

Appendix 1: Data quality and technical notes

Data quality and technical information 2019–20

The Youth Justice National Minimum Data Set (YJ NMDS) contains information on all children and young people in Australia who were supervised by youth justice agencies in the community and in detention.

Data are extracted from the administrative systems of the state and territory departments responsible for youth justice in Australia.

The YJ NMDS 2019–20 includes data relating to COVID-19 since the beginning of the pandemic up to 30 June 2020. However, more data is required to determine the impact of COVID-19 on youth justice data in Australia. The full impact of COVID-19 may also be difficult to determine due to variability of the data and small numbers of young people under supervision on an average day. The AIHW will be conducting future work to investigate the impact of COVID-19 on youth justice data in Australia.

Data quality and coverage

Overall, the levels of missing data in the YJ NMDS are low. About 5% of all young people in the YJ NMDS since 2000–01 have an unknown Indigenous status, and similar proportions of records in each of the order (5-6%) and detention (4-5%) files have unknown or missing information for the postcode, suburb and state of the young person's last known address. For all other variables in the YJ NMDS, the proportion of missing data is 1% or less.

Not all participating states and territories were able to provide YJ NMDS data in the current format for all years of the YJ NMDS (2000–01 to 2019–20). Some trend analyses exclude those states and territories with incomplete data in the current format due to comparability issues.

States and territories

New South Wales

For New South Wales, data provided in 2019–20 will differ from previous years after a review of order end reason classifications. Order end reasons affected include:

- '1 – Completed' reported as 'successful completions', and
- '88 – Other'.

Order type data submitted from 2018–19 onwards will differ from previous years after a review of the mapping of local to national order type classifications. Order types affected include:

- '31–Community-based *with* and *without* additional mandated requirements' reported as 'probation and similar', and
- '37–Other community sentence' reported as 'other'.

In New South Wales, responsibility for the Kariong Juvenile Justice Centre was transferred from the NSW Department of Juvenile Justice to the NSW Department of Corrective Services on 10 November 2004, and it was renamed the Kariong Juvenile Correctional Centre.

As the YJ NMDS includes only young people who are supervised by youth justice agencies in Australia, information about young people in custody in the Kariiong Centre after 10 November 2004 is not included. In 2012–13 there were 28 young people in the Kariiong Centre on an average day, and therefore they formed only a small proportion (around 8%) of young people in detention in New South Wales.

Kariiong Juvenile Correctional Centre was closed in early 2015. During April and May 2015, 23 young people were transferred out of the Kariiong Centre to another youth detention centre under the supervision of Juvenile Justice NSW. All young people under the age of 18 who were transferred out of the Kariiong Centre, and who entered the supervision of Juvenile Justice NSW, entered the YJ NMDS data collection on the date they were transferred.

Victoria

For Victoria, data provided from 2018–19 onwards will differ from previous years after a review of order end reason classifications. Order end reasons affected include:

- '1 – Completed' reported as 'successful completions', and
- '88 – Other'.

Queensland

In Queensland, legislation to increase the youth justice age limit to 17 was passed in 2016, and enacted on 12 February 2018. Before then, the age limit in Queensland was 16, and young people aged 17 and older were treated as adults.

From February 2018, young people aged 17 have been transferred from the adult justice system into the youth justice system, which has, in part, led to an initial rise in the number of young people held in youth justice supervision in Queensland and nationally.

Western Australia

The 2019–20 reporting period is the fifth year to include YJ NMDS data from Western Australia since 2007–08.

For the 2015–16 and 2016–17 submissions the Western Australia data supply included only the sentenced detention period, where a young person was both sentenced and unsentenced at the same time. As a result, there may be an undercount of young people on unsentenced detention orders in those YJ NMDS submissions.

From 2017–18 onwards, Western Australia was able to capture more accurate legal status changes, so unsentenced detention periods will appear to have increased. Western Australia also began backdating sentenced orders in the 2017–18 submission which led to variations in the number of sentenced orders captured within a reporting period.

South Australia

South Australian order type data reported from 2018–19 will vary from that reported in previous years due to a review of the mapping of local to national order type classifications. This affected most community order types to a small degree.

Australian Capital Territory

In the Australian Capital Territory, both police-referred pre-court detention and remand (court-referred detention) are currently recorded as remand due to limitations with the source system.

A review of the mapping of local to national order type classifications resulted in changes to 2018–19 YJ NMDS data for the Australian Capital Territory. Suspended detention orders are now being reported where previously they were combined with probation or similar orders.

Northern Territory

The 2019–20 reporting period is the third year to include YJ NMDS data for the Northern Territory. Data before 2012–13 are not available in YJ NMDS format, so estimates are used (based on 2007–08 YJ NMDS data) for 2010–11 and 2011–12.

Estimates for the Northern Territory for 2010–11 and 2011–12 are not published in tables or figures, but are included in national totals, where appropriate.

For Northern Territory YJ NMDS data, periods of sentenced detention have been backdated to take into account periods of unsentenced detention already served. As a result, there may be an over-count of young people in sentenced detention and a high proportion of young people reported as being in sentenced and unsentenced detention at the same time. The Northern Territory hopes to remedy this in future to align more closely to other jurisdictions.

Indigenous status

About 5% of all young people in the YJ NMDS since 2000–01 have an unknown Indigenous status. In 2019–20, 1.6% of all young people under supervision during the year had an unknown Indigenous status.

Among the states and territories, this ranged from less than 1% in Victoria, Queensland, South Australia and the Australian Capital Territory to 6% in New South Wales. Western Australia had no unknown Indigenous status.

In *Youth justice in Australia* reports, young people with 'not stated' Indigenous status are excluded from analyses of Indigenous status data.

Technical information

Age

Numbers of young people under supervision include young people of all ages (as well as those aged 18 and over), unless otherwise specified. Rates refer to young people aged 10–17 only, in order to enable meaningful comparisons (see 'Rates' in this section).

For 2019–20, the age calculation for the average daily population has changed. Age is now calculated based on the age a young person is each day that they are under supervision. If a young person changes age during a period of supervision, then the average daily number under supervision will reflect this.

For example, the days that the young person was aged 17 will be counted in the daily average for 17 year olds, and the days that they were aged 18 will be counted in the daily average for 18 year olds.

This change in methodology allows for more precise measurement of the age of young people under supervision on an average day. However, due to this change, average daily data with an age breakdown or selection will not be comparable to previous *Youth justice in Australia* releases.

For 'during the year' presentations of data (or unique counts of young people) age is calculated as at the start of the first relevant period of supervision unless that period of supervision began before the financial year, in which case age is calculated as at the start of

the financial year. As a result, a young person's age can vary across tables, as age is calculated in respect to the type of supervision being analysed.

For example, a young person enters supervised bail aged 17 on 1 August and leaves on 30 August. They turn 18 on 15 September, enter sentenced detention on 1 December and are released on 1 January on parole, which ends on 30 January. They have no other periods of community-based supervision during the financial year.

- In the supervised bail analysis, they will appear as a 17-year-old.
- In the sentenced detention analysis, they will appear as an 18-year-old.
- In the parole analysis, they will appear as an 18-year-old.

This means that for a particular age group, the total number of young people under supervision may not be the sum of the number of young people under particular types of supervision for 'during the year' tables.

Age range for treatment as a young person

Across Australia, young people may be charged with a criminal offence if they are aged 10 or over. The upper age limit for treatment as a young person is 17 (at the time an offence was allegedly committed) in all states and territories. In Queensland, the age limit was previously 16, but changed to 17 years from 12 February 2018. Young people aged 18 and older at the time an offence was allegedly committed are dealt with under the criminal legislation relating to adults.

However, it is possible for young people aged 18 and over to be under youth justice supervision. This can be because:

- the offence was committed when the young person was aged 17 or younger,
- the continuation of supervision once they turn 18, or
- their vulnerability or immaturity.

In addition, in Victoria, some young people aged 18–20 may be sentenced to detention in a youth facility (known as the 'dual track' system).

Average and median

Two measures of central tendency are reported using data from the YJ NMDS:

- Average (mean)—the average, or mean, is calculated by summing all of the values and dividing by the number of observations. In YJ NMDS data, averages are used in the reporting of 'average day' numbers (see 'Average day' in this section) and the total amount of time spent under supervision during the year.
- Median—this is the middle value of a set of observations, when arranged in order of value. Medians are often reported where data are not normally distributed, or include extreme values that would distort the average. In YJ NMDS data, median is used to report the duration of completed periods of supervision, due to the skewed distribution of the data. The duration of completed periods of supervision ranges from 1 day to more than 10 years.

Community-based supervision

The YJ NMDS contains information on the start and end of supervised orders that youth justice agencies administer, as well as on the start and end of detention periods.

As the start and end dates in the YJ NMDS do not include time stamps, a young person is counted as being under community-based supervision for any day that is covered by a community-based supervised order and is not covered by a detention period.

In some circumstances, the young person is considered to have moved between community-based supervision and detention on the same day and is counted as having both types of supervision:

- When a detention period starts on a particular day (and the previous detention period ended before that day) and a community-based supervision order starts on or before that day and ends on or after that day, the young person is counted as having both community-based supervision and detention on that day.
- When a detention period ends on a particular day (and the next detention period starts after that day) and a community-based supervision order starts on or before that day and ends on or after that day, the young person is counted as having both community-based supervision and detention on that day.
- When a detention period ends on a particular day and another detention period starts on the same day and a community-based supervision order starts on or before that day and ends on or after that day, the young person is counted as having only detention on that day.
- Where any detention periods either end before a particular day or start after that particular day and a community-based supervision order starts on or before that day and ends on or after that day, the young person is counted as having only community-based supervision on that day. See also Supervision periods.

Duration

Duration is calculated in whole days. For example:

- if a young person entered supervision on 1 January and left on 5 January, this is counted as 5 days under supervision,
- if a young person entered and left supervision on the same day, this is counted as 1 day under supervision.

First supervision and supervision history

The YJ NMDS contains the date on which the youth justice agency first supervised or case managed each young person under supervision. This date is used in analyses of age at first supervision.

In contrast to the age at first supervision, analyses of the first type of supervision and supervision history are restricted to those young people for whom information on this first supervision is available in the YJ NMDS.

For all states and territories except Tasmania and the Australian Capital Territory, information on the first type of supervision is available for all young people whose first supervision was on or after 1 July 2000. For Tasmania, this is 1 January 2006 (as complete data on detention are available only from this date). For the Australian Capital Territory, this is 1 July 2008 (as data for 2003–04 to 2007–08 are available only in YJ NMDS 2007 format).

The first supervision type is determined for each young person with available data by selecting the records with the earliest start date. Because it is possible for young people to be under more than 1 type of supervision at the same time, young people may have multiple first supervision types.

A young person's supervision history is composed of all available information in the YJ NMDS, up to and including the current reporting year. Only young people with information from their first supervision are included in this analysis.

Number under supervision

Reports based on the YJ NMDS contain information on both:

- the number of young people under supervision on an average day and
- the number of young people under supervision during the year.

The 'average day' measure reflects the number of young people under supervision on a typical day during the year, and gives an indication of the average number of young people supported by the supervision system at any one time. It is a summary measure that reflects both the number of young people supervised, and the amount of time they spent under supervision. This measure is the main focus of most YJ NMDS data.

In contrast, the 'during the year' measure is a count of the number of unique individuals who were supervised at any time during the year.

Comparing the 'average day' and 'during the year' measures provides information on the average amount of time spent under supervision during the year.

For example, there could be 100 young people under community-based supervision at some time during the year, but only 50 on an average day.

This tells us that the average length of time those young people were supervised during the year was 6 months ($50/100 \times 12$ months). By contrast, if 100 people are in detention during the year and 25 on an average day, the average length of time those young people spent in detention is 3 months ($25/100 \times 12$ months).

In 2019–20, only 16% of young people under supervision were in detention on an average day, but 46% experienced detention at some time during the year. This difference reflects the fact that young people spent substantially less time in detention, overall, than under community-based supervision.

Both the 'average day' and 'during the year' counts are provided in most supplementary tables, where appropriate.

Average day

The number of young people under supervision on an average day is calculated by summing the number of days each young person spends under supervision during the year and dividing this total by the number of days in the financial year.

For the number on an average day, components may not sum to the total because young people can experience different types of supervision on the same day.

During the year

The number of young people under supervision during the year is calculated by counting each distinct young person under supervision during the financial year. Each young person is counted only once, even if they entered and exited supervision multiple times during the year.

For the number during the year, components may not sum to the total because:

- young people can experience different types of supervision during the year
- age is calculated specific to the type of supervision being analysed.

For example, if there were 100 young people under supervision in a particular year and each of these 100 young people had been detained and under community-based supervision at different times during the year, the relevant totals would show that there were 100 young people in detention, 100 young people under community-based supervision and a total of 100 young people under supervision.

Population rates

Population rates allow for the comparison of different groups while taking into account differences in population sizes. Because there are differences between the states and territories in the extent to which youth justice agencies can supervise young people aged 18 and over, rates compared in this report are restricted to young people aged 10–17.

The calculation of rates excludes young people for whom data on particular variables are not available, and are not calculated where there are fewer than 5 young people, due to a lack of reliability.

Rates are expressed as the number per 10,000 of young people in the population.

The number of young people on an average day is rounded to 1 decimal place. The rate for an average day is calculated using the number on an average day before rounding.

Rate ratios

Rate ratios are used to compare Indigenous and non-Indigenous rates and to provide a measure of the level of Indigenous over-representation. They should be interpreted with caution where there are small denominators, rare events, or rates that converge while declining (or diverge while increasing).

Rate ratios are calculated using the rates rounded to 3 decimal places. Rates are presented in the supplementary tables to 1 decimal place.

Rate ratios are not calculated where 1 or both of the rates have fewer than 5 young people in the numerator.

Receptions

A reception occurs when a detention period starts and the young person:

- was not in detention immediately before the start of the current detention period, or
- did not escape from detention or abscond from leave in the immediately preceding detention period.

The start of a detention period is considered a reception only when the detention period starts at least 2 full days after the end of the previous detention period. This accounts for young people being transported to court and returning to detention on remand or sentenced detention following a court hearing, as well as for young people transferred between detention centres.

There may be a small number of young people who are counted as having a reception where their travel time is longer than 2 full days when travelling to and from remote locations.

Releases

A release from detention occurs where a detention period ends and the young person was not detained immediately following the end of the current detention period.

A release does not include instances where the young person escaped from detention or absconded from leave.

The end of a detention period is considered a release only when the detention periods ends at least 2 full days before the start of the next detention period. This accounts for young people being transported to court and returning to detention on remand or sentenced detention following a court hearing, as well as for young people transferred between detention centres.

There may be a small number of young people who are counted as having a release where their travel time is longer than 2 full days when travelling to and from remote locations.

Remand periods followed by a period of sentenced supervision

All periods of sentenced supervision that start within 1 day of the end of a remand period are included except where there is a further remand period that starts on the same day as the period of sentenced supervision. Remand periods are also only included in the analysis where they end with detention end reason '1 – Complete'. For example, remand periods that ended because a young person was released into bail to await their sentencing are not included.

Remoteness

YJ NMDS reporting uses the Australian Statistical Geography Standard (ASGS) Remoteness Areas Structure that the Australian Bureau of Statistics (ABS) has developed to analyse the remoteness of the usual residence of the town or suburb of young people under supervision.

This structure allows areas that share common characteristics of remoteness to be classified into broad geographical regions of Australia. These areas are *Major cities*, *Inner regional*, *Outer regional*, *Remote* and *Very remote*.

The remoteness of the young person's usual residence was determined using the most recent postcode of their last known address. Young people with invalid, missing or unknown postcodes of last known home address were excluded from the analysis.

The number of young people under supervision in each remoteness area was estimated based on each young person's most recent postcode.

Some postcode areas were split between 2 or more remoteness areas. Where this was the case, the data were weighted according to the proportion of the population of the postcode area in each remoteness area.

Some young people may appear in remoteness areas for which there is no population within that state or territory. This is due to young people whose last known home address is in a different state or territory to the one in which they are under supervision.

Socioeconomic position

YJ NMDS reporting uses the Socio-Economic Indexes for Areas (SEIFA) that the ABS has developed to analyse the socioeconomic position of the usual residence of young people under supervision. The Index of Relative Socio-Economic Advantage and Disadvantage is used.

The socioeconomic position of the area of the young person's usual residence was determined by allocating the relevant SEIFA population-based (2016) quintile score to the most recent postcode of the last known home address. Young people with invalid, missing or unknown postcodes of last known home address were excluded from the analysis.

The number of young people under supervision in each area was estimated based on each young person's most recent postcode. Some postcode areas were split between 2 or more

areas with different SEIFA scores. Where this was the case, the data were weighted according to the proportion of the population of the postcode area in each SEIFA area.

The SEIFA represents the average of all people living in the area, and not the socioeconomic position of a particular individual living in the area. As a result, socioeconomic analyses in YJ NMDS reporting indicate the level of socioeconomic advantage and disadvantage in the area of usual residence of the young person, not the level of socioeconomic advantage and disadvantage of each individual young person or their family.

Some young people may appear in socioeconomic areas for which there is no population within that state or territory. This is due to young people whose last known home address is in a different state or territory to the one in which they are under supervision.

Supervision periods

A supervision period is the period of time a young person spent under continuous youth justice supervision. It should be noted that:

- periods of youth justice supervision may be comprised of both periods under community-based supervision and periods in detention
- periods spent either under community-based supervision or in detention may consist of multiple or concurrent orders and episode types.

Young people may not serve the full duration of orders for several reasons, including:

- community orders and periods spent under community-based supervision may be interrupted by time spent in detention
- the full duration of a sentenced detention order may not be served where the young person is released on parole or supervised release.

An example of the relationship between periods, episodes and orders is shown in Figure A1.1. In this example, a young person spent 6 continuous months under supervision, with the first 2 months under community-based supervision and the remaining 4 months in detention. The young person experienced 2 different types of community supervision in the first 2 months (for example, probation and bail). The young person then experienced 2 different types of detention (for example, remand and sentenced detention).

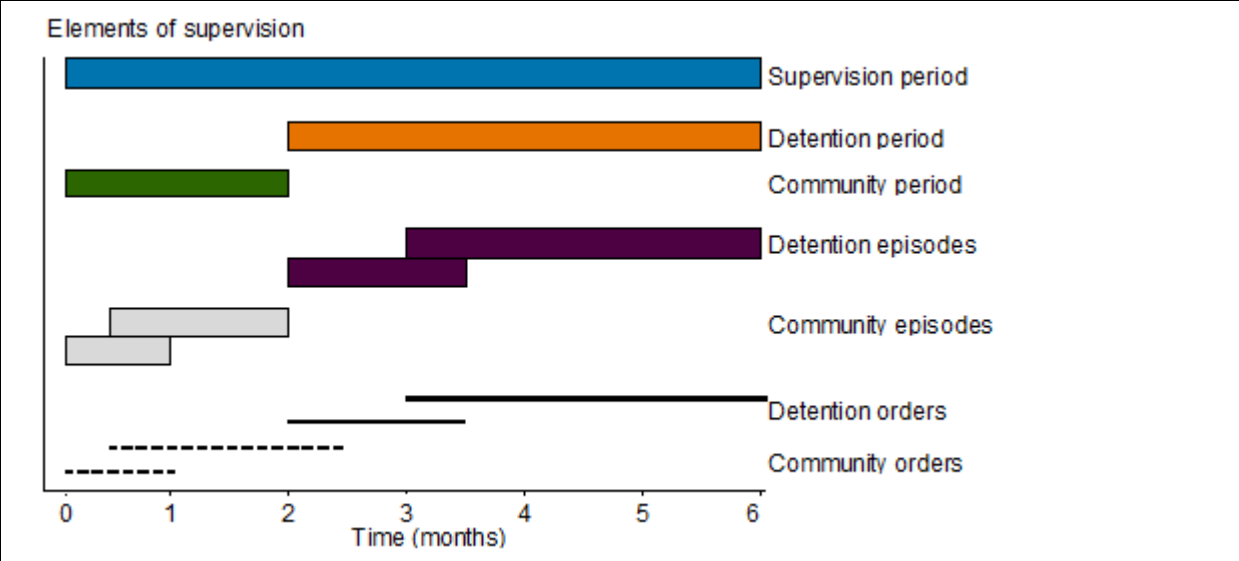


Figure A1.1: Example of the relationship between orders, episodes and periods in YJ NMDS data

Supervision types

The YJ NMDS contains information on the type of supervision using the national classification of supervised legal arrangements and orders.

Table A1.1: National classification of supervised legal arrangements and orders

Legal status	Supervision type	Order type	Includes
Unsentenced	Detention	Police-referred detention	
		Remand (court-referred)	
	Community	Supervised bail	Conditional bail, Griffith remand
		Home detention bail	
		Other court-referred arrangements	Deferral of sentence
		Police-referred other	
Sentenced	Detention	Sentenced detention	Control order, revocation of parole, youth residential order
	Community	Probation or similar with or without additional mandated requirements	Good behaviour order with supervision, good behaviour bond, intensive supervision order, youth attendance order, youth supervision order
		Home detention	
		Suspended detention	Suspended sentence, conditional release order
		Parole	Supervised release order, fixed release order
		Community service orders	Community service order, community work order, graffiti removal order
Other community sentence			
Other	Not elsewhere classified	Mental health order	

In YJ NMDS reporting, several of these order types are routinely combined and are reported as:

- other orders not elsewhere classified, probation and similar orders, supervised or conditional bail and other unsentenced community-based orders, and
- unsentenced detention.

Other orders not elsewhere classified

Orders not elsewhere classified are classified as 'other' in tables where data are broken down by legal status.

Probation and similar

'Probation and similar' is composed of order types with and without additional mandated requirements.

Supervised or conditional bail and other unsentenced

This category includes young people on supervised or conditional bail, home detention bail and other unsentenced community-based supervised orders. Young people who are supervised under more than 1 of these types of orders on the same day or during the same year are counted only once for this category.

Unsentenced detention

This category includes young people in police-referred detention and on court-referred remand. Young people who are detained for both these types of detention on the same day or during the same year are counted only once for this category.

Trends

Where the number of young people under supervision on an average day is relatively small, the amount of random variation from year to year is more noticeable. This may affect the appearance of trends, which should therefore be interpreted with caution, particularly where they relate to small numbers. In recognition of this, percentage changes are not calculated where they relate to groups of fewer than 100 people.

Youth justice in Australia reports aim to highlight the overall or net change over a defined period (that is, comparing the start and end of the period), while taking into account the trend within the period. Where possible, changes in the interim years are explored in the text. Full details are available in the supplementary tables.

Trend data may differ from data in previously published reports due to data revisions.