervention * are coordinated and provide continuity of care * are timely, affordable and readily available to those who need them * are sustainable.   Governments aim for mental health services to meet these objectives in an equitable and efficient manner. |
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The performance indicator framework provides information on equity, efficiency and effectiveness, and distinguishes the outputs and outcomes of mental health services (figure 13.3).

The performance indicator framework shows which data are complete and comparable in the 2019 Report. For data that are not considered directly comparable, text includes relevant caveats and supporting commentary. Chapter 1 discusses data comparability, data completeness and information on data quality from a Report‑wide perspective. In addition to section 13.1, the Report’s statistical context chapter (chapter 2) contains data that may assist in interpreting the performance indicators presented in this chapter. Chapters 1 and 2 are available from the website at https://www.pc.gov.au/research/ongoing/report-on-government-services.

Improvements to performance reporting for mental health services are ongoing and include identifying data sources to fill gaps in reporting for performance indicators and measures, and improving the comparability and completeness of data.

| Figure 13.3 Mental health management performance indicator framework |
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| | Figure 13.3 Mental health management performance indicator framework  More details can be found within the text surrounding this image. | | --- | |
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## 13.3 Key performance indicator results

Different delivery contexts, locations and types of consumers can affect the equity, effectiveness and efficiency of mental health management services.

The comparability of performance indicator results are shaded in indicator interpretation boxes, figures and chapter and attachment tables as follows:

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| --- | --- | --- | --- |
|  |  |  | Data are comparable (subject to caveats) across jurisdictions and over time. |
|  |  |  | Data are either not comparable (subject to caveats) within jurisdictions over time or are not comparable across jurisdictions or both. |

The completeness of performance indicator results are shaded in indicator interpretation boxes, figures and chapter and attachment tables as follows:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | Data are complete (subject to caveats) for the current reporting period. All required data are available for all jurisdictions. |
|  |  |  | Data are incomplete for the current reporting period. At least some data were not available. |

### Outputs

Outputs are the services delivered (while outcomes are the impact of these services on the status of an individual or group) (see chapter 1). Output information is critical for equitable, efficient and effective management of government services.

#### Equity

##### Access — mental health service use by selected community groups

‘Mental health service use by selected community groups’ is an indicator of governments’ objective to provide mental health services in an equitable manner (box 13.2).

| Box 13.2 Mental health service use by selected community groups |
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| ‘Mental health service use by selected community groups’ is defined by two measures:   * the proportion of the population in a selected community group using the service, compared to the proportion of the population outside the selected community group, for each of: * State and Territory governments’ specialised public mental health services * MBS subsidised mental health services.   The selected community groups reported are Aboriginal and Torres Strait Islander Australians, people from outer regional, remote and very remote locations and people residing in low socioeconomic areas (Socio Economic Indexes for Areas (SEIFA) quintiles 1 and 2).  Results for this indicator should be interpreted with caution. Variations in use could be due to variations in access, but could also be a result of differences in the prevalence of mental illness. It also does not provide information on whether the services are appropriate for the needs of the people receiving them, or correctly targeted to those most in need.  Data reported for the State and Territory governments’ specialised public mental health services’ measure:  are not comparable across jurisdictions or within jurisdictions over time.  are complete (subject to caveats) for the current reporting period. All required 2016‑17 data are available for all jurisdictions.  Data reported for the MBS subsidised mental health services measure are:  comparable (subject to caveats) across jurisdictions and over time (from 2011‑12 onwards by geographic location and SEIFA).  complete (subject to caveats) for the current reporting period. All required 2016‑17 data are available for all jurisdictions. |
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While a higher proportion of the population access MBS subsidised mental health services than State and Territory governments’ specialised mental health services, the pattern of service use across the selected community groups differs (tables 13A.14‑16).

For State and Territory governments’ specialised mental health services, a higher proportion of Aboriginal and Torres Strait Islander Australians access these services than non‑Indigenous Australians (figure 13.4 and table 13A.15). This is similar for people residing in low socioeconomic areas (SEIFA quintiles 1 and 2) compared to people residing in high socioeconomic areas (SEIFA quintiles 4 and 5) (table 13A.14). Nationally, for people in outer regional, remote and very remote areas, the proportion of people accessing these services is higher than in inner regional areas and major cities, but results varied across jurisdictions (table 13A.16).

For MBS subsidised mental health services nationally, a similar proportion of Aboriginal and Torres Strait Islander Australians and non‑Indigenous Australians accessed these services, but results varied across jurisdictions (figure 13.4 and table 13A.15). A higher proportion of people who reside in low socioeconomic areas (SEIFA quintiles 1 and 2) are accessing MBS services than people who reside in high socioeconomic areas (SEIFA quintiles 4 and 5), both nationally and across all states and territories (table 13A.14). For people in outer regional, remote and very remote areas, the proportions accessing MBS subsidised services were lower than for people in inner regional and major cities, both nationally and across all states and territories (table 13A.16).

| Figure 13.4 Population using mental health services, by Indigenous status and service type, 2016‑17**a** | | |
| --- | --- | --- |
| **State and Territory governments’ specialised public mental health services** | | |
|  |  | Data are not comparable across jurisdictions. |
|  |  | Data are complete (subject to caveats) for the current reporting period. |
| | **Figure 13.4 Population using mental health services, by Indigenous status and service type, 2016-17  State and Territory governments' specialised public mental health services  More details can be found within the text surrounding this image.MBS subsidised mental health services** | | | | --- | --- | --- | |  |  | Data are comparable (subject to caveats) across jurisdictions. | |  |  | Data are complete (subject to caveats) for the current reporting period. | | Figure 13.4 Population using mental health services, by Indigenous status and service type, 2016-17  MBS subsidised mental health services  More details can be found within the text surrounding this image. | | | | | |
| a See box 13.2 and table 13A.15 for detailed definitions, footnotes and caveats. | | |
| *Source*: AIHW (unpublished) derived from data provided by State and Territory governments, Department of Health and DVA; ABS (unpublished) Estimated Residential Population, 30 June (prior to relevant period); table 13A.15. | | |
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Data on the use of private hospital mental health services are also contained in tables 13A.14–16 and 13A.7.

#### Effectiveness

##### Access — timely access to mental health care

‘Timely access to mental health care’ is an indicator of governments’ objective to provide services in a timely manner (box 13.3). Measures and data are reported for the first time in this Report.

| Box 13.3 Timely access to mental health care |
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| ‘Timely access to mental health care’ is defined as the proportion of people who present to an emergency department with a mental health related care need (principal diagnosis of F00–F99) seen within clinically recommended waiting times.  The proportion of people seen within clinically recommended waiting times is defined as the proportion of patients seen within the benchmarks set by the Australasian Triage Scale. The Australasian Triage Scale is a scale for rating clinical urgency, designed for use in hospital‑based emergency services in Australia and New Zealand. The benchmarks, set according to triage category, are as follows:   * triage category 1: need for resuscitation — patients seen immediately * triage category 2: emergency — patients seen within 10 minutes * triage category 3: urgent — patients seen within 30 minutes * triage category 4: semi‑urgent — patients seen within 60 minutes * triage category 5: non‑urgent — patients seen within 120 minutes.   High or increasing proportions of patients seen within the recommended waiting times is desirable. Contextual data for all presentations (not just those with a mental health related care need) are reported in chapter 12.  This is a partial measure for this indicator as emergency departments are only one of many services that provide access to mental health care. Future reporting will focus on timely access to State and Territory governments’ specialised public mental health services and MBS subsidised mental health services. Contextual information on the proportion of people with a mental health condition who waited longer than they felt acceptable to get an appointment with a medical specialist can be found in table 13A.18. However, the data do not provide information on whether the person saw the specialist for their mental health condition.  Data reported for this indicator are:  comparable (subject to caveats) across jurisdictions.  complete (subject to caveats) for the current reporting period. All required 2016‑17 are available for all jurisdictions. |
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Nationally in 2016‑17, 68.0 per cent of people who presented to an emergency department with a mental health related care need were seen within clinically recommended waiting times. Proportions varied across jurisdictions (figure 13.5).

| Figure 13.5 Proportion of mental health related emergency department presentations seen within clinically recommended waiting times, 2016‑17**a** | | |
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|  |  | Data are comparable (subject to caveats) across jurisdictions. |
|  |  | Data are complete (subject to caveats) for the current reporting period. |
| | Figure 13.5 Proportion of mental health related emergency department presentations seen within clinically recommended waiting times, 2016-17  More details can be found within the text surrounding this image. | | --- | | | |
| a See box 13.3 and table 13A.17 for detailed definitions, footnotes and caveats. | | |
| *Source*: AIHW (2018) *Mental Health Services in Australia*; table 13A.17. | | |
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##### Access — affordability of mental health care

‘Affordability of mental health care’ is an indicator of governments’ objective to provide services that are affordable (box 13.4).

| Box 13.4 Affordability of mental health care |
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| ‘Affordability of mental health care’ is defined by three measures:   * The proportion of people with a mental health condition who delayed seeing or did not see a GP for their mental health condition due to cost. * The proportion of people with a mental health condition who delayed filling or did not fill a prescription for their mental health condition due to cost. * The proportion of people with a mental health condition who delayed seeing or did not see a psychologist, psychiatrist or other allied mental health professional for their mental health condition due to cost.   A low or decreasing proportion for each measure is desirable.  Data are not yet available for reporting against this indicator. |
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Contextual information on self‑reported cost barriers in accessing health services by people with a mental health condition are in table 13A.19, but these data do not distinguish if the intended access was specifically related to their mental health condition.

##### Access — mental health service use estimates

‘Mental health service use estimates’ is an indicator of governments’ objective to provide services that are readily available to those who need them (box 13.5).

| Box 13.5 Mental health service use estimates |
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| ‘Mental health service use estimates’ is defined as the estimated proportion of the population with a mental health condition receiving a mental health service.  A high or increasing proportion of the population with a mental health condition receiving mental health services suggests greater access to treatment. However, not all people with a mental health condition will want or need treatment. Furthermore, accessing a service does not guarantee that the service will be effective.  An agreed method for reporting against this indicator is not yet available. |
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##### Appropriateness — primary mental health care for children and young people

‘Primary mental health care for children and young people’ is an indicator of governments’ objective to facilitate early detection of mental health issues and mental illness, followed by appropriate intervention (box 13.6).

| Box 13.6 Primary mental health care for children and young people |
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| ‘Primary mental health care for children and young people’ is defined as the proportion of young people aged under 25 years who received a mental health care service subsidised through the MBS from a GP, psychologist or other allied health professional.  High or increasing proportions of young people who had contact with MBS subsidised primary mental health care services is desirable.  Results for this indicator should be interpreted with caution. Variations in use could be due to variations in access, but could also be a result of differences in the prevalence of mental illness. In addition, this indicator does not provide information on whether the services are appropriate for the needs of the young people receiving them, or correctly targeted to those young people most in need. Further, some primary mental health services for children and young people are excluded from these data; for example, community health centres, school and university counsellors and health nurses and some mental health care provided by State and Territory governments’ specialised mental health services (NMHPSC 2011a).  Data reported for this indicator are:  comparable (subject to caveats) across jurisdictions and over time.  complete (subject to caveats) for the current reporting period. All required 2017‑18 data are available for all jurisdictions. |
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The proportion of all children and young people who receive MBS subsidised primary mental health care services has increased gradually over time (table 13A.20). The proportion increases as age increases; with the highest proportion for young people aged 18–24 years (12.7 per cent of this population receiving these primary mental health care services nationally in 2017‑18) (figure 13.6). The proportion of young females who had contact with MBS subsidised primary mental health care services is higher than that of males across all years reported (table 13A.21) Data by Indigenous status and service type are available in tables 13A.21–22.

| Figure 13.6 Children and young people who received MBS subsidised primary mental health care, by age group, 2017‑18**a** | | |
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|  |  | Data are comparable (subject to caveats) across jurisdictions. |
|  |  | Data are complete (subject to caveats) for the current reporting period. |
| | Figure 13.6 Children and young people who received MBS subsidised primary mental health care, by age group, 2017-18  More details can be found within the text surrounding this image. | | --- | | | |
| a See box 13.6 and table 13A.20 for detailed definitions, footnotes and caveats. | | |
| *Source*: Australian Government Department of Health (unpublished); table 13A.20. | | |
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##### Appropriateness — consumer and carer involvement in decision making

‘Consumer and carer involvement in decision making’ is an indicator of governments’ objective to provide universal access to services that are responsive to consumer and carer goals (box 13.7).

| Box 13.7 Consumer and carer involvement in decision making |
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| ‘Consumer and carer involvement in decision making’ is defined by two measures, the number of paid FTE:   * consumer staff per 1000 FTE direct care staff * carer staff per 1000 FTE direct care staff.   High or increasing proportions of paid FTE direct care staff who are consumer or carer staff implies better opportunities for consumers and carers to influence the services received.  Data reported for this indicator are:  comparable (subject to caveats) across jurisdictions and (from 2010‑11) over time.  complete for the current reporting period. All required 2016‑17 data are available for all jurisdictions. |
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The number of paid FTE consumer and carer staff per 1000 paid FTE direct care staff are reported in figures 13.7 and 13.8 respectively.

| Figure 13.7 Paid FTE consumer staff per 1000 paid FTE direct care  staff**a, b** | | |
| --- | --- | --- |
|  |  | Data are comparable (subject to caveats) across jurisdictions and over time. |
|  |  | Data are complete for the current reporting period. |
| | Figure 13.7 Paid FTE consumer staff per 1000 paid FTE direct care  staff  More details can be found within the text surrounding this image. | | --- | | | |
| a See box 13.7 and table 13A.23 for detailed definitions, footnotes and caveats. b Tasmania did not employ consumer staff in 2012‑13. Consumer and carer staff could not be separately identified in the ACT for 2012‑13 to 2015‑16. The Australian total excludes ACT for 2012‑13 to 2015‑16. | | |
| *Source*: AIHW (unpublished) MHE NMDS; table 13A.23. | | |
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| Figure 13.8 Paid FTE carer staff per 1000 paid FTE direct care staff**a, b** | | |
| --- | --- | --- |
|  |  | Data are comparable (subject to caveats) across jurisdictions and over time. |
|  |  | Data are complete for the current reporting period. |
| | Figure 13.8 Paid FTE carer staff per 1000 paid FTE direct care staff  More details can be found within the text surrounding this image. | | --- | | | |
| a See box 13.7 and table 13A.23 for detailed definitions, footnotes and caveats. b WA did not employ carer staff in 2013‑14. The NT did not employ carer staff in 2010‑11 to 2013‑14 or in 2016‑17. Consumer and carer staff could not be separately identified in the ACT for 2012‑13 to 2015‑16. The Australian total excludes ACT for 2012‑13 to 2015‑16**.** | | |
| *Source*: AIHW (unpublished) MHE NMDS; table 13A.23. | | |
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##### Quality — safety — services reviewed against the National Standards

‘Services reviewed against the National Standards’ is an indicator of governments’ objective to provide universal access to services that are high quality (box 13.8).

| Box 13.8 Services reviewed against the National Standards |
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| ‘Services reviewed against the National Standards’ is defined as the proportion of expenditure on State and Territory governments’ specialised public mental health services that had completed a review by an external accreditation agency against the National Standards for Mental Health Services (NSMHS) and met ‘all standards’ (level 1). The assessment levels are defined in section 13.4.  A high or increasing proportion of expenditure on specialised mental health services that had completed a review by an external accreditation agency and had been assessed against the NSMHS as level 1 is desirable. |
| (continued next page) |
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| Box 13.8 (continued) |
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| This is a process indicator of quality, reflecting progress made in meeting the NSMHS. It does not provide information on whether the standards or assessment process are appropriate. In addition, services that had not been assessed do not necessarily deliver services of lower quality. Some services that had not completed an external review included those that were undergoing a review and those that had booked for review and were engaged in self-assessment preparation.  Data reported for this indicator are:  not comparable across jurisdictions, but are comparable (subject to caveats) within jurisdictions over time.  complete (subject to caveats) for the current reporting period. All required 2016‑17 data are available for all jurisdictions. |
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Nationally, as at 30 June 2017, 83.2 per cent of expenditure on specialised public mental health services that had completed an external review against the NSMHS was on services that met ‘all standards’ (level 1) (figure 13.9).

| Figure 13.9 Share of expenditure on specialised public mental health services reviewed against the NSMHS, 30 June 2017**a** | | |
| --- | --- | --- |
|  |  | Data are not comparable across jurisdictions. |
|  |  | Data are complete (subject to caveats) for the current reporting period. |
| | Figure 13.9 Share of expenditure on specialised public mental health services reviewed against the NSMHS, 30 June 2017  More details can be found within the text surrounding this image. | | --- | | | |
| a See box 13.8 and table 13A.24 for detailed definitions, footnotes and caveats.. | | |
| *Source*: AIHW (unpublished) MHE NMDS; table 13A.24. | | |
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##### Quality — safety — rate of seclusion ― acute inpatient units

‘Rate of seclusion ― acute inpatient units’ is an indicator of governments’ objective to provide access to services that are safe (box 13.9).

| Box 13.9 Rate of seclusion ― acute inpatient units |
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| ‘Rate of seclusion ― acute inpatient units’ is defined as the number of seclusion events per 1000 bed days in State and Territory governments’ specialised mental health acute inpatient units.  Seclusion involves a patient being confined at any time of the day or night alone in a room or area from which he or she cannot leave (section 13.4 provides further details on seclusion and ‘seclusion events’). Legislation or mandatory policy governs the use of seclusion in each State and Territory and may result in exceptions to the definition of a seclusion event and variations in the data collected across jurisdictions (NMHPSC 2011b).  A low or decreasing number of seclusion events per 1000 bed days in specialised public mental health inpatient units is desirable.  Supporting data on the duration of seclusion events are provided in table 13A.25. These data, when considered with the rate of seclusion, provide information on the use and management of seclusion within each jurisdiction. A low rate of seclusion events combined with shorter average durations is desirable.  Data reported for this indicator are:  not comparable across jurisdictions, but are comparable (subject to caveats) within jurisdictions over time.  complete (subject to caveats) for the current reporting period. All required data for 2017‑18 are available for all jurisdictions. |
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Nationally, the number of seclusion events per 1000 bed days decreased from 8.2 in 2013‑14 to 6.9 in 2017‑18 (table 13A.25). Results varied across jurisdictions (figure 13.10) and target population groups (table 13A.26). In 2017‑18, the lowest seclusion rates were in Older persons units and the highest were in Forensic units (table 13A.26).

Restraint is defined as the restriction of an individual’s freedom of movement by physical or mechanical means. Nationally in 2017‑18, there were 10.2 physical restraint events per 1000 beds days; mechanical restraint was less common (0.5 events per 1000 bed days) (table 13A.27). In 2017‑18, the lowest restraint rates were in Older persons units and the highest were in Forensic units (table 13A.28).

| Figure 13.10 Rate of seclusion**a** |
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| |  |  |  | | --- | --- | --- | |  |  | Data are not comparable across jurisdictions, but are comparable (subject to caveats) within jurisdictions over time. | |  |  | Data are complete (subject to caveats) for the current reporting period. |  | Figure 13.10 Rate of seclusion  More details can be found within the text surrounding this image. | | --- | |
| a See box 13.9 and table 13A.25 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (unpublished) National Seclusion and Restraint Data Collection; table 13A.25. |
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##### Quality — responsiveness — consumer and carer experiences of mental health services

‘Consumer and carer experiences of mental health services’ is an indicator of governments’ objective to provide universal access to services that are responsive to consumer and carer goals (box 13.10).

| Box 13.10 Consumer and carer experiences of mental health services |
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| Consumer and carer experiences of mental health services’ is defined as the proportion of mental health service consumers reporting positive experiences of mental health services.  Data derived from the Your Experience of Service (YES) survey will be used to enumerate this indicator. The YES survey is designed to gather information from consumers about their experiences of mental health services. It aims to help mental health services and consumers to work together to build better services.  A high or increasing proportion of mental health consumers with positive experiences of service is desirable.  Data were not available in time for inclusion in this report. |
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##### Quality — continuity — specialised public mental health service consumers with nominated GP

‘Specialised public mental health service consumers with nominated GP’ is an indicator of governments’ objective to provide universal access to services that are coordinated and provide continuity of care (box 13.11).

| Box 13.11 Specialised public mental health service consumers with nominated GP |
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| ‘Specialised public mental health service consumers with nominated GP’ is defined as the proportion of specialised public mental health service consumers with a nominated GP.  A high or increasing proportion of specialised public mental health service consumers with a nominated GP is desirable.  Data are not yet available for reporting against this indicator. |
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GPs are often the first service accessed by people seeking help when suffering from a mental illness (AIHW 2018), and they can diagnose, manage and treat mental illnesses and refer patients to more specialised service providers. A recent report from the Royal Australian College of General Practitioners found that mental health issues are the most common single reason patients are visiting their GP (RACGP 2018). Data from the Bettering the Evaluation and Care of Health (BEACH) survey of general practice activity has been previously reported in this chapter as contextual information — an estimated 18.0 million GP visits in 2015‑16 included management of mental health related problems (12.4 per cent of all GP encounters) (table 13A.29). The BEACH survey has been de-commissioned leaving a data gap on mental health-related services provided by GPs.

##### Quality — continuity — community follow-up after psychiatric admission/hospitalisation

‘Community follow up after psychiatric admission/hospitalisation’ is an indicator of governments’ objective to provide services that are coordinated and provide continuity of care (box 13.12).

| Box 13.12 Community follow-up after psychiatric admission/hospitalisation |
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| ‘Community follow-up after psychiatric admission/hospitalisation’ is defined as the proportion of State and Territory governments’ specialised public admitted patient overnight acute separations from psychiatric units for which a community-based ambulatory contact was recorded in the seven days following separation.  A high or increasing rate of community follow-up within the first seven days of discharge from hospital is desirable. |
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| Box 13.12 (continued) |
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| This indicator does not measure the frequency of contacts recorded in the seven days following separation. Neither does it distinguish qualitative differences between the mode of contact. Only follow-up contacts made by State and Territory governments’ specialised public mental health services are included.  Data reported for this indicator are:  not comparable across jurisdictions, but are comparable (subject to caveats) within some jurisdictions over time.  complete (subject to caveats) for the current reporting period. All required 2016‑17 data are available for all jurisdictions. |
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Nationally, the rate of community follow up for people within the first seven days of discharge from an acute inpatient psychiatric unit has increased from 60.7 per cent in 2012‑13 to 70.8 per cent in 2016‑17 (figure 13.11). Community follow up rates by Indigenous status, remoteness areas, SEIFA, age groups and gender are in tables 13A.30‑31.

| Figure 13.11 Community follow-up for people within the first seven days of discharge from acute inpatient psychiatric units**a, b** |
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| |  |  |  | | --- | --- | --- | |  |  | Data are not comparable across jurisdictions, but are comparable (subject to caveats) within some jurisdictions over time. | |  |  | Data are complete (subject to caveats) for the current reporting period. |  | Figure 13.11 Community follow-up for people within the first seven days of discharge from acute inpatient psychiatric units  More details can be found within the text surrounding this image. | | --- | |
| a See box 13.12 and table 13A.32 for detailed definitions, footnotes and caveats. b Victorian data are not available for 2012‑13. |
| *Source*: AIHW (unpublished), from data provided by State and Territory governments; table 13A.32. |
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##### Quality — continuity — readmissions to hospital within 28 days of discharge

‘Readmissions to hospital within 28 days of discharge’ is an indicator of governments’ objective to provide services that are coordinated and provide continuity of care (13.13).

| Box 13.13 Readmissions to hospital within 28 days of discharge |
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| ‘Readmissions to hospital within 28 days of discharge’ is defined as the proportion of State and Territory governments’ admitted patient overnight separations from psychiatric acute inpatient units that were followed by readmission to the same type of unit within 28 days of discharge.  A low or decreasing rate of readmissions to hospital within 28 days of discharge is desirable.  While readmissions can indicate that inpatient treatment was either incomplete or ineffective, or that follow up care was inadequate, they can also be affected by other factors such as the cyclic and episodic nature of some illnesses.  Data reported for this indicator are:  not comparable across jurisdictions, but are comparable (subject to caveats) within some jurisdictions over time.  complete (subject to caveats) for the current reporting period. All required 2016‑17 data are available for all jurisdictions. |
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Nationally in 2016‑17, the rate of readmission to hospital acute psychiatric units within 28 days of discharge was 14.9 per cent, with rates remaining relatively stable since 2012‑13 (figure 13.12). Data by Indigenous status, remoteness areas, SEIFA, age group and sex are in table 13A.33.

| Figure 13.12 Readmissions to acute psychiatric units within 28 days of discharge**a** |
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| |  |  |  | | --- | --- | --- | |  |  | Data are not comparable across jurisdictions, but are comparable (subject to caveats) within some jurisdictions over time. | |  |  | Data are complete (subject to caveats) for the current reporting period. |  | Figure 13.12 Readmissions to acute psychiatric units within 28 days of discharge  More details can be found within the text surrounding this image. | | --- | |
| a See box 13.13 and table 13A.34 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (unpublished), from data provided by State and Territory governments; table 13A.34. |
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##### Sustainability — workforce sustainability

‘Workforce sustainability’ is an indicator of governments’ objective to provide sustainable mental health services (box 13.14). Data are reported for the first time in this Report.

| Box 13.14 Workforce sustainability |
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| ‘Workforce sustainability’ reports age profiles for the mental health workforce. It shows the proportion of employed psychiatrists, mental health nurses and registered psychologists in ten year age brackets, by jurisdiction.  A high or increasing proportion of the workforce that has newly entered the workforce and/or a low or decreasing proportion of the workforce that is close to retirement is desirable.  These measures are not a substitute for a full workforce analysis comprising assessment of migration patterns, trends in full-time work, recruitment and retention, workforce efficiency, service quality and expected demand increases. They can, however, indicate that further attention should be given to workforce sustainability for mental health services. |
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| Box 13.14 (continued) |
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| Data reported for this indicator are:  comparable (subject to caveats) across jurisdictions and over time.  complete (subject to caveats) for the current reporting period. All required 2016 data are available for all jurisdictions. |
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Nationally in 2016, the registered psychologist workforce and mental health nurses had higher proportions of employees who were aged less than 35 years, compared with the psychiatrist workforce. The psychiatrist workforce had a higher proportion of employees aged 65 years or over (almost one in five). This pattern was observed across all states and territories (figure 13.13) and over time (table 13A.35).

| Figure 13.13 Proportion of employed psychiatrists, mental health nurses and registered psychologists, by age, 2016**a, b, c** | | |
| --- | --- | --- |
|  |  | Data are comparable (subject to caveats) across jurisdictions. |
|  |  | Data are complete (subject to caveats) for the current reporting period. |
| | Figure 13.13 Proportion of employed psychiatrists, mental health nurses and registered psychologists, by age, 2016  More details can be found within the text surrounding this image. | | --- | | | |
| a See box 13.14 and table 13A.35 for detailed definitions, footnotes and caveats. b MH Nurse = Mental health nurse.c Tasmania and the NT do not have any psychiatrists less than 35 years old. | | |
| *Source*: AIHW, National health workforce dataset; table 13A.35. | | |
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#### Efficiency

The efficiency indicators reported here cover State and Territory governments’ specialised mental health services. Mainstreaming has occurred at different rates across states and territories, with some jurisdictions treating a greater proportion of consumers with severe mental illnesses in community-based services than other jurisdictions (see section 13.4 for a definition of mainstreaming). This can create differences across states and territories in the mix of consumers, and therefore the costs, within service types.

##### Cost of care

‘Cost of care’ is an indicator of governments’ objective that mental health services are delivered in an efficient manner (box 13.15).

| Box 13.15 Cost of care |
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| ‘Cost of care’ has three measures.   * ‘Cost of inpatient care’, defined by two sub measures: * ‘Cost per inpatient bed day’, defined as expenditure on inpatient services divided by the number of inpatient bed days — data are disaggregated by hospital type (psychiatric and general hospitals) and care type (acute and non-acute units) and by inpatient target population (acute units only). * ‘Average length of stay’, defined as the number of inpatient patient days divided by the number of separations in the reference period — data are disaggregated by inpatient target population (acute units only). Patient days for consumers who separated in the reference period (2016‑17) that were admitted during the previous period (2015‑16) are excluded. Patient days for consumers who remain in hospital (that is, are not included in the separations data) are included.   These sub measures are considered together for the inpatient acute units by target population to provide a ‘proxy’ measure to improve understanding of service efficiency. Average inpatient bed day costs can be reduced with longer lengths of stay because the costs of admission, discharge and more intensive treatment early in a stay are spread over more days of care. Data for forensic services are included for costs per inpatient bed day only, as the length of stay is dependent on factors outside the control of these services.   * ‘Cost of community-based residential care’ is defined as the average cost per patient day. Data are reported for both the care of adults and older people. * ‘Cost of ambulatory care’ is defined by two sub measures: * average cost per treatment day * average number of treatment days per episode – this measure is provided, along with average costs, as frequency of servicing is the main driver of variation in care costs.   For each measure a low or decreasing cost per input is desirable as this might indicate more efficient service delivery. However, efficiency data need to be interpreted with care as they do not provide information on service quality or patient outcomes. |
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| Box 13.15 (continued) |
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| Data reported for the first and second measures are:  comparable (subject to caveats) across jurisdictions and over time.  Data reported for the third measure are:  not comparable across jurisdictions, but are comparable (subject to caveats) within some jurisdictions over time.  Data reported for all three measures are:  complete (subject to caveats) for the current reporting period. All required 2016‑17 data are available for all jurisdictions. |
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##### Cost of inpatient care

Nationally in 2016‑17, the average cost per inpatient bed day was higher in acute than non‑acute units, and slightly higher in psychiatric hospitals than in general hospitals for both acute and non-acute units (figure 13.14).

| Figure 13.14 Average recurrent cost per inpatient bed day, by public hospital and care type, 2016‑17**a, b, c, d** |
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| |  |  |  | | --- | --- | --- | |  |  | Data are comparable (subject to caveats) across jurisdictions. | |  |  | Data are complete (subject to caveats) for the current reporting period. |  | Figure 13.14 Average recurrent cost per inpatient bed day, by public hospital and care type, 2016-17  More details can be found within the text surrounding this image. | | --- | |
| a See box 13.15 and table 13A.36 for detailed definitions, footnotes and caveats. b Queensland does not provide acute services in psychiatric hospitals. c Tasmania, the ACT and the NT do not have psychiatric hospitals. d SA, the ACT and the NT do not have non-acute units in general hospitals. |
| *Source*: AIHW (unpublished) MHE NMDS; table 13A.36. |
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Older persons units have lower costs per inpatient day (table 13A.37), but have considerably longer lengths of stay than general adult or child and adolescent units (table 13A.39). Data on the average cost per inpatient bed day by target population for all care types are reported in tables 13A.37–38.

##### Cost of community-based residential care

Nationally in 2016‑17, the average cost for 24-hour staffed residential care is higher for general adult units ($529.59 per patient day) compared to older persons care units ($479.43 per patient day), although this varied across states and territories (table 13A.40). Nationally and for all relevant jurisdictions, the costs for general adult units were higher for those staffed 24 hours a day compared to those that were not staffed 24 hours a day (table 13A.40).

##### Cost of ambulatory care

Nationally in 2016‑17, the average recurrent cost per treatment day of ambulatory care was $325.04, and the average number of treatment days per episode of ambulatory care was 6.7 days (figure 13.15).

| Figure 13.15 Average cost and treatment days per episode of care (2016‑17 dollars)**a, b** |
| --- |
| |  |  |  | | --- | --- | --- | |  |  | Data are not comparable across jurisdictions, but are comparable (subject to caveats) within some jurisdictions over time. | |  |  | Data are complete (subject to caveats) for the current reporting period. | | **Cost per treatment day** | | | | Figure 13.15 Average cost and treatment days per episode of care (2016-17 dollars)  Cost per treatment day  More details can be found within the text surrounding this image. | | | | **Average treatment days per episode** | | | | Figure 13.15 Average cost and treatment days per episode of care (2016-17 dollars)  Average treatment days per episode  More details can be found within the text surrounding this image. | | | |
| a See box 13.15 and table 13A.41 for detailed definitions, footnotes and caveats. b Victorian 2012‑13 data are not available. |
| *Source*: AIHW (unpublished) Community Mental Health Care (CMHC) NMDS; AIHW (unpublished) MHE NMDS; table 13A.41. |
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### Outcomes

Outcomes are the impact of services on the status of an individual or group (see chapter 1).

#### Prevalence of mental illness

‘Prevalence of mental illness’ is an indicator of governments’ objective to, where possible, prevent the development of mental health problems, mental illness and suicide (box 13.16).

| Box 13.16 Prevalence of mental illness |
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| ‘Prevalence of mental illness’ is defined as the proportion of the total population who have a mental illness.  A low or decreasing prevalence of mental illness can indicate that measures to prevent mental illness have been effective.  Many of the risk and protective factors that can affect the development of mental health problems and mental illness are outside the scope of the mental health system. These include environmental, sociocultural and economic factors, some of which can increase the risk of mental illness while others can support good mental health.  Not all mental illnesses are preventable and a reduction in the effect of symptoms and an improved quality of life will be a positive outcome for many people with a mental illness.  Data reported for this indicator are:  comparable (subject to caveats) across jurisdictions.  complete (subject to caveats) for the current reporting period. |
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Adult prevalence data are now more than 10 years old. Nationally in 2007, the prevalence of a mental illness was 20.0 per cent for people aged 16–85 years, with a further 25.5 per cent reported as having a mental illness at some point in their life (table 13A.42). Data by disorder, age and sex are reported in tables 13A.42–44.

The prevalence of mental illness among children and young people aged 4–17 years was an estimated 13.9 per cent in 2013 14 (Lawrence et al. 2015). Attention deficit/hyperactivity disorder (ADHD) was the most common mental illness overall for this age group (7.4 per cent) followed by anxiety disorders (6.9 per cent) (Lawrence et al 2015).

A proxy measure of the overall mental health and wellbeing of the population is the Kessler 10 (K10) psychological distress scale. Very high levels of psychological distress may signify a need for professional help and provide an estimate of the need for mental health services (ABS 2012).

Nationally in 2014‑15, higher levels of psychological distress were reported for:

* females compared to males (table 13A.45)
* people with disability compared to those without (tables 13A.46–47)
* people in lower compared to higher socioeconomic areas (tables 13A.46–47)
* Aboriginal and Torres Strait Islander compared to non-Indigenous Australians (table 13A.48).

High rates of substance use and abuse can contribute to the onset of, and poor recovery from, mental illness. Information on rates of licit and illicit drug use can be found in tables   
13A.49–51 and the National Drug Strategy Household Survey (AIHW 2017).

#### Mortality due to suicide

‘Mortality due to suicide’ is an indicator of governments’ objective to, where possible, prevent the development of mental health problems, mental illness and suicide (box 13.17).

| Box 13.17 Mortality due to suicide |
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| ‘Mortality due to suicide’ is defined as the suicide rate per 100 000 people. Deaths from suicide are defined as causes of death with the International Classification of Diseases (ICD) 10 codes X60–X84 and Y87.0.  A low or decreasing suicide rate per 100 000 people is desirable.  While mental health services contribute to reducing suicides, other services also have a significant role including public mental health programs and suicide prevention programs (addressed through the initiatives of other government agencies, NGOs and other special interest groups).  Many factors outside the control of mental health services can influence a person’s decision to commit suicide. These include environmental, sociocultural and economic risk factors. Often a combination of these factors can increase the risk of suicidal behaviour.  Data reported for this indicator are:  not comparable (subject to caveats) over time for some years, but comparable within years across jurisdictions.  complete (subject to caveats) for the current reporting period. All required 2017 data are available for all jurisdictions. |
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People with a mental illness are at a higher risk of suicide compared to the general population. For the period 2013–2017, 14 591 suicides were recorded in Australia (table 13A.52) — equivalent to 12.1 deaths per 100 000 people (figure 13.16). The rate for people aged 5–17 years was 2.4 deaths per 100 000 people in this age group (table 13A.53).

Nationally, suicide rates per 100 000 population for 2017 show that rates are lower for females compared to males (6.2 deaths compared to 19.1 deaths, ABS 2018), lower in capital cities compared to other areas (10.7 deaths compared to 16.6 deaths, table 13A.54) and lower (2013–2017) for non-Indigenous compared to Aboriginal and Torres Strait Islander Australians (12.0 deaths compared to 24.9 deaths, table 13A.55).

| Figure 13.16 Suicide rates, 5 year average, 2013–2017**a** | | |
| --- | --- | --- |
|  |  | Data are not comparable (subject to caveats) over time for some years, but are comparable within years across jurisdictions. |
|  |  | Data are complete (subject to caveats) for the current reporting period. |
| | Figure 13.16 Suicide rates, 5 year average, 2013–2017  More details can be found within the text surrounding this image. |  | | --- | --- | | | |
| a See box 13.17 and table 13A.52 for detailed definitions, footnotes and caveats. | | |
| *Source*: ABS (2017) Causes of Deaths, Australia, Cat. no. 3303.0; table 13A.52. | | |
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#### Physical health outcomes for people with a mental illness

‘Physical health outcomes for people with a mental illness’ is an indicator of governments’ objective to promote recovery and physical health and encourage meaningful participation in society (box 13.18).

| Box 13.18 Physical health outcomes for people with a mental illness |
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| ‘Physical health outcomes for people with a mental illness’ is defined as the proportion of adults with a mental illness (compared to those without a mental illness) who experienced a long term physical health condition: cancer, diabetes, arthritis, cardiovascular disease and asthma.  Low or decreasing proportions of people with a mental illness who experience a long term physical health condition are desirable.  People with a mental illness have poorer physical health outcomes than people without mental illness (Happell et al. 2015; Lawrence, Hancock and Kisely 2013), but the relationship between the two is complex. Poor physical health can exacerbate mental health problems and poor mental health can lead to poor physical health. In addition, some psychiatric medications prescribed to treat mental health conditions may lead to poorer physical health. |
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| Box 13.18 (continued) |
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| Greater exposure to particular health risk factors can also contribute to poorer physical health. Information on selected risk factors by mental illness status can be found in table 13A.56.  Data reported for this indicator are:  comparable (subject to caveats) across jurisdictions and over time.  complete (subject to caveats) for the current reporting period. All required 2014‑15 data are available for all jurisdictions. |
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A higher proportion of adults with a mental illness had long term health conditions compared to adults without a mental illness. Nationally in 2014‑15, the proportions of adults with a mental illness who had arthritis (26.4 per cent) and cardiovascular disease (8.6 per cent) were higher than those without a mental illness (16.4 per cent and 5.6 per cent respectively) (table 13A.57). Table 13A.57 provides data for cancer, asthma and diabetes.

#### Social and economic inclusion of people with a mental illness

‘Social and economic inclusion of people with a mental illness’ is an indicator of governments’ objective to promote recovery and physical health and encourage meaningful participation in society (box 13.19).

| Box 13.19 Social and economic inclusion of people with a mental illness |
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| ‘Social and economic inclusion of people with a mental illness’ is defined by two measures, with the proportion of people:   * aged 16–64 years with a mental illness who are employed, compared with the proportion for people without a mental illness * aged 15 years or over with a mental illness who had face to face contact with family or friends living outside the household in the past week, compared with the proportion for people without a mental illness.   High or increasing proportions of people with a mental illness who are employed, or who had face-to-face contact with family or friends, are desirable.  This indicator does not provide information on whether the employment, education or social activities participated in were appropriate or meaningful. It also does not provide information on why people who were not employed were not looking for work (for example, those outside the labour force).  Data reported for both measures are:  comparable (subject to caveats) across jurisdictions, and (for measure 1) over time (no time series reported for measure 2).  complete (subject to caveats) for the current reporting period. All required 2014‑15 (measure 1) and 2014 (measure 2) data are available for all jurisdictions. |
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Nationally in 2014‑15, the proportion of 16–64 year olds with a mental illness who were employed was lower (62.3 per cent) than the proportion of the same age without a mental illness who were employed (79.8 per cent) (table 13A.59). The significantly higher proportion of people with a mental illness who do not participate in the labour force, compared to those without a mental illness, is a major contributing factor (29.2 per cent compared to 16.7 per cent) (table 13A.59).

Information on the proportion of people aged 16–30 years with a mental illness who were employed and/or are enrolled for study in a formal secondary or tertiary qualification can be found in table 13A.58.

Nationally in 2014, the proportion of people aged 15 years or over with a mental illness who had face-to-face contact with family or friends living outside the household in the last week (76.5 per cent) was similar to the proportion for people without a mental illness (77.1 per cent) (table 13A.60).

#### Mental health outcomes of consumers of specialised public mental health services

‘Mental health outcomes of consumers of specialised public mental health services’ is an indicator of governments’ objective to promote recovery and physical health and encourage meaningful participation in society (box 13.20).

| Box 13.20 Mental health outcomes of consumers of specialised public mental health services |
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| ‘Mental health outcomes of consumers of specialised public mental health services’ is defined as the proportion of people receiving care who had a significant improvement in their clinical mental health outcomes, by service type. Section 13.4 provides information on how the consumer outcomes average score is derived.  A high or increasing proportion of people receiving care in State and Territory governments’ specialised public mental health services who had a significant improvement in their clinical mental health outcomes is desirable.  Supplementary data are reported on the proportion of people receiving care who experienced no significant change or a significant deterioration in their mental health outcomes. Information on the proportion of episodes for which completed outcomes data are available is in table 13A.61.  This indicator has a number of issues:   * The outcome measurement tool is imprecise as a single ‘average score’ does not reflect the complex service system in which services are delivered across multiple settings and provided as both discrete, short term episodes of care and prolonged care over indefinite periods (AHMC 2012). |
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| Box 13.20 (continued) |
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| * The approach separates a consumer’s care into segments (hospital versus the community) rather than tracking his or her overall outcome across treatment settings. * Consumers’ outcomes are measured from the clinician’s perspective rather than the consumer’s.   Data reported for this indicator are:  not comparable within jurisdictions over time or across jurisdictions.  complete (subject to caveats) for the current reporting period. All required data for 2016‑17 are available for all jurisdictions. |
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Nationally in 2016‑17, 26.3 per cent of people in ongoing ambulatory care, 52.1 per cent of people discharged from ambulatory care and 71.4 per cent of people discharged from a hospital psychiatric inpatient unit showed a significant improvement in their mental health clinical outcomes (figure 13.17).

Over the reporting years from 2007‑08, for those in ongoing community care, younger people aged 0–17 years had the highest proportion of people who showed a significant improvement compared to other age groups (table 13A.62).

| Figure 13.17 Mental health outcomes of consumers of State and Territory governments’ specialised mental health services, 2016-17**a, b** | | |
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|  |  | Data are not comparable (subject to caveats) across jurisdictions. |
|  |  | Data are complete (subject to caveats) for the current reporting period. |
| **People in ongoing community-based ambulatory care**   | Figure 13.17 Mental health outcomes of consumers of State and Territory governments’ specialised mental health services, 2016-17  People in ongoing community-based ambulatory care  More details can be found within the text surrounding this image. | | --- | | **People discharged from community-based ambulatory care** | | Figure 13.17 Mental health outcomes of consumers of State and Territory governments’ specialised mental health services, 2016-17  People discharged from community-based ambulatory care  More details can be found within the text surrounding this image. | | **People discharged from hospital** | | **Figure 13.17 Mental health outcomes of consumers of State and Territory governments’ specialised mental health services, 2016-17  People discharged from hospital  More details can be found within the text surrounding this image.** | | | |
| a See box 13.20 and table 13A.63 for detailed definitions, footnotes and caveats. b Some ACT and NT data are not published due to insufficient observations but are included in Australian totals. | | |
| *Source*: AIHW (unpublished) from data provided by the Australian Mental Health Outcomes and Classification Network; table 13A.63. | | |
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#### Stigma and discrimination experienced by people living with mental health problems or mental illness

‘Stigma and discrimination experienced by people living with mental health problems or mental illness’ is an indicator of governments’ objective to reduce the impact of mental illness (including the effects of stigma and discrimination) (box 13.21).

| Box 13.21 Stigma and discrimination experienced by people living with mental health problems or mental illness |
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| Stigma and discrimination experienced by people with a mental health condition’ is defined as the proportion of people with a mental health condition who have experienced discrimination or been treated unfairly.  A low or decreasing proportion of people experiencing discrimination or being treated unfairly is desirable.  Data are not yet available for reporting against this indicator. |
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## 13.4 Definitions of key terms

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| **Accrued mental health patient days** | Mental health care days are days of admitted patient care provided to admitted patients in psychiatric hospitals, designated psychiatric units and days of residential care provided to residents in residential mental health services. Accrued mental health care days can also be referred to as occupied bed days in specialised mental health services. The days to be counted are only those days occurring within the reference period, which is from 1 July to the following 30 June for the relevant period, even if the patient/resident was admitted prior to the reference period or discharged after the reference period.  In short, the number of accrued mental health care days are calculated as follows:   * For a patient admitted and discharged on different days, all days are counted as mental health care days except the day of discharge and any leave days. * Admission and discharge on the same day are equal to one patient day. * Leave days involving an overnight absence are not counted. * A patient day is recorded on the day of return from leave. |
| **Acute services** | Services that primarily provide specialised psychiatric care for people with acute episodes of mental illness. These episodes are characterised by recent onset of severe clinical symptoms of mental illness that have potential for prolonged dysfunction or risk to self and/or others. The key characteristic of acute services is that the treatment effort focuses on symptom reduction with a reasonable expectation of substantial improvement. In general, acute psychiatric services provide relatively short term treatment. Acute services can:   * focus on assisting people who have had no prior contact or previous psychiatric history, or individuals with a continuing psychiatric illness for whom there has been an acute exacerbation of symptoms * target the general population or be specialised in nature, targeting specific clinical populations. The latter group include psychogeriatric, child and adolescent, youth and forensic mental health services. |
| **Ambulatory care services** | Mental health services dedicated to the assessment, treatment, rehabilitation or care of non‑admitted inpatients, including but not confined to crisis assessment and treatment services, mobile assessment and treatment services, outpatient clinic services (whether provided from a hospital or community mental health |
|  | centre), child and adolescent outpatient treatment teams, social and living skills programs (including day programs, day hospitals and living skills centres), and psychogeriatric assessment teams and day programs. |
| **Anxiety disorders** | Feelings of tension, distress or nervousness. Includes agoraphobia, social phobia, panic disorder, generalised anxiety disorder, obsessive–compulsive disorder and post‑traumatic stress disorder. |
| **Carer staff** | A person specifically employed for the expertise developed from their experience as a mental health carer. |
| **Child and adolescent services** | These services principally target children and young people under the age of 18 years. The classification of a service into this category requires recognition by the regional or central funding authority of the special focus of the service. These services may include a forensic component. |
| **Community‑based residential care** | Staffed residential units established in community settings that provide specialised treatment, rehabilitation or care for people affected by a mental illness or psychiatric disability. To be defined as community‑based residences, services must: provide residential care to people with mental illnesses or psychiatric disability; be located in a community setting external to the campus of a general hospital or psychiatric institution; employ onsite staff for at least some part of the day; and be government funded. |
| **Comparability** | Data are considered comparable if (subject to caveats) they can be used to inform an assessment of comparative performance. Typically, data are considered comparable when they are collected in the same way and in accordance with the same definitions. For comparable indicators or measures, significant differences in reported results allow an assessment of differences in performance, rather than being the result of anomalies in the data. |
| **Completeness** | Data are considered complete if all required data are available for all jurisdictions that provide the service. |
| **Consumer staff** | A person specifically employed for the expertise developed from their lived experience of mental illness. |
| **Forensic mental health services** | Services principally providing assessment, treatment and care of mentally ill people whose behaviour has led them to commit criminal offences or makes it likely that they will offend in the future if not adequately treated and contained. This includes prison‑based services, but excludes services that are primarily for children and adolescents and for older people even where they include a forensic component. |
| **General mental health services** | Services that principally target the general adult population (18‑65 years old) but that can provide services to children, adolescents or older people. Includes, therefore, services that cannot be described as specialised child and adolescent services, youth services, services for older people or forensic services.  General mental health services include hospital units with a principal function to provide some form of specialised service to the general adult population (for example, inpatient psychotherapy) or to focus on specific clinical disorders within the adult population (for example, postnatal depression, anxiety disorders). |
| **General practice** | The organisational structure in which one or more GPs provide and supervise health care for a ‘population’ of patients. |
| **Health management** | The ongoing process beginning with initial consumer contact and including all actions relating to the consumer. Includes assessment/evaluation, education of the person, family or carer(s), and diagnosis and treatment. Involves problems with adherence to treatment and liaison with, or referral to, other agencies. |
| **Mainstreaming** | The First National Mental Health Plan emphasised decreasing the number of psychiatric beds in favour of community‑based options, reducing the reliance on stand‑alone psychiatric hospitals, and ‘mainstreaming’ the delivery of acute inpatient care into general hospitals. |
| **Mental health** | The capacity of individuals within groups and the environment to interact with one another in ways that promote subjective wellbeing, the optimal development and use of mental abilities (cognitive, affective and relational) and the achievement of individual and collective goals consistent with justice. |
| **Mental health problems** | Diminished cognitive, emotional or social abilities, but not to the extent of meeting the criteria for a mental illness. |
| **Mental illness** | A diagnosable illness that significantly interferes with an individual’s cognitive, emotional and/or social abilities. |
| **National Standards for Mental Health Services (NSMHS)** | Services at level 1 — services reviewed by an external accreditation agency and judged to have met all National Standards.  Services at level 2 — services reviewed by an external accreditation agency and judged to have met some but not all National Standards.  Services at level 3 — services (i) in the process of being reviewed by an external accreditation agency but the outcomes are not known, or (ii) booked for review by an external accreditation agency.  Services at level 4 — services that do not meet criteria detailed under levels 1 to 3 (AHMC 2010). |
| **Non‑acute services** | Non acute services are defined by two categories:   * Rehabilitation services that have a primary focus on intervention to reduce functional impairments that limit the independence of patients. Rehabilitation services are focused on disability and the promotion of personal recovery. They are characterised by an expectation of substantial improvement over the short to midterm. Patients treated by rehabilitation services usually have a relatively stable pattern of clinical symptoms. * Extended care services that primarily provide care over an indefinite period for patients who have a stable but severe level of functional impairment and an inability to function independently, thus requiring extensive care and support. Patients of extended care services present a stable pattern of clinical symptoms, which can include high levels of severe unremitting symptoms of mental illness. Treatment is focused on preventing deterioration and reducing impairment; improvement is expected to occur slowly. |
| **Non-government organisations (NGOs)** | Private not for profit community managed organisations that receive government funding specifically for the purpose of providing community support services for people affected by a mental illness or psychiatric disability. Programs provided by the NGO sector can include supported accommodation services (including community-based crisis and respite beds), vocational rehabilitation programs, advocacy programs (including system advocacy), consumer self-help services, and support services for families and primary carers. |
| **Older persons mental health services** | Services principally targeting people in the age group 65 years or over. Classification of services in this category requires recognition by the regional or central funding authority of the special focus of the inpatient service on aged people. These services can include a forensic component. Excludes general mental health services that may treat older people as part of a more general service. |
| **Outcomes measurement — calculating the consumers ‘score’.** | The assessment of a consumer’s clinical mental health outcomes is based on the changes reported in a consumer’s ‘score’ on a rating scale known as the Health of the Nation Outcomes Scale (HoNOS), or for children and adolescents, the Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA). Outcome scores are classified based on effect size — a statistic used to assess the magnitude of a treatment effect (AHMC 2012). The effect size is based on the ratio of the difference between the pre and post scores to the standard deviation of the pre score. Individual episodes are classified as ‘significant improvement’ if the effect size index is greater than or equal to positive 0.5; ‘no change’ if the index is between 0.5 and -0.5; and ‘significant deterioration’ if the effect size index is less than or equal to -0.5 (AHMC 2012). |
| **Outpatient services**  **— community-based** | Services primarily provided to non-admitted patients on an appointment basis and delivered from health centres located in community settings, physically separated within hospital sites. They can include outreach or domiciliary care as an adjunct to services provided from the centre base. |
| **Outpatient services**  **— hospital based** | Services primarily provided to non-admitted patients on an appointment basis and delivered from clinics located within hospitals. They can include outreach or domiciliary care as an adjunct to services provided from the clinic base. |
| **Prevalence** | The number of cases of a disease present in a population at a given time (point prevalence) or during a given period (period prevalence). |
| **Preventive interventions** | Programs designed to decrease the incidence, prevalence and negative outcomes of illnesses. |
| **Psychiatric hospitals** | Health establishments that are primarily devoted to the treatment and care of inpatients with psychiatric, mental or behavioural disorders, and that are situated at physically separate locations from a general hospital. Stand-alone hospitals may or may not be managed by the mainstream health system. Psychiatric hospitals situated at physically separate locations from a general hospital are included within the ‘stand-alone’ category regardless of whether they are under the management control of a general hospital. |
|  | A health establishment that operates in a separate building but is located on, or immediately adjoining, the acute care hospital campus can also be a stand-alone hospitals if the following criteria are not met:   * a single organisational or management structure covers the acute care hospital and the psychiatric hospital * a single employer covers the staff of the acute care hospital and the psychiatric hospital * the location of the acute care hospital and psychiatric hospital can be regarded as part of a single overall hospital campus * the patients of the psychiatric hospital are regarded as patients of the single integrated health service. |
| **Psychiatrist** | A medical practitioner with specialist training in psychiatry. |
| **Public health** | The organised, social response to protect and promote health, and to prevent illness, injury and disability. The starting point for identifying public health issues, problems and priorities, and for designing and implementing interventions, is the population as a whole or population subgroups. Public health is characterised by a focus on the health of the population (and particular at risk groups) and complements clinical provision of health care services. |
| **Public (non‑psychiatric) hospital** | A hospital that provides at least minimum medical, surgical or obstetric services for inpatient treatment and/or care, and around the clock, comprehensive, qualified nursing services, as well as other necessary professional services. |
| **Restraint** | The restriction of an individual’s freedom of movement by physical or mechanical means. |
| **Schizophrenia** | A combination of signs and symptoms that can include delusions, hallucinations, disorganised speech or behaviour, a flattening in emotions, and restrictions in thought, speech and goal directed behaviour. |
| **Seclusion** | Seclusion is the confinement of the consumer at any time of the day or night alone in a room or area from which free exit is prevented. The intended purpose of the confinement is not relevant in determining what is or is not seclusion. Seclusion applies even if the consumer agrees or requests the confinement (NMHPSC 2011b).  The awareness of the consumer that they are confined alone and denied exit is not relevant in determining what is or is not seclusion. The structure and dimensions of the area to which the consumer is confined is not relevant in determining what is or is not seclusion. The area may be an open area, for example, a courtyard. Seclusion does not include confinement of consumers to High Dependency sections of gazetted mental health units, unless it meets the definition (AIHW 2015). |
| **Seclusion event** | An event is when a consumer enters seclusion and when there is a clinical decision to cease seclusion. Following the clinical decision to cease seclusion, if a consumer re-enters seclusion within a short period of time this would be considered a new seclusion event. The term ‘seclusion event’ is utilised to differentiate it from the different definitions of ‘seclusion episode’ used across jurisdictions (NMHPSC 2011b). |
| **Separation** | An episode of care for an admitted patient, which can be a total hospital stay, or a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute to rehabilitation). Separation also means the process by which an admitted patient completes an episode of care. |
| **Specialised mental health inpatient services** | Services provided to admitted patients in stand-alone psychiatric hospitals or specialised psychiatric units located within general hospitals. |
| **Specialised mental health services** | Services whose primary function is specifically to provide treatment, rehabilitation or community support targeted towards people affected by a mental illness or psychiatric disability. Further, such activities are delivered from a service or facility that is readily identifiable as both specialised and serving a mental health function. This criterion applies regardless of the source of funds. |
| **Specialised residential services** | Services provided in the community that are staffed by mental health professionals on a non 24 or 24 hour basis. |
| **Staffing categories (mental health)** | Medical officers: all medical officers employed or engaged by the organisation on a full time or part time basis. Includes visiting medical officers who are engaged on an hourly, sessional or fee for service basis.  Psychiatrists and consultant psychiatrists: medical officers who are registered to practice psychiatry under the relevant State or Territory medical registration board; or who are fellows of the Royal Australian and New Zealand College of Psychiatrists or registered with Health Insurance Commission as a specialist in Psychiatry.  Psychiatry registrars and trainees: medical officers who are formal trainees within the Royal Australian and New Zealand College of Psychiatrists’ Postgraduate Training Program.  Other medical officers: medical officers employed or engaged by the organisation who are not registered as psychiatrists within the State or Territory, or as formal trainees within the Royal Australian and New Zealand College of Psychiatrists’ Postgraduate Training Program.  Nursing staff: all categories of registered nurses and enrolled nurses, employed or engaged by the organisation.  Registered nurses: people with at least a three year training certificate or tertiary qualification who are certified as being a registered nurse with the State or Territory registration board. This is a comprehensive category and includes general and specialised categories of registered nurses.  Enrolled nurses: refers to people who are second level nurses who are enrolled in all states except Victoria where they are registered by the state registration board to practise in this capacity. Includes general enrolled nurse and specialist enrolled nurse (e.g. mothercraft nurses in some states).  Diagnostic and health professionals (allied health professionals): qualified staff (other than qualified medical or nursing staff) who are engaged in duties of a diagnostic, professional or technical nature. This category covers all allied health professionals, such as social workers, psychologists, occupational therapists, physiotherapists, and other diagnostic and health professionals.  Social workers: people who have completed recognised training and are eligible for membership of the Australian Association of Social Workers.  Psychologists: people who are registered as psychologists with the relevant State or Territory registration board.  Occupational therapists: people who have completed a course of recognised training and who are eligible for membership of the Australian Association of Occupational Therapists.  Other personal care staff: attendants, assistants, home companions, family aides, ward helpers, warders, orderlies, ward assistants and nursing assistants who are engaged primarily in the provision of personal care to patients or residents, and who are not formally qualified or who are undergoing training in nursing or allied health professions.  Administrative and clerical staff: staff engaged in administrative and clerical duties. Excludes medical, nursing, diagnostic and health professional and domestic staff wholly or partly involved in administrative and clerical duties, who should be counted under their appropriate occupational categories. Civil engineers and computing staff are included in this category.  Domestic and other staff: staff involved in the provision of food and cleaning services including domestic staff primarily engaged in administrative duties such as food services manager. Dieticians are excluded. |
| **Substance use disorders** | Disorders in which drugs or alcohol are used to such an extent that behaviour becomes maladaptive, social and occupational functioning is impaired, and control or abstinence becomes impossible. Reliance on the drug can be psychological (as in substance misuse) or physiological (as in substance dependence). |
| **Youth mental health services** | Services principally targeting children and young people generally aged 16‑24 years. The classification of a service into this category requires recognition by the regional or central funding authority of the special focus of the service. These services may include a forensic component. |

## 13.5 References

ABS (Australian Bureau of Statistics), 2018, *Causes of Death, Australia, 2017*, Cat. no. 3303.0, Canberra.

—— 2012, *Information Paper: Use of the Kessler Psychological Distress Scale in ABS Health Surveys*, Australia, 2007‑08, Cat. no. 4817.0.55.001, Canberra.

Australian Health Ministers 1991, *Mental Health Statement of Rights and Responsibilities*, Australian Government Publishing Service, Canberra.

AHMC (Australian Health Ministers’ Conference) 2010, *National Standards for Mental Health Services 2010*, Canberra.

—— 2012, Council of Australian Governments National Action Plan for Mental Health 2006–2011: Progress Report 2009‑10, Report prepared under the auspice of the Mental Health Standing Committee of the Australian Health Ministers’ Advisory Council).

AIHW (Australian Institute of Health and Welfare) 2015, *Seclusion*, Meteor Metadata Online Registry,http://meteor.aihw.gov.au/content/index.phtml/itemId/557975 (accessed 18 December 2017)

—— 2017, *National Drug Strategy Household Survey detailed report 2016*, Drug statistics series no. 31, Cat. no. PHE 214, Canberra.

—— 2018, *Mental Health Services in Australia Online*, https://www.aihw.gov.au/reports/mental-health-services/mental-health-services-in-australia/report-contents/summary (accessed 11 December 2018).

COAG (Council of Australian Governments), 2017, *The Fifth National Mental Health and Suicide Prevention Plan (the Fifth Plan),* apo.org.au/system/files/114356/apo-nid114356-451131.pdf (accessed 18 October 2018).

DoH (Department of Health) 2014, *National mental health strategy,* available at www.health.gov.au/internet/main/publishing.nsf/Content/mental‑strat (accessed 1 December 2017).

DHAC (Australian Government Department of Health and Community Services) and AIHW 1999, *National Health Priority Areas Report: Mental Health 1998*, AIHW Cat. no. PHE 13, Canberra.

Happell, B., Platania‑Phung, C., Webster, S., McKenna, B., Millar, F., Stanton, R., Galletly, C., Castle, D., Furness, T., Liu, D. and Scott, D 2015, ‘Applying the World Health Organization Mental Health Action Plan to evaluate policy on addressing co‑occurrence of physical and mental illnesses in Australia’, *Australian Health Review*, Vol. 39, pp. 370–378, CSIRO Publishing (available at http://dx.doi.org/10.1071/AH14098).

Lawrence, D., Hancock, K. and Kisely S. 2013, ‘The gap in life expectancy from preventable physical illness in psychiatric patients in Western Australia: retrospective analysis of population based registers’, *British Medical Journal*, Vol. 346.

Lawrence, D., Johnson, S., Hafekost, J., Boterhoven, K., Sawyer, M., Ainley, J., Zubrick, S. 2015, *The Mental Health of Children and Adolescents. Report on the second Australian Child and Adolescent Survey of Mental Health and Wellbeing*, Department of Health, Canberra.

NDIA (National Disability Insurance Agency) 2017, *Key Data on Psychosocial Disability and the NDIS - as at 31 December 2017,* https://www.ndis.gov.au/medias/documents/ key-data-nmhsrg-dec17/Key-Data-on-NDIS-and-Psychosocial-Disability-dec2017.pdf(accessed 4 October 2018)

—— 2018, *COAG Disability Reform Council Quarterly Report 30 June 2018*, https://www.ndis.gov.au/medias/documents/coag-report-q4-y5-full/2018-Q4-June-COAG-report-Full.pdf (accessed 25 September 2018)

NMHPSC (National Mental Health Performance Subcommittee) 2011a, *The Fourth National Mental Health Plan Measurement Strategy 2011*, Report produced for the Australian Health Ministers Advisory Council Mental Health Standing Committee, https://mhsa.aihw.gov.au/committees/publications/ (accessed 1 December 2017).

—— 2011b, *Key performance indicators for Australian public mental health services: second edition 2011*, Report produced for the Australian Health Ministers Advisory Council Mental Health Standing Committee, https://mhsa.aihw.gov.au/committees/ publications/ (accessed 1 December 2017).

RACGP (Royal Australian College of General Practitioners) 2018, *General Practice: Health of the Nation 2018*. East Melbourne, Vic.

WHO (World Health Organization) 2001, *Strengthening mental health promotion*, Fact sheet no. 220, Geneva.

1. Whilst not a State and Territory government specialised mental health service, this chapter also reports on emergency department presentations for mental health related care needs (where data are available). [↑](#footnote-ref-1)