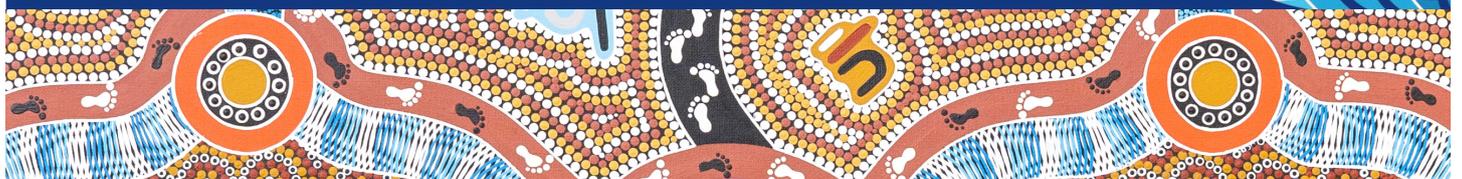


People in NSW Public Prisons

2020 Health Status and Service Utilisation Report





"Spirits and Aboriginal patients' journeys" – The artist is a Wiradjuri man from Wellington NSW, and the piece, commissioned specifically for Justice Health NSW, expresses the artist's experiences of health and wellbeing in concert with Justice Health NSW.

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Foreword

The Justice Health and Forensic Mental Health Network (Justice Health NSW) provides health care to people in public prisons and forensic mental health settings. Justice Health NSW is committed to delivering high-quality, evidence-based health care and undertaking research to inform best practice. This commitment is expressed in Justice Health NSW's *Together for Healthier Tomorrows* vision of providing world-leading, patient-centred health care to transform lives.

The *People in NSW Public Prisons: Health Status and Service Utilisation (People in NSW Public Prisons)* study is the first large-scale epidemiological study in a program of research to use real-world, routinely collected Justice Health NSW datasets. These datasets comprise information about the health status and service utilisation of adults in prison. This report provides important information that can help to identify needs and inform service delivery and future strategic, operational and policy decisions.

Justice Health NSW previously completed several large-scale prisoner health surveys, including the *NSW Inmate Health Survey 1997* (1), the *2001 NSW Inmate Health Survey* (2), the *2009 NSW Inmate Health Survey* (3) and the *Network Patient Health Survey 2015* (4). However, the *People in NSW Public Prisons 2020* report is unique in using routinely collected data. Such data encapsulates important information about the health status and service utilisation of people in prison on a large scale. It also allows a greater return on investment of our public resources and it means Justice Health NSW can efficiently conduct whole-of-population research. There is scope for future reports in this research program that include a wider range of routinely collected data. This research program will also build our capacity to utilise real-world, large-scale data to identify important trends in the health status and service utilisation for people in prison. The *People in NSW Public Prisons* study is the first of its kind at Justice Health NSW and is an important milestone on the journey towards healthier tomorrows.



Wendy Hoey
Chief Executive

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Glossary

Aboriginal person or patient	a person who self-identified as Aboriginal or Torres Strait Islander or both
CALD person	a person who self-identified as of culturally and linguistically diverse background
Health status	the health of people entering prison based on Reception Screening Assessment data
Inpatient	a person admitted to a hospital or Justice Health NSW specialised unit within correctional centres
New South Wales public prison	a correctional centre in NSW run by Corrective Services New South Wales
No patient appointments	appointments completed without patient attendance, such as case plan reviews or case conference
Older people	people aged 45 years and over
Patients	people in prison actively engaged with Justice Health NSW services
People in prison	people who entered a NSW public prison in 2020
Service utilisation	based on all activities recorded on PAS in 2020 for the study cohort, including appointments, active alerts, waiting lists and hospital admissions
Walk-in appointments	appointments in which health care staff see a patient seeking health care without prior notice
Younger people	people aged under 45 years

Abbreviations

BMI	body mass index
CALD	culturally and linguistically diverse
COPD	chronic obstructive pulmonary disease
CSNSW	Corrective Services NSW
FASD	fetal alcohol spectrum disorder
HIV	human immunodeficiency virus
JHeHS	Justice Health electronic Health System
Justice Health NSW	Justice Health and Forensic Mental Health Network
K10	Kessler 10
LBH	Long Bay Hospital
LBH MHU	Long Bay Hospital Mental Health Unit
LBH MHU F Ward	Long Bay Hospital Mental Health Unit F Ward
LBH MHU G Ward	Long Bay Hospital Mental Health Unit G Ward
MNF	Mandatory Notification Form
MRRC	Metropolitan Remand and Reception Centre
NPHDC	National Prisoner Health Data Collection
NSW	New South Wales
OAT	opioid agonist treatment
PAS	Patient Administration System
People in NSW Public Prisons	People in NSW Public Prisons: Health Status and Service Utilisation
PRI	primary
RSA	Reception Screening Assessment
STI	sexually transmitted infection

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Executive Summary

The *People in NSW Public Prisons* study is the first study utilising routinely collected Justice Health NSW data to investigate the health and service utilisation of adults in NSW public prisons.

This report has two results chapters. The first focuses on the health status of 8599 people who entered NSW public prisons in 2020. It utilises Reception Screening Assessment (RSA) data and health condition data, which are part of the Justice Health electronic Health Systems (JHeHS). The second focuses on service utilisation, including all patient activities occurring in 2020 for people who entered prison from 2015 to 2020. It utilises Patient Administration System (PAS) data and provides information on 801,627 booked appointments and 1824 inpatient admissions.

A descriptive analysis was conducted. Results are presented by sociodemographic characteristics, including Aboriginal identity, sex, age and culturally and linguistically diverse (CALD) background (Chapter 3. Health Status only).

Key Findings

Health Status of People Entering Prison in 2020

RSA data for people who entered NSW public prisons in 2020 were analysed to determine their health status.

Demographics

In 2020, 8599 people entered NSW public prisons; most were men (82.1%), and 17.8% were women. One-third self-identified as Aboriginal people (33.9%), and 14.0% self-identified as having a CALD background. The age of people who entered prison in 2020 ranged from 18 to 88 years (median age 34.0 years).

Physical Health Conditions

More than one-third of people (36.3%) who entered prison in 2020 reported a history of at least one health condition. Respiratory conditions, including asthma, chronic obstructive lung disease and sleep apnoea, were the most prevalent self-reported physical conditions. Gastrointestinal conditions were the second most prevalent type of active physical health condition, and hepatitis C was the most common gastrointestinal condition.

Population Health

Harm reduction education was offered to 75% of people who entered prison. In 2020, 0.3% of people who entered prison reported a human immunodeficiency virus (HIV) diagnosis; 0.8% reported sexually transmitted infection (STI) symptoms.

Mental Health Conditions

The Kessler 10 questionnaire was completed by 4788 (55.7%) people who entered prison in 2020; 21.1% identified as having severe distress. Forty-seven per cent reported treatment for mental health conditions. Depression was the most common condition reported by those receiving treatment (50.4%), followed by anxiety (38.5%). A history of self-harm was reported by 12.8% of people and attempted suicide by 11.8%.

Substance Use

The prevalence of reported substance use among people who entered prison was high. A large proportion (69.8%) of people reported smoking tobacco before entering custody. Of the people who reported consuming alcohol in the four weeks before entering custody (27.2%), 25.9% reported consuming alcohol daily. Methamphetamine use in the four weeks before entering prison had the highest prevalence of illicit drugs (29.6%). Over half (53.5%) of people who entered prison reported using drugs in the previous four weeks, and 18.7% reported intravenous drug use – most commonly opioids.

Aboriginal Health

People who entered prison and identified as Aboriginal reported a history of self-harm and suicide attempts at a higher prevalence than those who did not identify as Aboriginal (16.3% v. 11.0% and 14.0% v. 10.7%, respectively). The prevalence of reported tobacco smoking was higher among Aboriginal men and women who entered prison than non-Aboriginal men and women. Aboriginal men entering prison more commonly reported consuming alcohol in the past four weeks; however, this group had the lowest proportion of people who consumed alcohol daily. Based on self-reports, asthma and hepatitis C prevalence were higher in Aboriginal men and women than non-Aboriginal men and women. Approximately a third (31.1%) of the women pregnant at reception to prison identified as Aboriginal.

Health of Older People

Almost one-fifth (17.2%) of people who entered prison in 2020 were aged 45 years and older. More than half (57.7%) of those who reported liver cirrhosis were aged 45 years and older. A total of 9.5% of people aged 45 years and older and 17.2% over 65 years had a diagnosis of diabetes. Older people had a lower rate of severe distress than those under the age of 45; however, 25.0% of people aged 45 years and older who completed the K10 on reception reported moderate or severe distress. Older people had lower rates of methamphetamine and cannabis use, but a higher proportion reported daily alcohol consumption compared to people aged under 45 years.

Women's Health

There were disparities between the health status of men and women who entered prison. Women had a higher prevalence of physical health conditions such as asthma and drug allergies. More than half (52.4%) of women who entered prison reported receiving treatment for a mental health condition at some point, compared with 45.8% of men. Women reported suicide attempts at a rate of 13.2% and self-harm at 18.8%, whereas men reported suicide attempts at a prevalence of 11.5% and self-harm at 11.6%. Smoking prevalence was higher in women than men (75.9% v. 68.5%, respectively). Sixty-one women who entered prison in 2020 were pregnant.

Health of CALD People

In 2020, 1201 people from CALD backgrounds entered prison. Lower proportions of asthma and hepatitis C were reported by CALD than non-CALD people; however, CALD people had higher proportions of hypertension, diabetes and obesity than non-CALD people.

A history of treatment for mental health conditions was reported by 33.9% of CALD people. Of these, 70.8% reported responding to mental health treatment. Like non-CALD people, depression and anxiety were the most common mental health conditions reported by CALD people who had received treatment for a mental health condition.

The proportion of CALD people reporting smoking, alcohol use and drug use was lower than non-CALD people. More than three-quarters (77.2%) of CALD people who reported stimulant use stated that smoking was their route of administration.

Health Service Utilisation of People in Prison

Health service utilisation focuses on all patient activities in 2020 for the study cohort (i.e., people who entered prison from 2015 to 2020).

Appointments

In 2020, 801,627 appointments were booked; most were attended (82.2%), 7% were cancelled, and 6.8% were not attended. The majority (90.5%) of attended appointments were face-to-face, and 78.0% were for the speciality of primary health. A higher proportion of attended appointments were among men than women.

Waiting List

For attended appointments, the median number of days patients were on the waiting list was six days. More than half of the patients triaged as Priority 1 (Urgent) attended appointments on the same day or within one day of joining the waiting list.

Alerts

In 2020, 17,092 patients had at least one active clinical alert. Of these patients, 18.3% had an alert for a gastrointestinal condition representing the clinical alert with the highest prevalence.

Inpatient Admissions

In 2020, there were 1824 inpatient admissions for 1092 patients. Approximately half (52.0%) of all inpatient admissions were for non-Aboriginal men, whereas only 7.9% were for Aboriginal women.

Conclusion

The *People in NSW Public Prisons* study provides comprehensive information on the needs of people in prison and specific populations therein. The study also highlights areas for improvement in the data routinely collected by Justice Health NSW. Such improvements will enhance our understanding of the health needs of people who receive health care from Justice Health NSW.



1. Introduction

The Australian prison population has increased by 47.6% between 2011 and 2021, compared to a rise of 14.4% in the general Australian population (5, 6). The dynamic nature of the prison population means many people enter and leave each year, with people in prison either sentenced or remanded while awaiting trial and sentencing (7). Furthermore, this cyclic nature of prison means that the health concerns of the prison population are also the health concerns of the general population (7).

Justice Health NSW is one of NSW Health's specialty networks providing health care to young and adult people in contact with the NSW criminal justice and forensic mental health system (8). Justice Health NSW provides multidisciplinary health care services to more than 30,000 patients each year in various settings, including police cells, courts, correctional centres, youth justice centres, inpatient settings and community settings (8). The services provided range from primary care to specialised health services, including mental health, Aboriginal health, drug and alcohol, aged care, women's health and various allied health services (8).

It is internationally recognised that custodial settings have a vital role in providing health care services in the form of diagnosis, disease management and treatment to individuals who would not necessarily access this care within community settings (9, 10). Research has shown that individuals in contact with the prison system are one of society's most vulnerable groups, with higher rates of physical and mental health concerns than the general population (7, 9–11). Prison populations have high rates of psychosis, depression, personality disorder and substance misuse, which are considered clinical risk factors for increased rates of suicide (10, 11). Compared to the general population, physical health concerns common in this group include communicable diseases such as bloodborne viruses and STIs and non-communicable disorders such as hypertension, diabetes, asthma and arthritis (9, 10, 12). People with a disability are over-represented in the prison population, particularly those with cognitive or psychosocial disabilities (13, 14). People in prison living with a disability face additional vulnerabilities in custody and barriers to identification of their disability at reception (13–15).

People leaving prison also have higher mortality rates (12). Community reintegration is particularly stressful, and individuals are at increased risk of engaging in high-risk sexual activities and illicit substance use (12). Many deaths of released prisoners have been attributed to drug overdose, cardiovascular disease, homicide and suicide (9, 12, 16). Therefore, continuing to improve the health and wellbeing of people while in custody and post-release will benefit the entire community.

There have been several large-scale epidemiological surveys of prisoner health conducted in NSW, including the *NSW Inmate Health Survey 1997* (1), the *2001 NSW Inmate Health Survey* (2), the *2009 NSW Inmate Health Survey* (3) and the *Network Patient Health Survey 2015* (4). These surveys generated numerous peer-reviewed articles on various areas, including drug use, mental health, Aboriginal health, infectious diseases and access to health services. Furthermore, these surveys have gained international recognition as the most comprehensive examination of prisoner health undertaken within a single jurisdiction. However, the surveys are costly, resource-intensive and time-consuming to complete. It is critical that alternative, more cost-effective and contemporaneous ways of describing the characteristics and health care needs of custodial populations are identified.

The use of real-world data has been increasingly supported and used within the Australian health research context. This data offers significant potential for increasing health system efficiency and effectiveness and improving population health (17). Real-world health data is data related to patient health status and/or health service delivery collected by different organisations (18).

In the Justice Health NSW context, the use of routinely collected data in health research is more sustainable than using survey data as it:

1. eliminates the research burden on nursing staff, corrective services staff, youth justice staff and participants
2. reduces the financial and resource costs of data collection
3. allows the utilisation of the records of all people entering into custody instead of a randomly selected subset of incarcerated individuals who agree to participate in a survey.

Furthermore, the whole-of-population coverage provides opportunities for examining the health of different population groups, such as Aboriginal people (17). Additionally, the use of routinely collected data allows for more contemporaneous reporting than periodic survey data.

The current study is the first to use various datasets from real-world data routinely collected by Justice Health NSW to provide evidence-based knowledge regarding the health and service utilisation of people within public prisons. The results will help to inform Justice Health NSW service development, service delivery and policy development by identifying the range and prevalence of health problems that require referral to the health service. The routinely collected datasets will be provided yearly, contributing to the ongoing development of data assets for Justice Health NSW that other researchers may use.

The *People in NSW Public Prisons* study aims to describe the health status and service utilisation of people entering NSW public prisons. By identifying the health care needs of people in NSW public prisons, the findings will create real-world evidence to inform future healthcare planning for better patient outcomes.



2. Method

2.1 Study Design

People in NSW Public Prisons is a retrospective cohort study of people who entered NSW public prisons from 2015 onward. It utilised Justice Health NSW's routinely collected data.

2.2 Data Source

This study utilised the following real-world electronic data managed by Justice Health NSW:

1. RSA dataset: The RSA is a health assessment routinely conducted for all people entering custody and should be completed within 24 hours of entering custody (19). It is included in the JHeHS – the Justice Health NSW electronic medical record. The RSA provides patient-focused health screening, risk assessment and management information, including physical and mental health assessment, drug and alcohol, women's health and a population or public health screening.
2. PAS dataset: The PAS is an electronic system that records and manages patient interactions. The PAS database includes patients' demographics and locations, clinic appointments, patient referrals, waiting lists, health records, outpatient statistics and medical alerts.

2.3 Study Population

The study population was all adults entering NSW public prisons from 2015 onwards.

2.4 Records Selection

Record selection was made by the Health Intelligence and Analytics Unit, Justice Health NSW. Data made available for the research team included:

1. Criteria 1: records for all adults who entered public prisons from 1 January 2015 onwards with an attended PAS reception appointment (primary (PRI) reception walk-in or PRI reception). The data extracted for people meeting Criteria 1 were: RSA records, subsequent appointment activity, inpatient activity, alerts, waiting list activity and demographics.
2. Criteria 2: records for all adults entering public prisons from 1 January 2015 onwards with a completed RSA (where the address on the form or patient address history was a public prison) where PAS appointment meeting criteria in step 1 is absent. The data extracted for people meeting Criteria 2 were: subsequent appointment activity following the RSA assessment date, inpatient activity, alerts, waiting list activity and demographics.

Records were excluded for adults without a recorded PAS reception appointment and those who completed an RSA, but whose listed address was not a public reception prison where Justice Health NSW provides healthcare services.

2.5 Report Data

For this report, the focus is on 2020 data. It includes two Results chapters: (1) the health status of people entering prison in 2020 and (2) health service utilisation.

RSA data was utilised to analyse the health status of people who entered NSW public prisons in 2020:

- If a person had more than one RSA in 2020, only one was included (the first assessment in 2020).
- Only one RSA was included in the analysis if people had two or more RSAs on the same day. The RSA date was used as a proxy for the prison reception date as the majority (72.6%) of the RSAs in 2020 were completed within 24 hours of people entering custody.
- A total of 8599 people had an RSA completed in 2020 (hereafter referred to as 'people who entered prison in 2020'). Due to the records selection process (see Section 2.4) and selecting only one RSA record per person, the number of people who entered prison included in this report differs from the number of receptions (18,990) published by the NSW Bureau of Crime Statistics and Research (20).
- JHeHS health condition data was analysed to produce results on the patients' active health conditions.

Chapter 4 on health service utilisation included PAS data. It focuses on all patient activities occurring in 2020 for the study cohort (people who entered prison from 2015 to 2020). This data included:

- all appointments where the appointment date was in 2020
- waiting lists dated before or in 2020, and the date of removal from the waiting list was 2020 or after. Only waiting lists linked to attended appointments were included in the analysis
- all hospital admissions where the admission date was in 2020
- all active alerts in 2020 where the alert start date was before or in 2020 and the alert end date was in 2020 or not specified.

During the data validation stage, the research team found discrepancies between patients' active health conditions recorded in JHeHS and alerts recorded in PAS. For example, people with active diabetes may not have a diabetes alert and vice versa. Further investigation is needed to determine the degree of alignment between the two systems. Consequently, we did not attempt to match the health condition with the alert data for this report.

2.6 Data Analysis

Four key demographic characteristics were used in the analysis: Aboriginal and/or Torres Strait Islander identity, sex (male, female) and CALD background.

The following age calculations were performed:

- health status chapter: person's age in complete years at reception
- appointment section: person's age in complete years at the appointment date
- inpatient section: person's age in complete years at the hospital or specialised unit admission date.

2.6.1 Aboriginal and/or Torres Strait Islander People

Self-identification at reception as Aboriginal, Torres Strait Islander or both was used in this report. Recognising that the original inhabitants of NSW were Aboriginal people, the term 'Aboriginal' is used throughout the report in preference to 'Aboriginal and Torres Strait Islander' (21). Self-reporting is the most reliable way of recording Aboriginal identity (22). Previous research shows that there may be under-reporting of Aboriginal identity in health data (22). However, providing a culturally safe, supportive environment increases the likelihood that Aboriginal people will self-identify (23).

2.6.2 People with CALD Background

Self-identified CALD status was utilised for this report. We acknowledge that Aboriginal people are people with CALD backgrounds; however, because Aboriginal people are a distinct population and to better identify the health disparities and needs specific to CALD and Aboriginal people (24), we performed a separate analysis by Aboriginal identity. For the analysis by CALD status, Aboriginal people were included within the non-CALD population.

Due to the lack of information on CALD status in PAS data, we could not report service utilisation for CALD people. The research team could not match the CALD status from the RSA data to PAS data, as we do not have the RSA information on all the people whose records were included in the service utilisation analysis (i.e., those entering prison from 2015 to 2020). RSA data available at the time of reporting included records of people who entered prison from 2017 onward.

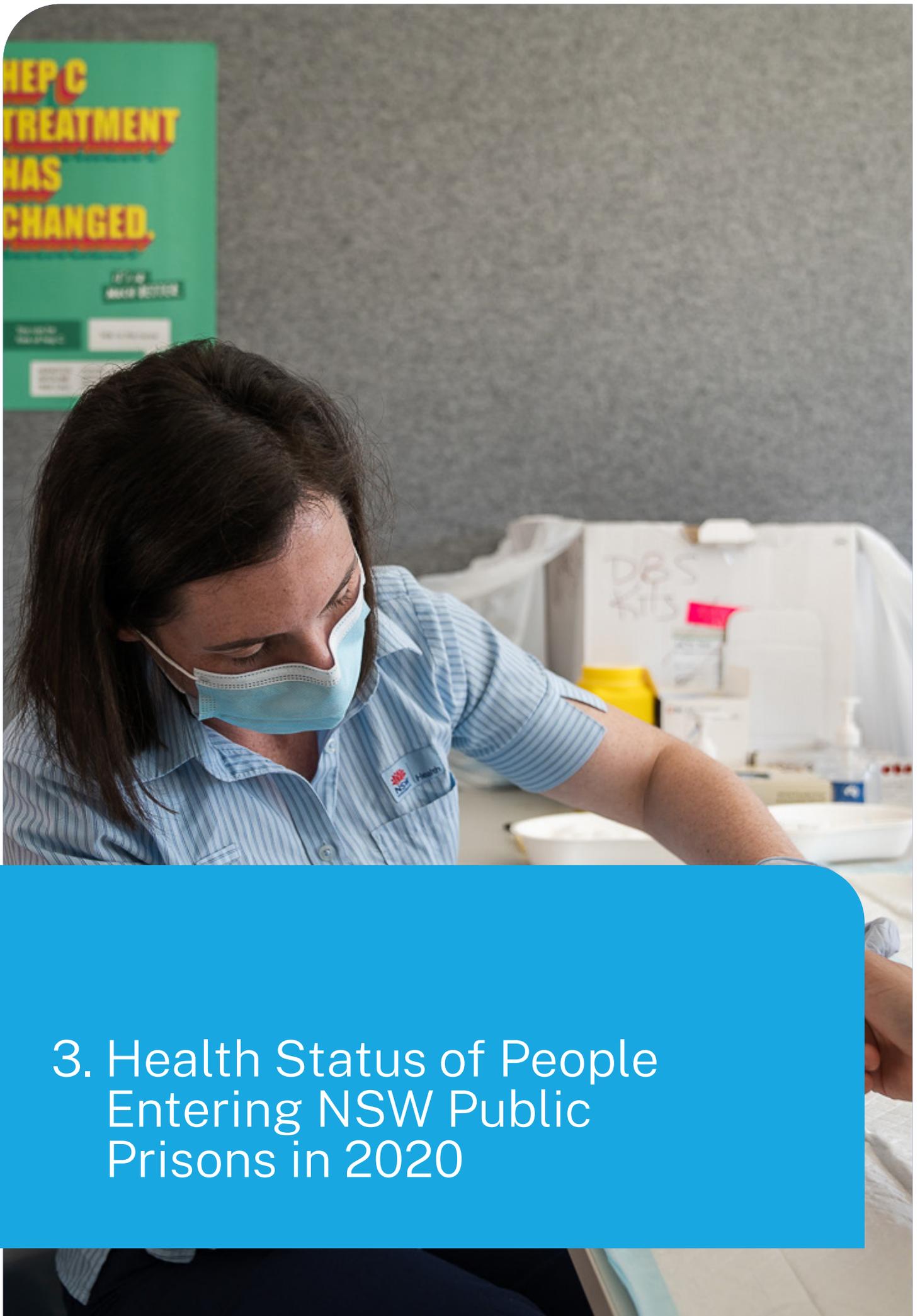
A descriptive analysis was produced, including numbers and proportions. Results are presented by age groups (< 25, 25–34, 35–44, 45–54, 55–64, and 65 years or older), by Aboriginal identity and sex (Aboriginal women, Aboriginal men, non-Aboriginal women and non-Aboriginal men) and by CALD status (CALD, non-CALD). People's records with unknown Aboriginal identity and/ or sex were excluded from figures and tables presented by Aboriginal identity and sex; records with unknown CALD status were excluded from figures presented by CALD status.

Due to rounding, percentage totals may not add up to 100.0%, and subtotals may not sum to the percentage for the categories in the report's figures and tables. Some percentages appear as 0.0% where numbers are small. As some RSA questions allow people to choose more than one response option, the total exceeds 100.0% in some tables and figures.

2.7 Ethics

Ethics applications for this study were approved by:

- Justice Health and Forensic Mental Health Network Human Research Ethics Committee (HREC Ref No 2020/ETH01927)
- Aboriginal Health and Medical Research Council Human Research Ethics Committee (HREC Ref 1719/20).



3. Health Status of People Entering NSW Public Prisons in 2020

3.1 Number and Characteristics of People Entering Prison

In 2020, 8599 people entered NSW public prisons. Of these, 33.9% were Aboriginal, 17.8% were women, and 14.0% were from CALD backgrounds (see Table 3.1).

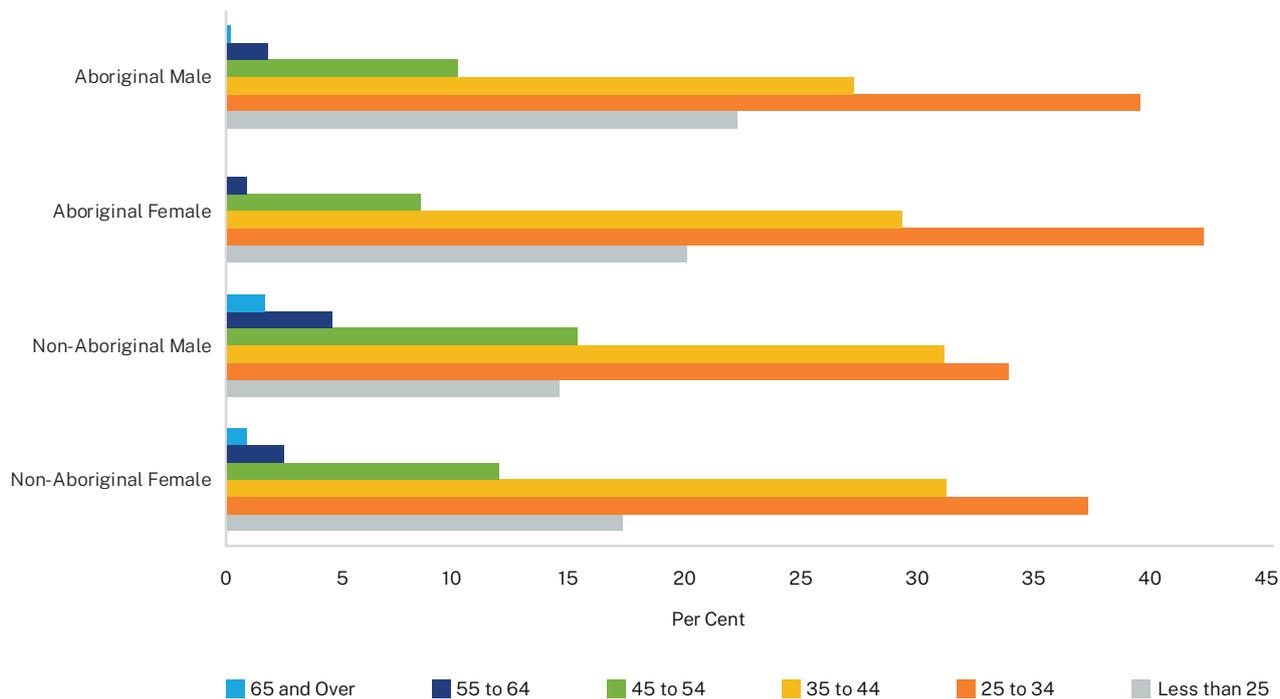
TABLE 3.1
People's Characteristics (N = 8599)

Characteristics	No.	%
Sex		
Female	1,533	17.8
Male	7,060	82.1
Not stated	6	0.1
Aboriginal identity		
Aboriginal	2,919	33.9
Non-Aboriginal	5,632	65.5
Not stated	48	0.6
CALD		
Yes	1,201	14.0
No	7,338	85.3
Not stated	60	0.7

Note. CALD: culturally and linguistically diverse background.

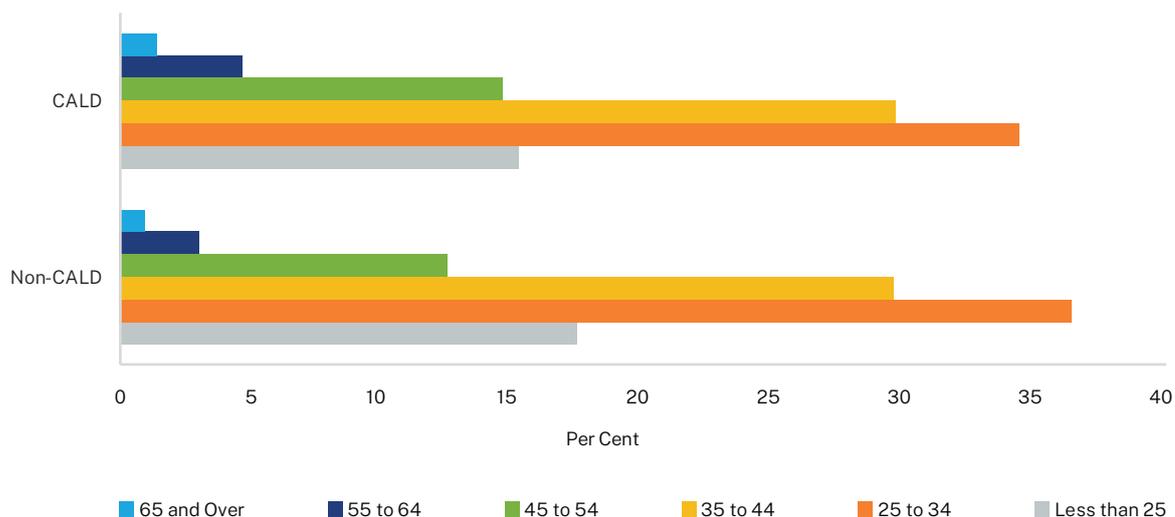
The age of people who entered prison in 2020 ranged from 18 to 88 years (median 34.0 years). The median age of Aboriginal people (women 31 years, men 32 years) was lower than that of non-Aboriginal people (women 33 years, men 35 years). Figure 3.1 shows Aboriginal identity and sex by age group. A higher proportion of Aboriginal people were younger than 25 years (19.8%, $n = 114$ of women; 21.9%, $n = 514$ of men) compared with non-Aboriginal people (17.1%, $n = 162$ of women; 14.3%, $n = 669$ of men). Seventeen percent (17.2%, $n=1479$) of people who entered prison in 2020 were aged 45 years and older. A lower proportion of older people (45 years and older) was observed among Aboriginal people (9.2%, $n = 53$ of women; 11.9%, $n = 278$ of men) than among non-Aboriginal people (14.9%, $n = 142$ of women, 21.2%, $n = 993$ of men).

FIGURE 3.1
Aboriginal Identity and Sex by Age Groups (Years)



CALD people in the sample had a lower proportion of people aged less than 25 years and a higher proportion of people aged 45 years and older than non-CALD people (15.2% v. 17.5%) and (20.7% v. 16.6%), respectively (see Figure 3.2).

FIGURE 3.2
CALD Status by Age Groups (Years)



Note. CALD: culturally and linguistically diverse backgrounds.

3.1.1 Number of People Entering Prison per Month

Figures 3.3 to 3.5 present the number of people who entered prison in 2020 per month. Almost a quarter (23.5%, $n = 2024$) entered within the first two months of the year. The number sharply declined in April to 531 (6.2%) people. The number fluctuated for the rest of the year, with the highest entries in June ($n = 795$) and the lowest in July ($n = 578$). This trend was consistent for Aboriginal and non-Aboriginal people, CALD and non-CALD people and across all age groups (see Figures 3.3 to 3.5). The drop in entries from April until the end of 2020 can be partly explained by the COVID-19 pandemic (25, 26).

FIGURE 3.3
Number of People by Month, Aboriginal Identity and Sex

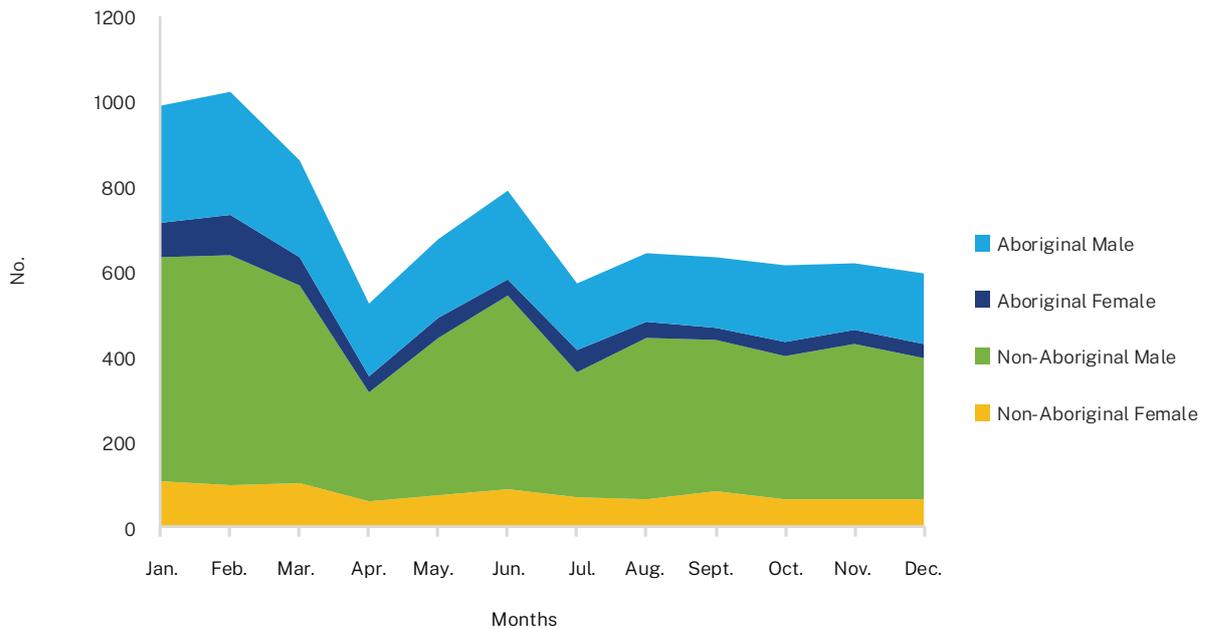
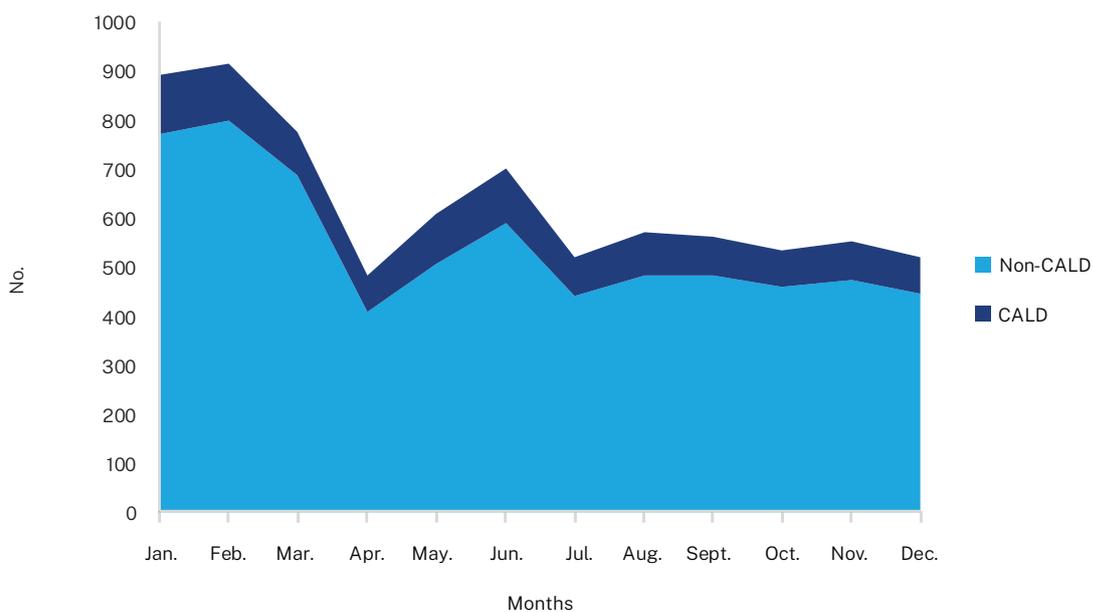
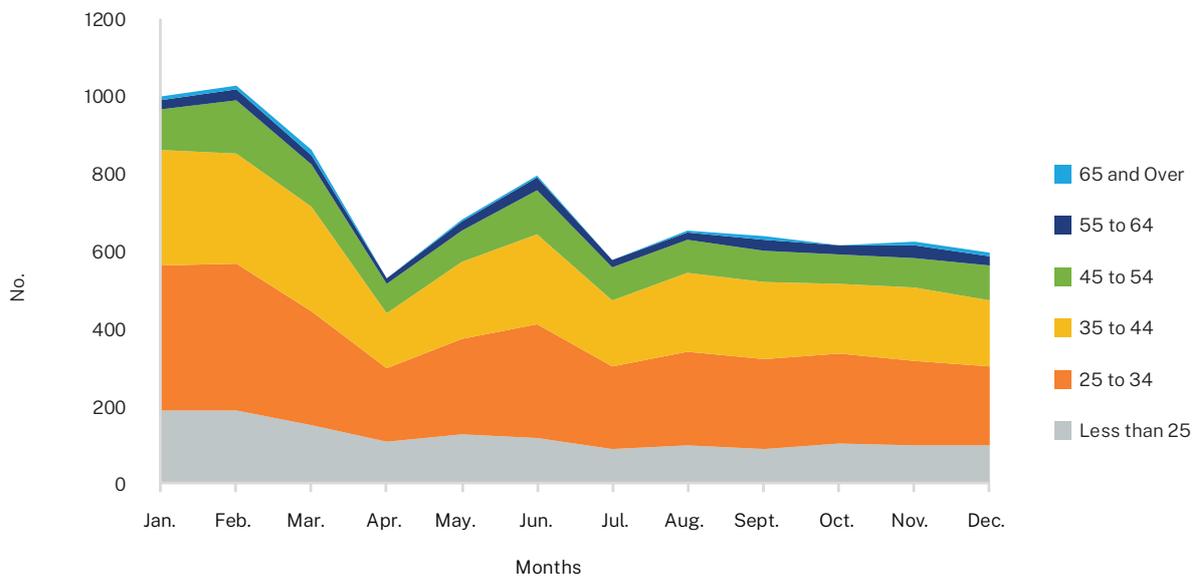


FIGURE 3.4
Number of People by Month and CALD Status



Note. CALD: culturally and linguistically diverse backgrounds.

FIGURE 3.5
Number of People by Month and Age Groups (Years)

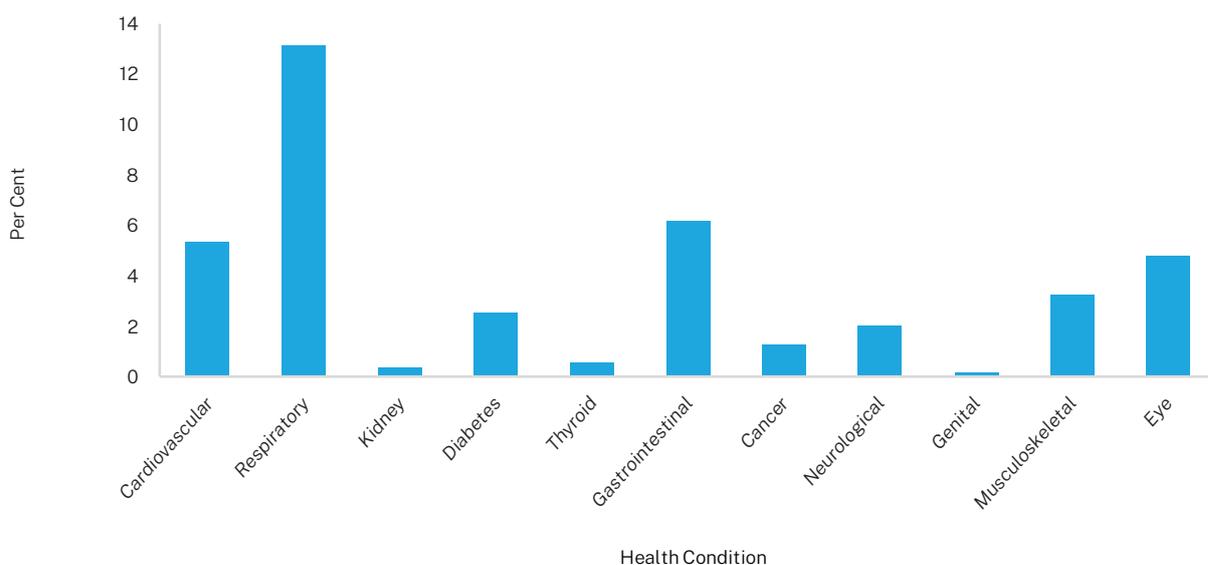


3.2 Physical Health

3.2.1 Self-Reported History of Health Conditions

Of the 8599 people who entered prison in 2020, 3125 (36.3%) reported a history of at least one health condition; 1070 (12.4%) reported a history of two or more conditions (see Figure 3.6). Respiratory conditions were most often reported; 13.1% ($n = 1130$) reported asthma, chronic obstructive lung disease and/or sleep apnoea. The second most frequently reported health condition was gastrointestinal conditions — reported by 6.2% ($n = 530$) of people, followed by cardiovascular conditions reported by 5.4% ($n = 461$) (see Figure 3.6).

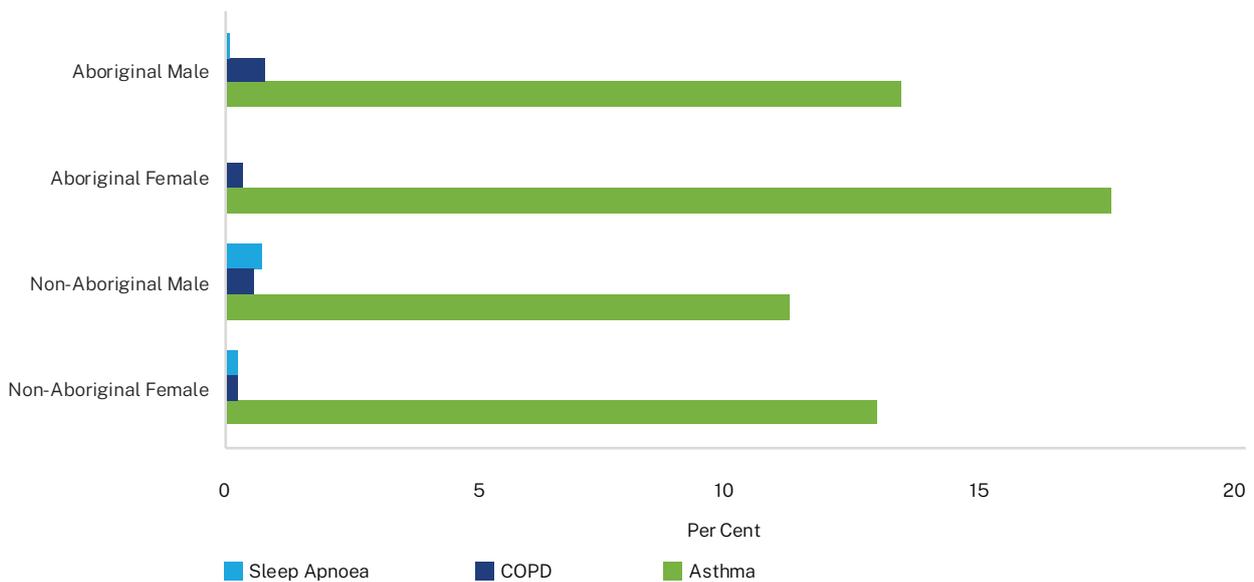
FIGURE 3.6
Self-Reported History of Health Conditions



3.2.1.1 Respiratory Conditions

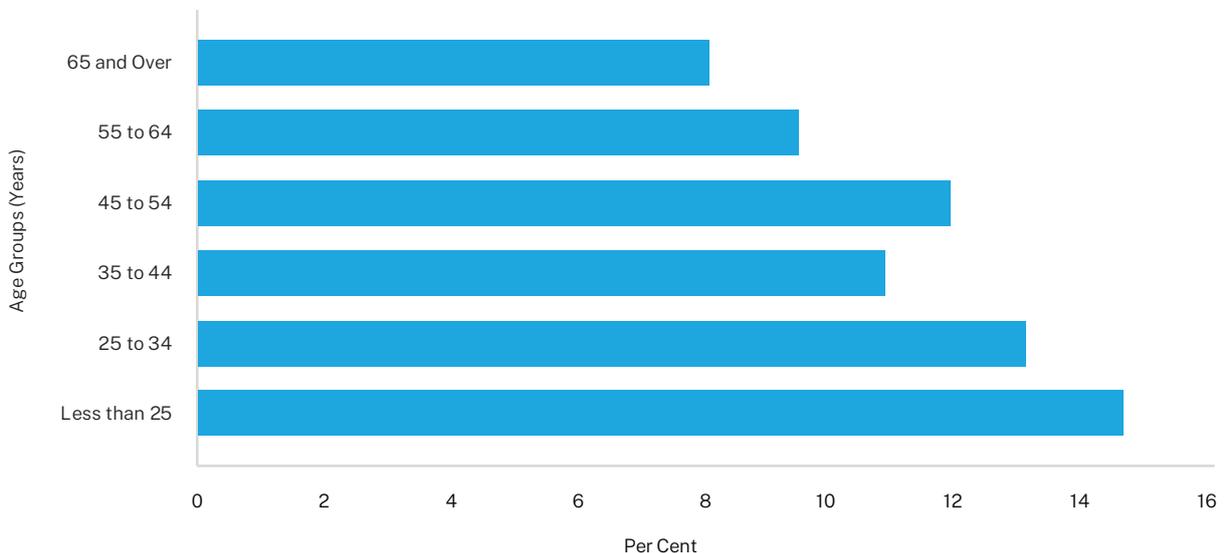
People in prison are at higher risk of being diagnosed with and dying from asthma than the general population (27, 28). Asthma was reported by the majority (93.7%) of people who reported a history of respiratory conditions representing 12.3% ($n = 1059$) of the total population entering prison in 2020. This proportion was lower than the 22% reported by people who participated in the Australian Institution of Health and Welfare (AIHW) 2018 National Prisoner Health Data Collection (NPHDC) (7). Chronic obstructive pulmonary disease (COPD) and sleep apnoea were reported by 0.5% ($n = 47$) and 0.4% ($n = 37$) of people who entered prison, respectively. Figure 3.7 presents the proportion of respiratory conditions by Aboriginal identity and sex. The proportion of people who reported asthma ranged from 11.0% ($n = 516$) among non-Aboriginal men to 17.4% ($n = 100$) among Aboriginal women (see Figure 3.7). CALD people reported a lower proportion of asthma than non-CALD people (9.4% v. 14.5%).

FIGURE 3.7
Respiratory Conditions by Aboriginal Identity and Sex



The highest proportion of asthma was reported by young people less than 25 years of age (14.6%, $n = 214$), followed by 13.0% ($n = 404$) reported by people aged 25–34 years (see Figure 3.8). Eleven per cent ($n = 165$) of the older population (45 years and older) reported a history of asthma compared with 12.6% ($n = 894$) of people less than 45 years of age.

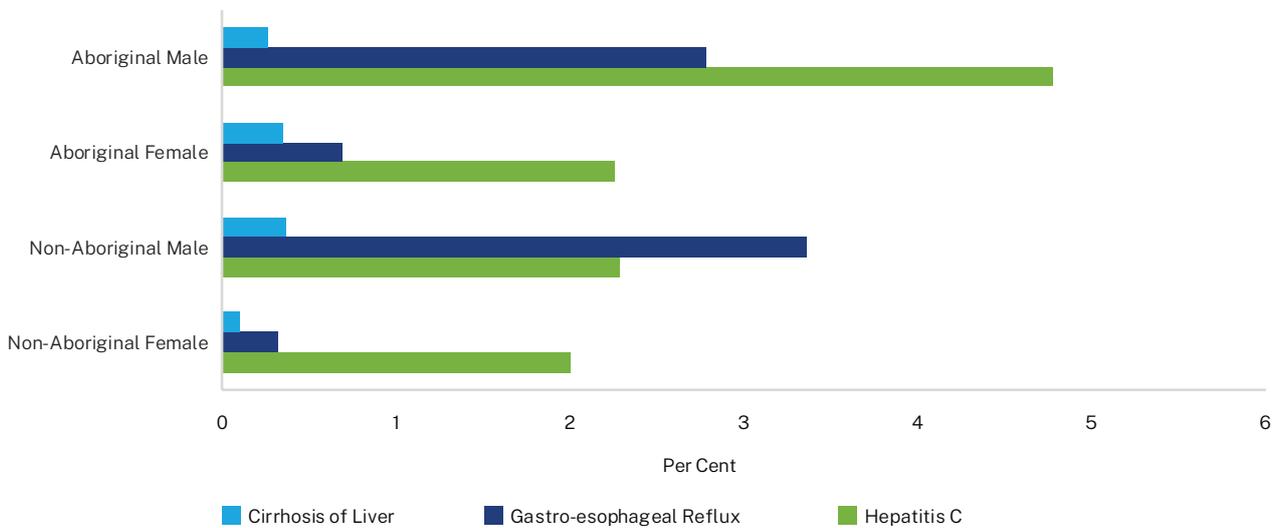
FIGURE 3.8
Asthma by Age Groups



3.2.1.2 Gastrointestinal Conditions

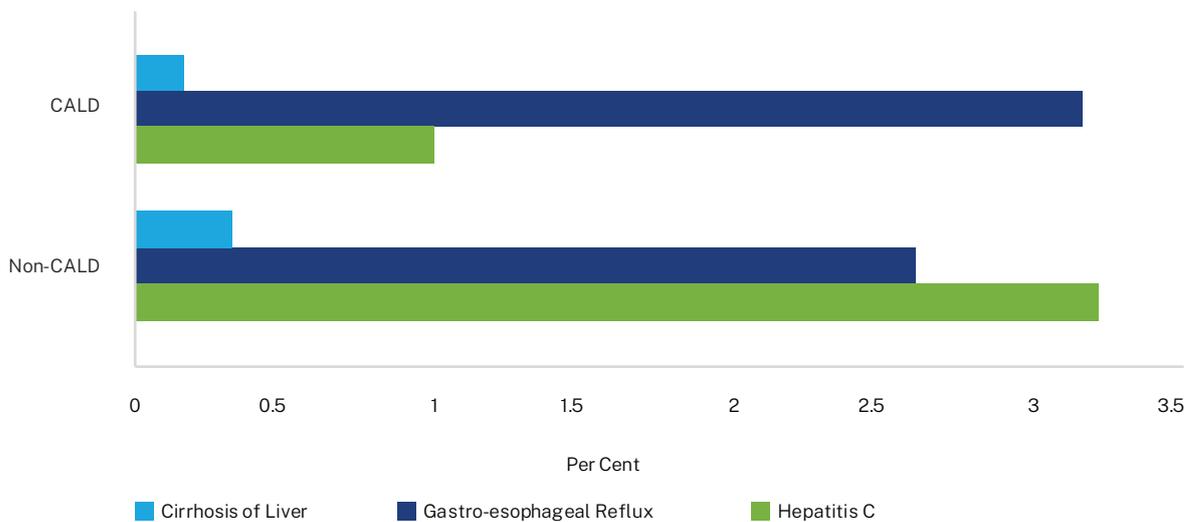
The most commonly reported gastrointestinal condition was hepatitis C, which 252 people reported (2.9% of all people who entered prison in 2020). Figure 3.9 shows the three most prevalent gastrointestinal conditions by Aboriginal identity and sex. A history of hepatitis C was reported by 4.8% ($n = 112$) of Aboriginal men; this was the highest proportion among Aboriginal and non-Aboriginal people. Of non-Aboriginal men, 107 reported a history of hepatitis C (2.3% of all non-Aboriginal men). Similar proportions of Aboriginal and non-Aboriginal women reported a history of hepatitis C (2.3% and 2.0%, respectively) (see Figure 3.9). Gastro-oesophageal reflux was reported by 0.3% ($n < 5$) of non-Aboriginal women and 3.4% ($n = 157$) of non-Aboriginal men. Twenty-six people reported liver cirrhosis: 0.1% of non-Aboriginal women and 0.4% non-Aboriginal men (see Figure 3.9).

FIGURE 3.9
Highest Prevalence of Gastrointestinal Conditions by Aboriginal Identity and Sex



One per cent ($n = 12$) of CALD people reported a history of hepatitis C compared with 3.2% ($n = 236$) of non-CALD people. Unlike hepatitis C, CALD people reported a higher proportion of gastro-oesophageal reflux than non-CALD people (3.2% v. 2.6%) (see Figure 3.10).

FIGURE 3.10
Highest Prevalent Gastrointestinal Conditions by CALD Status



Note. CALD: culturally and linguistically diverse backgrounds.

25–44 years, and 20.6% ($n = 52$) were 45 years or older. Among people reporting liver cirrhosis, 57.7% ($n = 15$) were 45 years or older, representing 1.0% of the older population who entered prison in 2020.

3.2.1.3 Cardiovascular Conditions

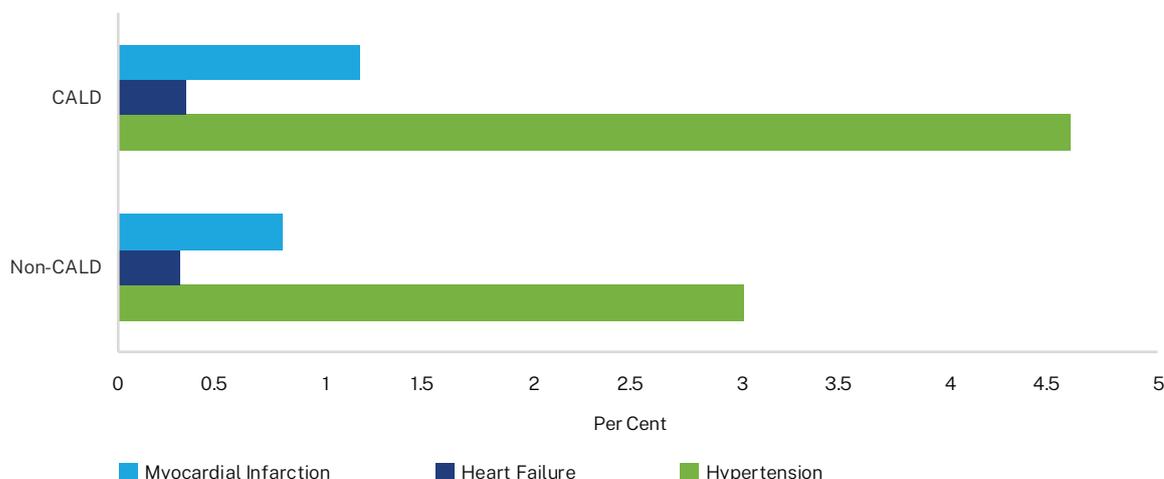
Hypertension was the most prevalent cardiovascular condition; 60.3% ($n = 278$) of people with a history of cardiovascular conditions reported having hypertension (3.2% of all people who entered prison in 2020). The highest proportion of reported hypertension was among non-Aboriginal men (4.4%, $n = 205$), followed by Aboriginal men (2.1%, $n = 49$) (see Figure 3.11). A history of hypertension was reported by 11.9% ($n = 176$) of people aged 45 years or older.

FIGURE 3.11
Highest Prevalent Cardiovascular Conditions by Aboriginal Identity and Sex



Figure 3.12 shows the history of cardiovascular conditions by CALD status. Fifty-five CALD people reported a history of hypertension (4.6% of all CALD people who entered prison in 2020) compared with 3.0% ($n = 221$) of non-CALD people.

FIGURE 3.12
Highest Prevalent Cardiovascular Conditions by CALD Status



Note. CALD: culturally and linguistically diverse backgrounds.

3.2.2 Active Health Conditions Recorded in the JHeHS

The JHeHS records information on patients' health conditions from three primary sources:

1. health condition reported by the person in prison at reception and confirmed by a community health provider
2. a health condition diagnosed in prison
3. a health condition reported by the person at reception but unconfirmed by a community health provider.

Among people who entered prison in 2020, the proportion of patients with active asthma was 18.9% ($n = 1624$), representing a 6.6 percentage points increase from the self-reported history of asthma (see Table 3.2). Another noticeable increase was in the proportion of people with hepatitis C; 11.1% ($n = 952$) of people who entered prison in 2020 had active hepatitis C at the time of the data supply, while only 2.9% ($n = 252$) reported a history of hepatitis C.

TABLE 3.2

Self-Reported History of Health Conditions and Active Health Conditions

	Past health condition <i>n</i> (%)	Active health condition <i>n</i> (%)
Asthma	1,059 (12.3)	1,624 (18.9)
Hypertension	278 (3.2)	473 (5.5)
Hepatitis C	252 (2.9)	952 (11.1)
Diabetes	221 (2.6)	335 (3.9)

A higher proportion of women had active asthma than men (28.8% v. 16.7%). This result was consistent across Aboriginal and non-Aboriginal people; 37.7% ($n = 217$) of Aboriginal women had active asthma compared with 19.6% ($n = 460$) of Aboriginal men and 23.3% ($n = 221$) of non-Aboriginal women compared with 15.2% ($n = 713$) of non-Aboriginal men. Unlike asthma, similar proportions of men and women had active hepatitis C (11.6% and 11.0%, respectively). While men and women had similar proportions of active hepatitis C, a higher proportion of Aboriginal people had active hepatitis C than non-Aboriginal people (18.3% v. 7.4%). A lower proportion of CALD people than non-CALD people had active asthma (13.2% v. 19.8%) or active hepatitis C (3.7% v. 12.2%), respectively. However, a higher proportion of CALD people than non-CALD people had hypertension (7.3% v. 5.2%, respectively).

Although diabetes was not among the five most prevalent reported health conditions, it is mentioned as managing diabetes in secure settings poses several challenges. In prison, the challenges for people with diabetes include a lack of access to diabetes information, strict medications and meal times, and poor information sharing between health and corrections staff. This lack of knowledge could affect the management of diabetes complications such as hypoglycaemia; additionally, the movement of people between prisons could affect medication and diet (29–31). Based on JHeHS data, 3.9% ($n = 335$) of people who entered prison in 2020 had diabetes. Aboriginal women had the highest prevalence of diabetes (6.6%, $n = 38$), followed by Aboriginal men (4.5%, $n = 106$). Diabetes was found in 4.5% ($n = 54$) of CALD, slightly higher than among non-CALD people (3.8%, $n = 279$). Diabetes was prevalent in one in 10 (9.5%, $n = 141$) people aged 45 years or older and 17.2% ($n = 15$) of people aged 65 years or older.

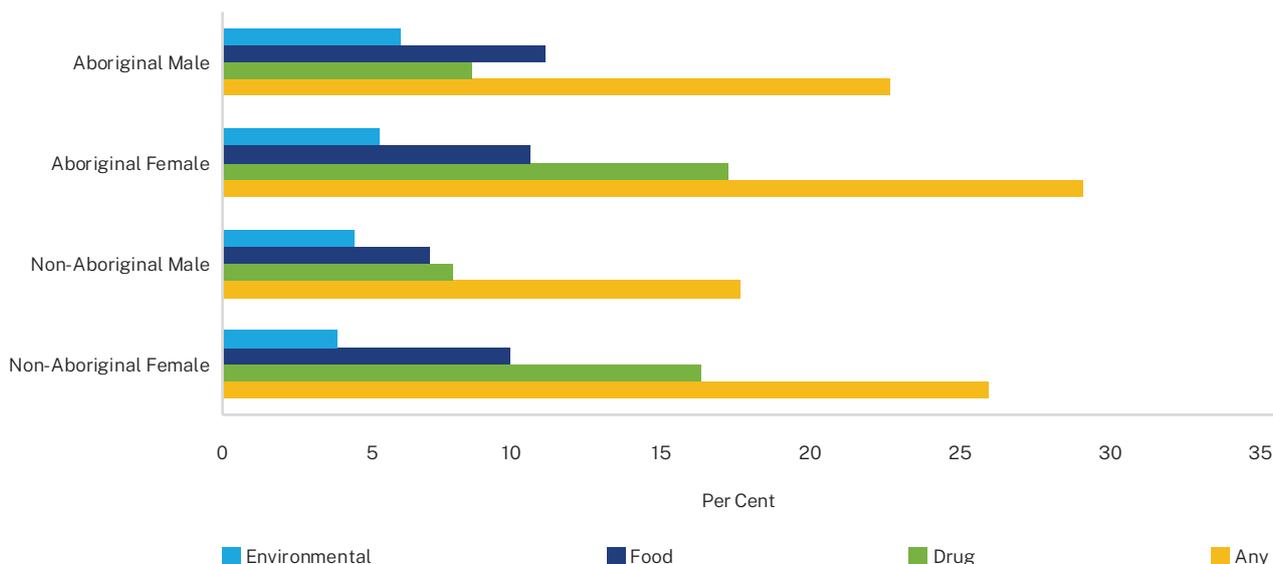
3.2.3 Existing Allergies

Allergies are one of the fastest-growing health conditions in Australia, with 20% of Australians in the general population having an allergic disease (32). Similarly, 20.3% ($n = 1747$) of people who entered prison in 2020 reported an allergic disease, most often a drug allergy (9.4%, $n = 809$). In comparison, an estimated 1%–2% of the general Australian population has a drug allergy (32). Although the prevalence of drug allergy is low among the Australian adult population, an Australian study reported that drug and

probable drug reactions were responsible for 57% of fatal anaphylaxis cases in Australia between 1997 and 2005 (33).

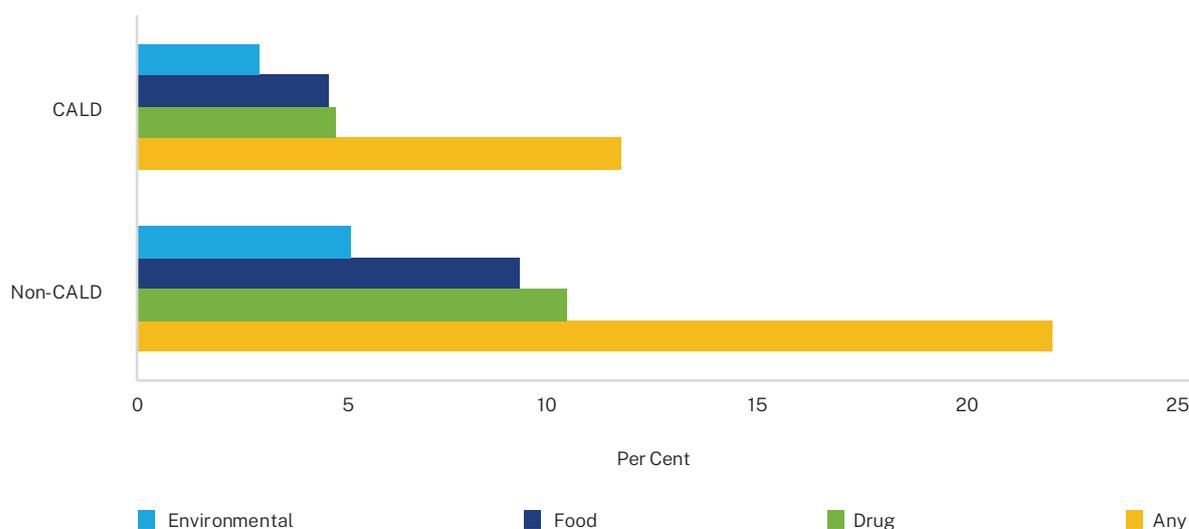
Figure 3.13 presents allergies by Aboriginal identity and sex. The proportion of drug allergies reported by Aboriginal and non-Aboriginal women was more than double that reported by Aboriginal and non-Aboriginal men (16.3% v. 7.9%). While drug allergy was higher among women, food allergy was higher among Aboriginal people compared with non-Aboriginal people (10.6% v. 7.4%).

FIGURE 3.13
Allergy by Aboriginal Identity and Sex



The proportions of all types of allergies were lower among CALD people than non-CALD people. In total, 11.5% ($n = 138$) of CALD people reported an allergy compared with 21.7% ($n = 1595$) (see Figure 3.14).

FIGURE 3.14
Allergy by CALD Status

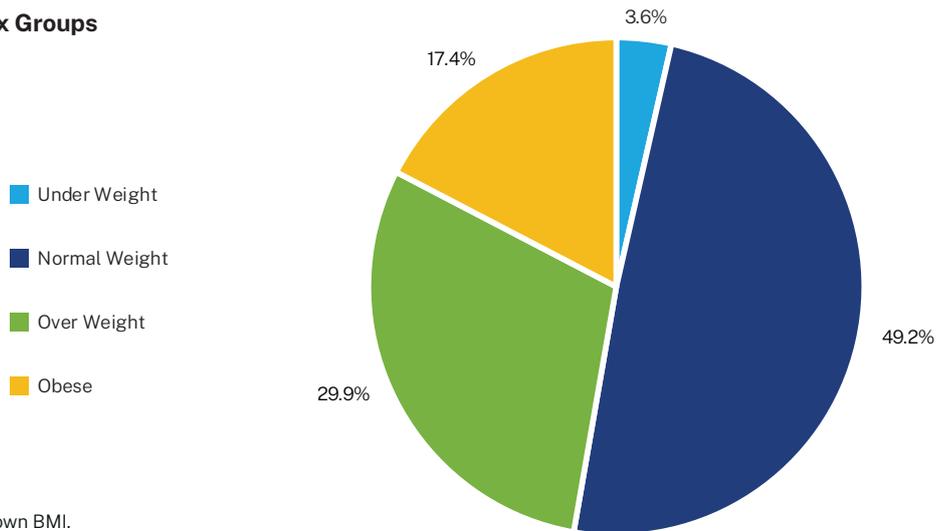


Note. CALD: culturally and linguistically diverse backgrounds

3.2.4 Body Mass Index

Data on body mass index (BMI) was only available for 85.1% ($n = 7321$) of people who entered prison in 2020, with 14.9% ($n = 1278$) not having either their height or weight recorded. Consequently, the results in this section should be interpreted with caution. BMI is classified as underweight (< 18.5), healthy weight (18.5 to < 25.0), overweight (25.0 to < 30.0) and obese (≥ 30.0) (34). Half (49.2%, $n = 3600$) of people with known BMI had healthy weight (normal) at reception, while 47.2% ($n = 3459$) were overweight or obese (see Figure 3.15). For 2017–2018, data on the Australian adult population show that 67.0% of Australian adults were overweight or obese (35). This proportion is 20 percentage points higher than among people who entered prison in 2020.

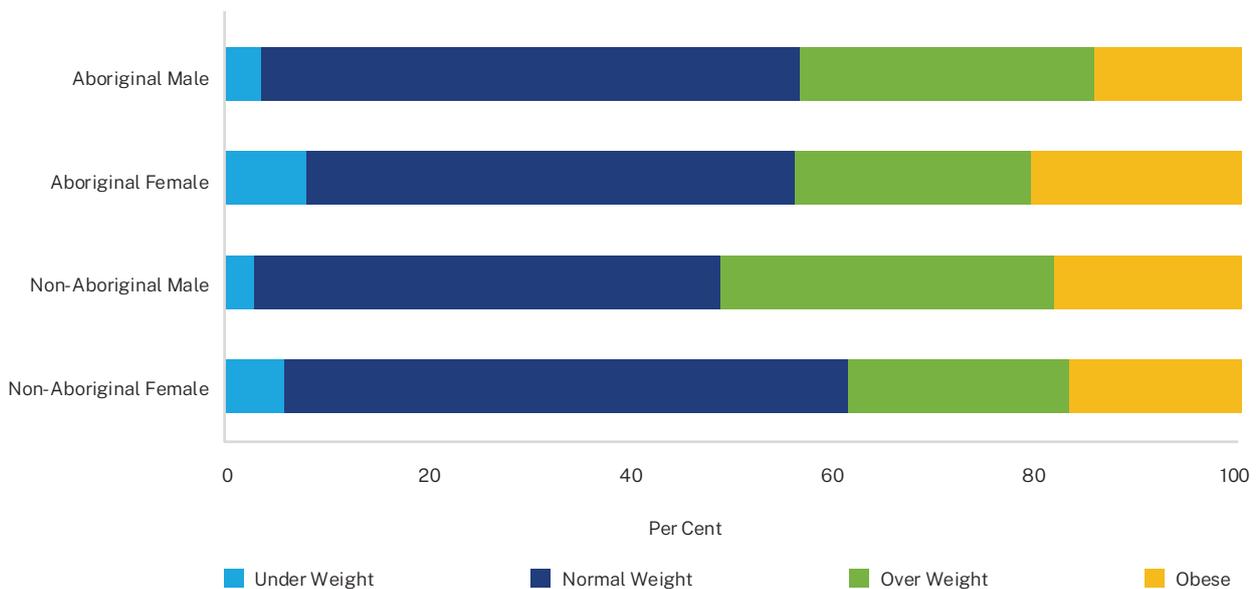
FIGURE 3.15
Body Mass Index Groups



Note. Excludes unknown BMI.

More than half (51.1%) ($n = 2039$) of non-Aboriginal men were overweight or obese, whereas 53.0% ($n = 1109$) of Aboriginal men had a healthy weight. The proportion of women who were underweight was double that of men (5.2% v. 2.6%). Eight per cent ($n = 38$) of Aboriginal women were underweight compared with 5.8% ($n = 42$) among non-Aboriginal women (see Figure 3.16).

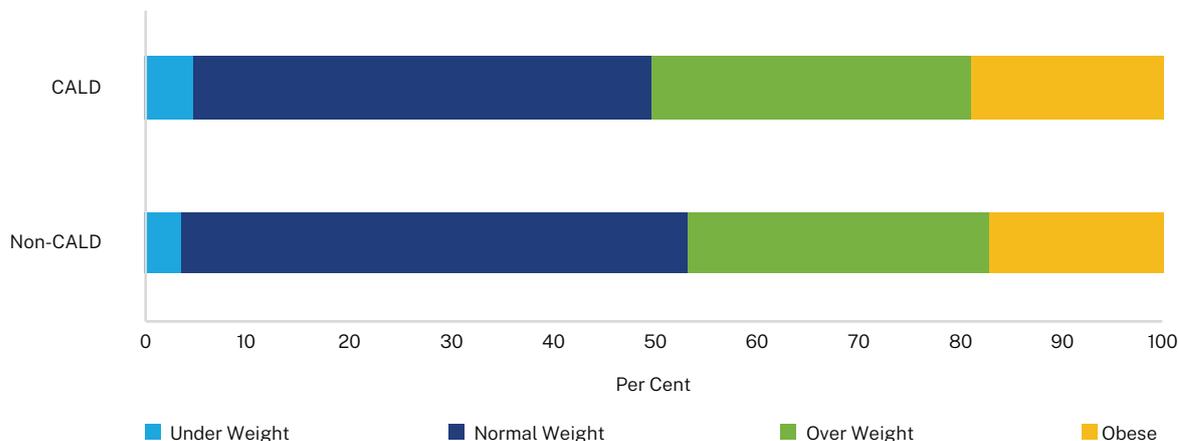
FIGURE 3.16
Body Mass Index Groups by Aboriginal Identity and Sex



Note. Excludes unknown BMI.

While a higher proportion of non-CALD than CALD people had a healthy weight (42.4% v. 38.6%), a higher prevalence of obesity was found among CALD people (16.2% v. 14.6%) (see Figure 3.17).

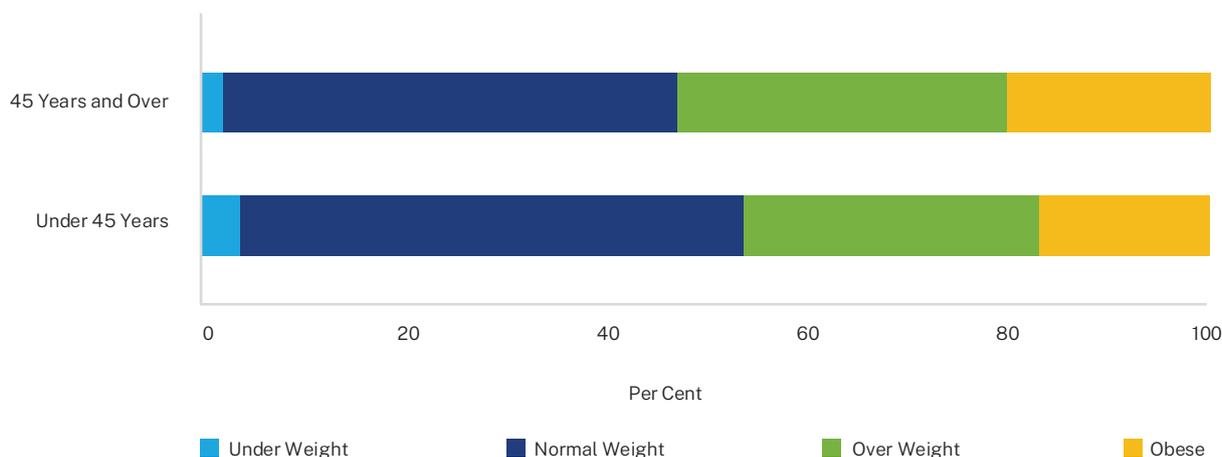
FIGURE 3.17
Body Mass Index Groups by CALD Status



Note. Excludes unknown BMI. CALD: culturally and linguistically diverse backgrounds.

A third (32.6%) ($n = 401$) of people aged 45 years or older were overweight at their reception, and 20.1% ($n = 248$) were obese (see Figure 3.18). The proportion of overweight or obese people aged 45 years or more ranged from 38.7% ($n = 41$) among non-Aboriginal women to 56.4% ($n = 467$) among non-Aboriginal men.

FIGURE 3.18
Body Mass Index Groups by Age



Note. Excludes unknown BMI.

3.2.5 Injuries and Hospital Admissions

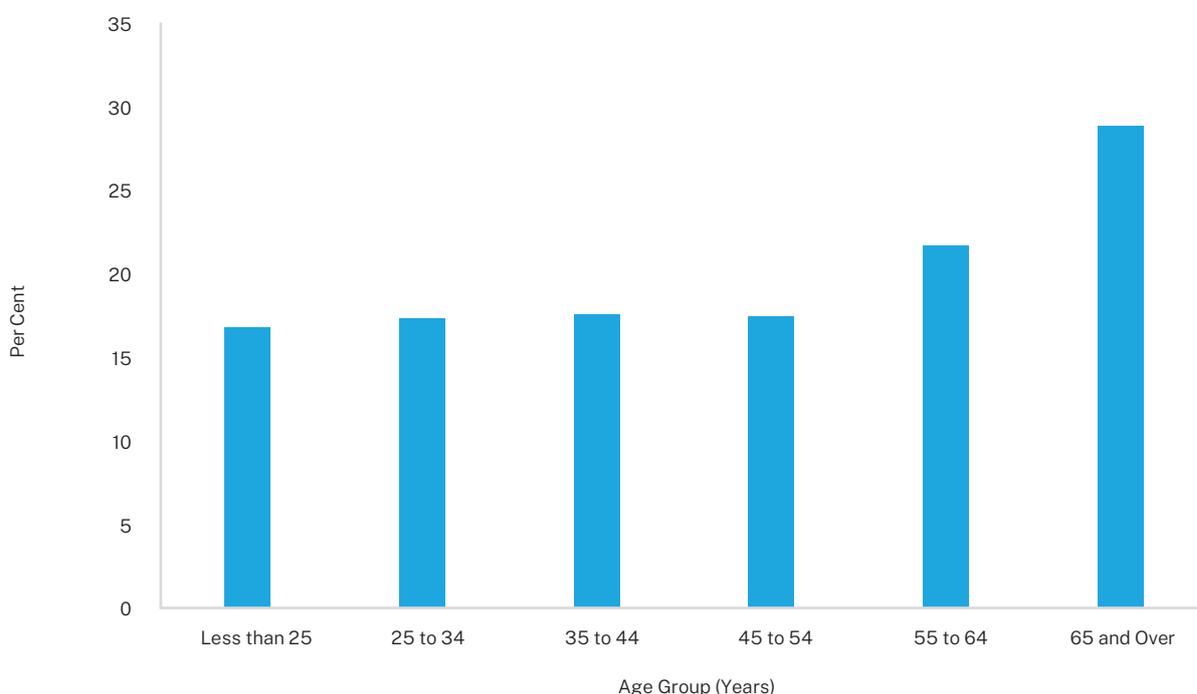
Almost one in five people (18.7%, $n = 1606$) reported current injuries at reception. A higher proportion of men than women reported injuries; 21.2% ($n = 496$) of Aboriginal men and 18.9% ($n = 884$) of non-Aboriginal men reported a current injury at reception compared with 16.5% ($n = 95$) of Aboriginal women and 12.7% ($n = 121$) of non-Aboriginal women. One in five (19.4%, $n = 1427$) non-CALD people reported a current injury at reception compared with 14.0% ($n = 168$) of CALD people. At reception, 16.8% ($n = 48$) of people aged 55 to 64 years reported current injuries, as did 19.8% ($n = 219$) of people aged 45 to 54 years.

Almost 18 per cent (17.5%, $n = 1509$) of people who entered prison in 2020 reported being admitted to a hospital or having surgery within six months before incarceration. Almost a quarter (23.3%, $n = 134$) of Aboriginal women and 20.3% ($n = 193$) of non-Aboriginal women reported a hospitalisation or surgery within the six months before their imprisonment. This proportion was 14.3% ($n = 336$) and 17.9% ($n = 836$) among Aboriginal and non-Aboriginal men, respectively.

Sixteen per cent (15.9%, $n = 191$) of CALD people reported hospitalisation or surgery within six months before incarceration. This proportion was lower than for non-CALD people (17.8%, $n = 1308$).

The highest proportion of hospital admission or having undergone surgery was reported by people aged 65 years or over (28.7%, $n = 25$). This proportion decreased with the decrease in age to 16.8% ($n = 247$) of people aged less than 25 years (see Figure 3.19).

FIGURE 3.19
Hospital Admissions or Surgeries by Age Groups



3.3 Women’s Health

3.3.1 Pregnancy

3.3.1.1 Pregnancy Test

All women of childbearing age were offered pregnancy tests at reception. A second test is offered 28 days after reception to reduce the risk of false negative results (36). Of the 1533 women entering prison in 2020, 93.2% ($n = 1429$) had a pregnancy test done at reception. The reasons the remaining 104 (6.8%) women did not have a pregnancy test at reception included:

- 48 (46.2%) refused to be tested
- 7 (6.7%) were aged over 60 years
- 42 (40.4%) reported other reasons (i.e., hysterectomy or tubal ligation)
- 7 (6.7%) did not have data explaining the reason.

Fifty-three (3.5%) women were identified as pregnant at reception, 51 tested positive on the pregnancy test, and two pregnancies were confirmed before the women’s incarceration. We checked the PAS alert data to identify women with positive pregnancy tests within 28 days of reception. The alert data showed

eight records of pregnant women; seven of these women had a negative pregnancy test at reception, and one did not have a test. The alert start date shows that these women had positive pregnancy tests between one day and 29 days after their reception.

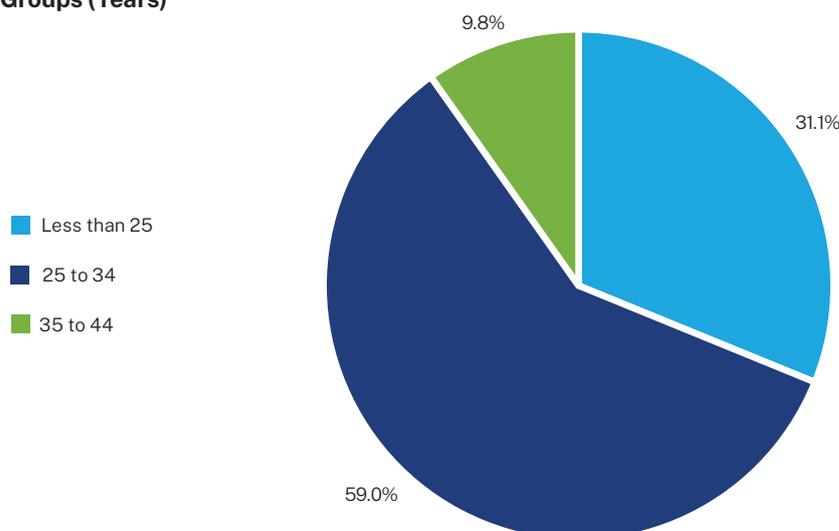
3.3.1.2 Pregnant Women's Characteristics

Based on the assessment and the alerts data, 61 women were pregnant at reception (4.0% of all women who entered prison in 2020). Of these, 19 (31.1%) were Aboriginal, and 42 (68.9%) were non-Aboriginal.

Sixty per cent (59.0%, $n = 36$) of pregnant women were aged 25–34 years. Almost one-third (31.1%, $n = 19$) of the women pregnant at reception were younger than 25 years (see Figure 3.20).

FIGURE 3.20

Pregnant Women by Age Groups (Years)



3.3.1.3 Substance Use Among Pregnant Women Before Incarceration

Section 3.6 covers substance use for all people who entered prison in 2020. We could not determine if substance use among pregnant women occurred before or during pregnancy for two reasons: first, the questions on substance use asked of all people entering prison did not focus on substance use during pregnancy, and second, data on the last menstrual period and/or estimated date of delivery was only available for 24 of the 61 (39.3%) women who tested positive for pregnancy at or within 28 days of reception. Nevertheless, all pregnancies were conceived before incarceration, and the women reported substance use at reception. This finding suggests that substance use occurred at some stage of the pregnancy, whether the woman was aware of her pregnancy or not.

3.3.1.3.1 Smoking

Smoking during pregnancy is associated with adverse perinatal outcomes such as stillbirth, preterm birth, low birthweight and infant death syndrome (37, 38). Smoking was reported by 67.2% ($n = 41$) of pregnant women who entered prisons in 2020. This proportion is 58 percentage points higher than the proportion of women in the general NSW population who smoked during pregnancy (9%) (39).

3.3.1.3.2 Alcohol Consumption

Alcohol consumption during pregnancy is associated with adverse outcomes for the baby, such as cognitive impairment and congenital problems (e.g., fetal alcohol spectrum disorder [FASD]) (40). Previous literature has shown that children and adults with FASD are at higher risk of depression and anxiety disorders than those without FASD, which leads to intergenerational vulnerability and disadvantage (40, 41). Among our study population, 11.5% ($n = 7$) of pregnant women reported alcohol consumption during the four weeks before incarceration. Of these women, 85.7% ($n = 6$) reported consuming alcohol within one week before incarceration.

3.3.1.3.3 Drug Use

Pregnant women who use methamphetamine are at higher risk of maternal complications such as gestational hypertension, preeclampsia and preterm birth than women without a history of drug use and women using opioids during pregnancy (42, 43). Children exposed in utero to methamphetamine are shorter than their comparators and at higher risk of having congenital abnormalities (44).

More than half (54.1%, $n = 33$) of pregnant women reported drug use within the four weeks before incarceration. Like the general prison population, stimulants were the most common type of drug used by pregnant women (69.7%, $n = 23$). Of women who reported using stimulants four weeks prior to incarceration, 95.7% ($n = 22$) used methamphetamine. Cannabis was the second most common drug used by pregnant women in the sample (57.6%, $n = 19$), then heroin (27.3%, $n = 9$). Ten of the 28 pregnant women who did not report a history of drug use at reception had drug dependence as an active health condition in the JHeHS. Therefore, the proportion of pregnant women with either a history of drug use or active drug dependence was 70.5% ($n = 43$).

3.3.2 Other Women's Health Issues

3.3.2.1 Breast Lumps

Thirty (2.0%) women who entered prison in 2020 reported having breast lumps. Of these women, 30.0% ($n = 9$) were Aboriginal, and 70.0% ($n = 21$) were non-Aboriginal.

3.3.2.2 Breast Surgery

Breast surgery was reported by 63 women; 7.9% ($n = 5$) were Aboriginal, and 15.9% ($n = 10$) were CALD women. Breast augmentation was the most commonly reported breast surgery (74.6%, $n = 47$), followed by lumpectomy (17.5%, $n = 11$).

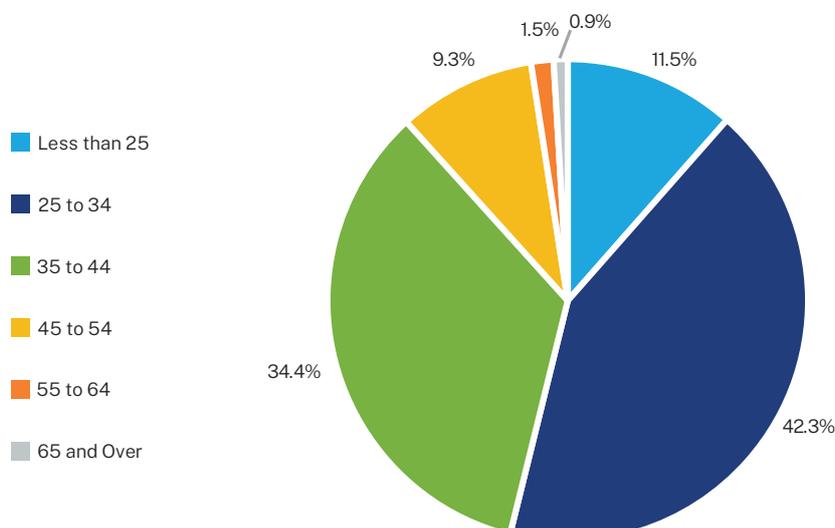
3.3.2.3 Cervical Cancer Screening (Pap Test)

During the reception assessment, women were asked if they had had a Pap test within one year before incarceration. A Pap test was reported by 529 (34.5%) women, of which 35.3% ($n = 187$) were Aboriginal women, and 45 (8.5%) were CALD women.

Figure 3.21 represents the proportion of women who reported having a Pap test within one year before incarceration by age group. It shows that more than three-quarters (76.7%, $n = 406$) of these women were aged between 25 and 44 years. Sixty-one women younger than 25 years reported having a Pap test within one year before incarceration, representing 22.1% of all women under 25 years.

FIGURE 3.21

Proportion of Women Reporting Having a Pap Test Within One Year Before Incarceration by Age Groups (Years)



3.4 Population Health

The combined effects of HIV, viral hepatitis and STI cause 2.3 million deaths and 1.2 million cancer cases annually worldwide (45). The RSA captures population health data, including self-reported HIV and STI status, and prompts clinicians to provide harm reduction education. The prison population has a higher risk of transmitting some communicable diseases due to the increased prevalence of high-risk behaviours (46).

3.4.1 BloodBorne Viruses and STIs

3.4.1.1 HIV Status

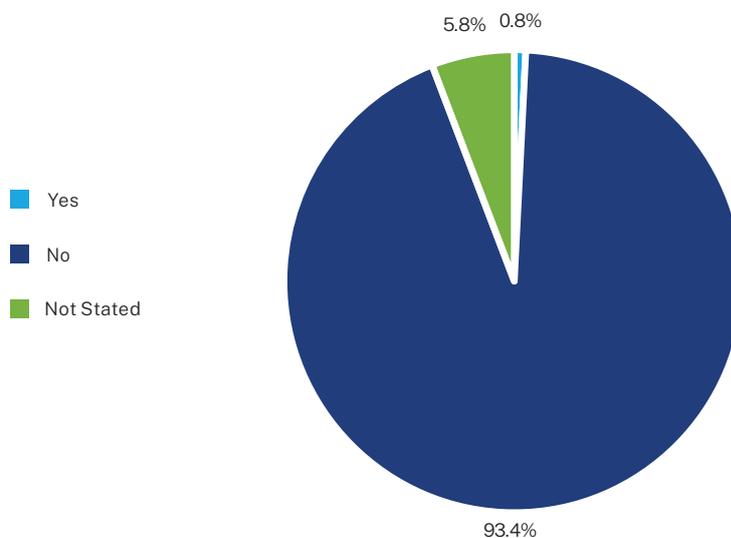
Many people in prison are also inject drugs, both these factors together or independently can increase risk of individuals contracting HIV (45–47). However, Australia has a relatively lower prevalence rate of HIV than other high-income countries and countries within the Asia-Pacific region (48). In 2020, HIV prevalence in the general Australian population was 0.14% (48). In comparison, 0.3% ($n = 24$) of people entering prison in 2020 reported a diagnosis of HIV (48).

3.4.1.2 STIs

Recent Australian data indicate that the rates of STIs, such as chlamydia, gonorrhoea and syphilis, were higher among people entering prison than the general Australian population (7, 47). During 2020, prison entrants were asked during the RSA if they had any symptoms of an STI: 69 (0.8%) answered 'yes' (see Figure 3.22). Of the people who reported STI symptoms, 16 were women, and 53 were men.

FIGURE 3.22

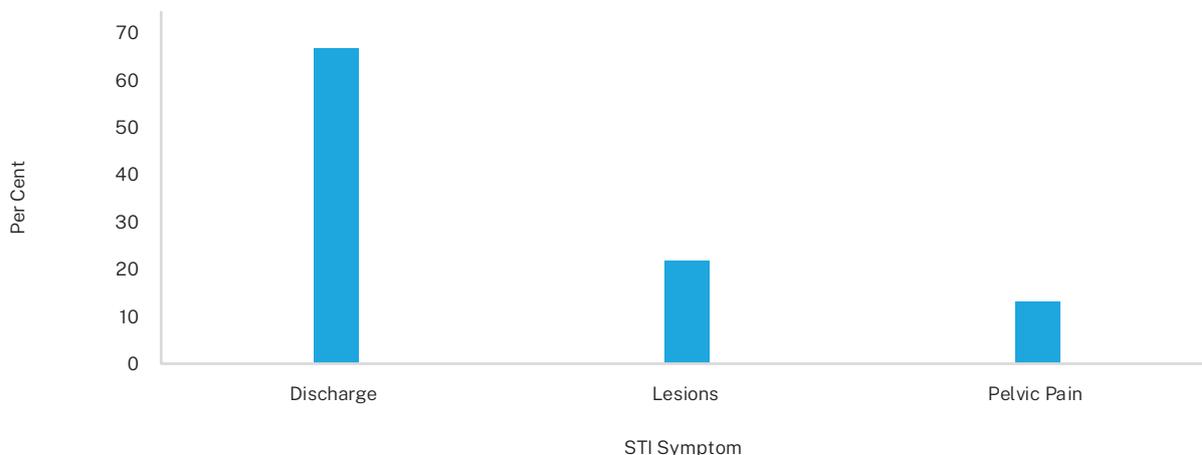
Sexually Transmitted Infection Symptom Status



Among prison entrants who reported STI symptoms, 66.7% ($n = 46$) reported experiencing discharge, 21.7% ($n = 15$) reported lesions, and 13.0% ($n = 9$) reported pelvic pain (see Figure 3.23).

FIGURE 3.23

Sexually Transmitted Infection Symptoms



Note. For patients who reported STI symptoms. STI: Sexually Transmitted Infections.

3.4.2 Sexual Assault

During the RSA, prison entrants were asked if they had experienced sexual assault within the past seven days. Table 3.3 shows that 0.2% ($n = 18$) of prison entrants reported sexual assault in the past seven days; 15 (83.3%) were women.

TABLE 3.3

Sexual Assault (in Preceding Seven Days)

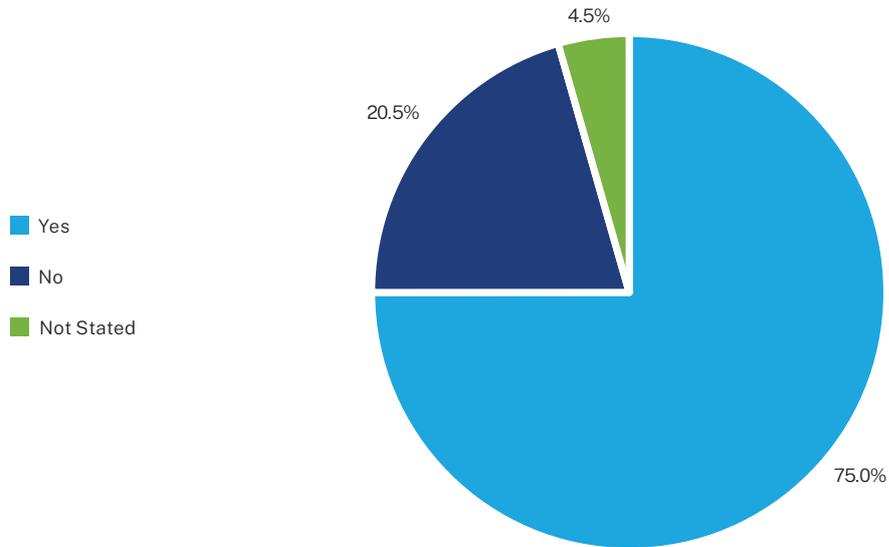
Sexual assault	No.	%
Yes	18	0.2
No	7,842	91.2
Not stated	739	8.6

3.4.3 Harm Reduction Education

According to Justice Health NSW's *Early Detection Program for Blood Borne Viruses and Sexually Transmitted Infections* policy, primary health nurses are responsible for providing harm reduction education, including giving a copy of the pamphlet *Keeping Safe in Custody* at reception (49). This pamphlet provides information and education on STIs, bloodborne viruses and sexual assault (50). Figure 1.18 shows that 75.0% ($n = 6449$) of prison entrants received harm reduction education on entry to custody. Harm Reduction International defines harm reduction as a collection of policies designed to reduce the risks of potential harm to those who use psychoactive drugs (51). Justice Health NSW and Corrective Services NSW (CSNSW) convene a joint harm reduction reference group. The reference group provides strategic advice and monitors the implementation of best practice harm reduction initiatives within NSW prisons (52).

FIGURE 3.24

Harm Reduction Education



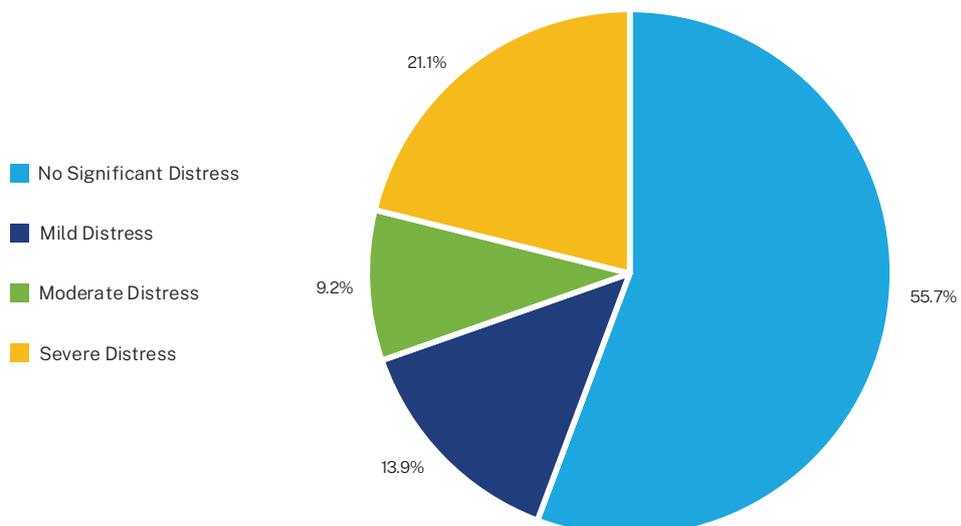
3.5 Mental Health

3.5.1 Kessler 10 Score

The Kessler 10 (K10) is a widely recommended brief screening tool for psychological distress, particularly in primary care and clinical settings (53–55). The K10 has 10 questions with a 5-point rating scale (1 = *none of the time*, 2 = *a little of the time*, 3 = *some of the time*, 4 = *most of the time*, 5 = *all of the time*), allowing a maximum score of 50 (53). Depending on the total score, the responses reflect four categories: scores of 10–19 indicate no significant distress, 20–24 indicate mild distress, 25–29 indicate moderate distress and 30–50 indicate severe distress (54). Furthermore, a score of 30–50 indicates the respondent may be experiencing severe distress levels corresponding with severe depression and or an anxiety disorder (56). The K10 was completed in full by 55.7% ($n = 4788$) of people entering NSW prisons in 2020. Of those who completed the K10, 55.7% ($n = 2668$) had scores indicating no significant distress at reception, while 21.1% ($n = 1012$) were in severe distress (see Figure 3.25).

FIGURE 3.25

Kessler 10 Categories

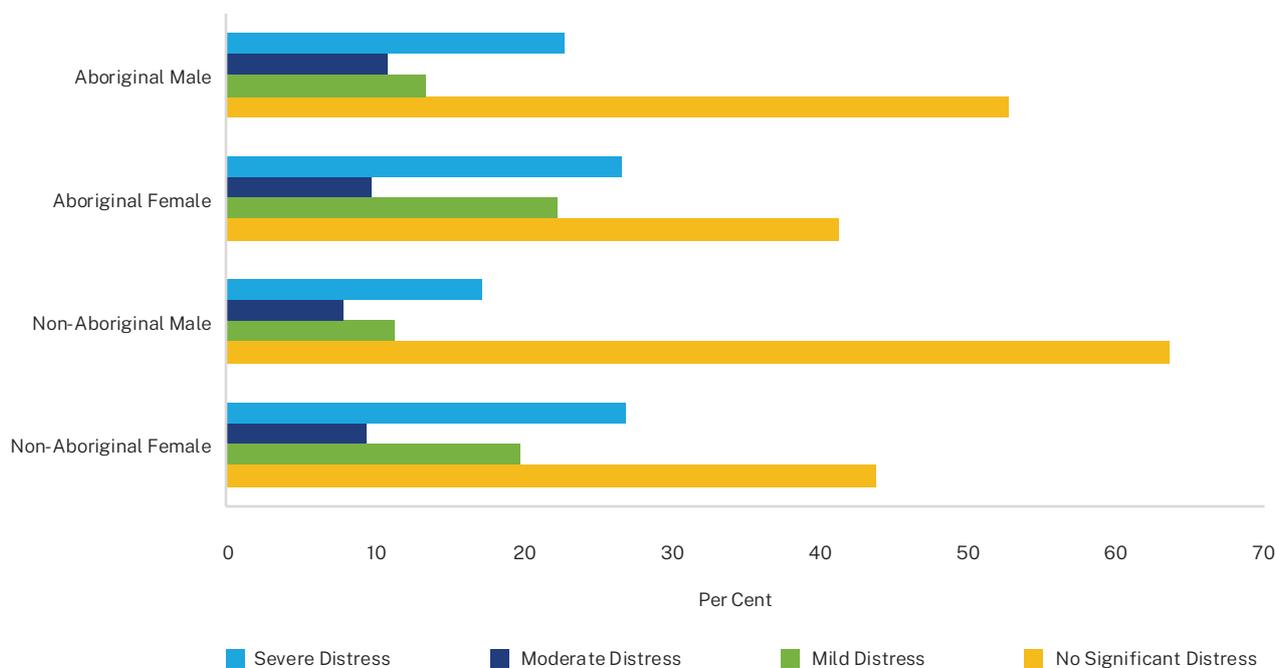


Note. Includes people who completed Kessler 10 (K10) questionnaire.

Figure 3.26 presents the proportion of the four distress categories of the K10 by Aboriginal identity and sex. The proportion of people whose scores indicated severe distress ranged from 17.3% ($n = 386$) among non-Aboriginal men to 27.0% ($n = 167$) among non-Aboriginal women. Moderate to severe distress was more prevalent among women than men (36.4% v. 28.8%).

FIGURE 3.26

Kessler 10 Categories by Aboriginal Identity and Sex

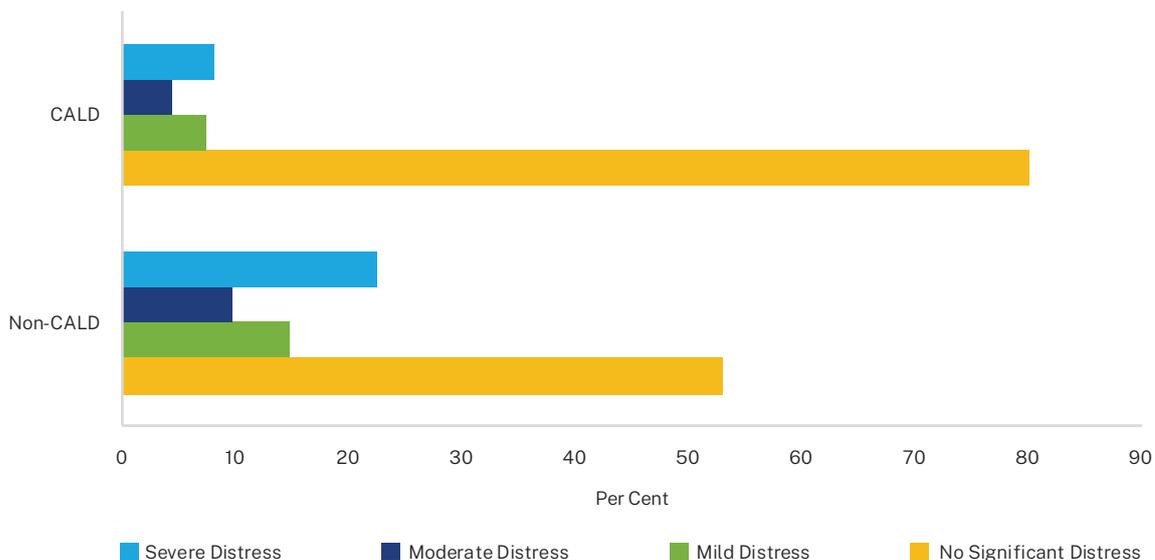


Note. Includes people who completed Kessler 10 (K10) questionnaire.

Four out of five CALD people (80.1%, $n = 402$) who completed the K10 at reception had scores indicating no significant distress; 12.5% ($n = 63$) had scores indicating moderate or severe distress. Among non-CALD people, 32.2% ($n = 1370$) had K10 scores in the moderate or severe distress categories (see Figure 3.27).

FIGURE 3.27

Kessler 10 Categories by CALD Status

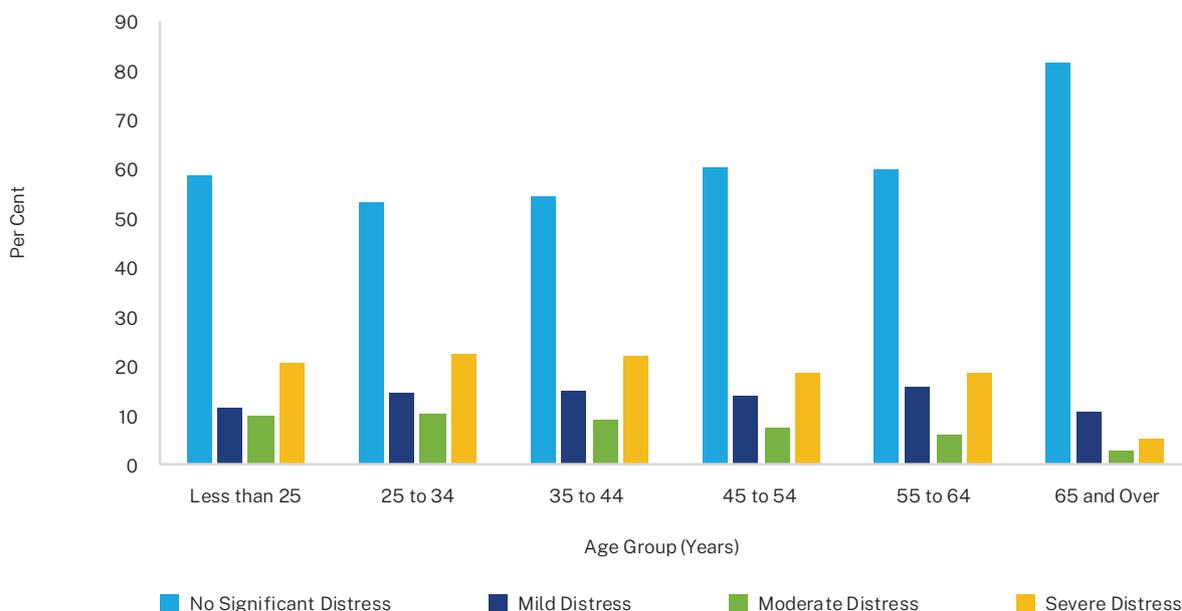


Note. Includes people who completed Kessler 10 (K10) questionnaire. CALD: culturally and linguistically diverse backgrounds.

Figure 3.28 presents the four K10 distress categories by age group. A higher proportion of people younger than 45 years scored in the severe distress range than those 45 years and older (21.7% and 18.0%, respectively). Twenty-five per cent ($n = 186$) of people aged 45 years and over had moderate or severe distress scores at reception.

FIGURE 3.28

Kessler 10 Categories by Age Groups



Note. Includes people who completed Kessler 10 (K10) questionnaire.

3.5.2 Treatment for Mental Health Problems

Of the 8599 people who entered prison in 2020, 47.0% ($n = 4040$) reported previous treatment for a mental health problem. The majority (70.9%, $n = 2863$) who received treatment reported that they responded to the treatment (see Table 3.4).

TABLE 3.4

History of Treatment for Mental Health

Received treatment for a mental health problem	<i>n</i> (%)
Yes	4,040 (47.0)
Responded to treatment	
Yes	2,863 (70.9)
No	622 (15.4)
No	4,320 (50.2)
Not stated	239 (2.8)

A higher proportion of Aboriginal women reported receiving treatment for a mental health problem than non-Aboriginal women (53.5% v. 51.8%). Similarly, 47.9% ($n = 1123$) of Aboriginal men compared with 44.8% ($n = 2095$) of non-Aboriginal men received treatment for a mental health problem (see Figure 3.29). Furthermore, a higher proportion of women (Aboriginal and non-Aboriginal) reported receiving treatment for a mental health problem than men (52.4% v. 45.8%). Treatment for a mental health problem was reported by 33.9% ($n = 407$) of CALD people and 49.1% ($n = 3606$) of non-CALD people (see Figure 3.30).

FIGURE 3.29

History of Treatment for Mental Health Problem by Aboriginal Identity and Sex

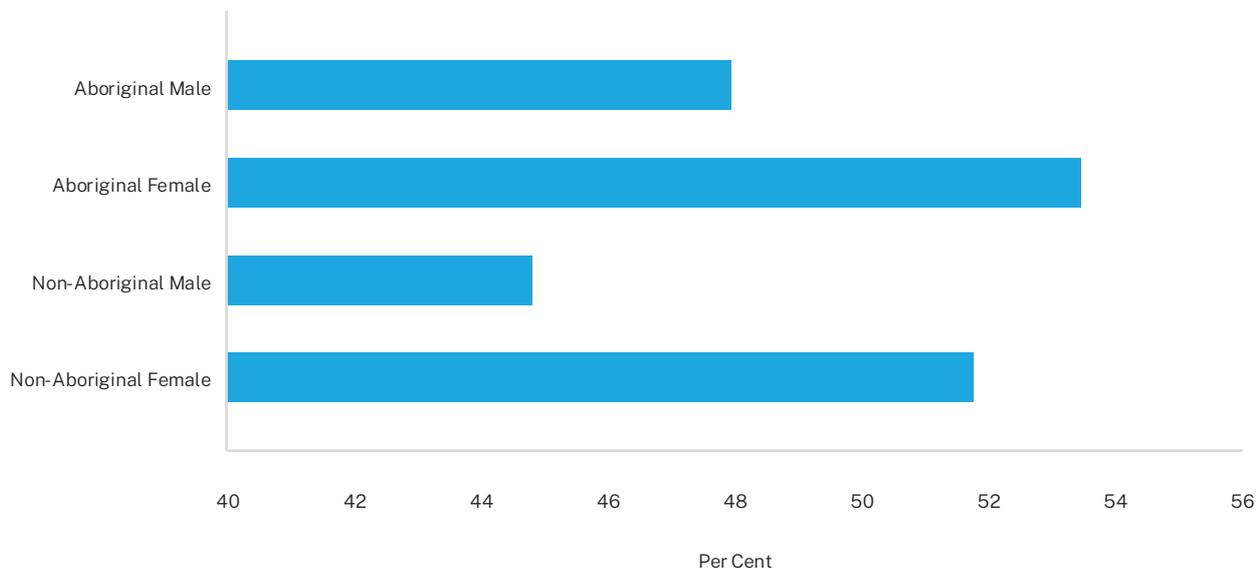
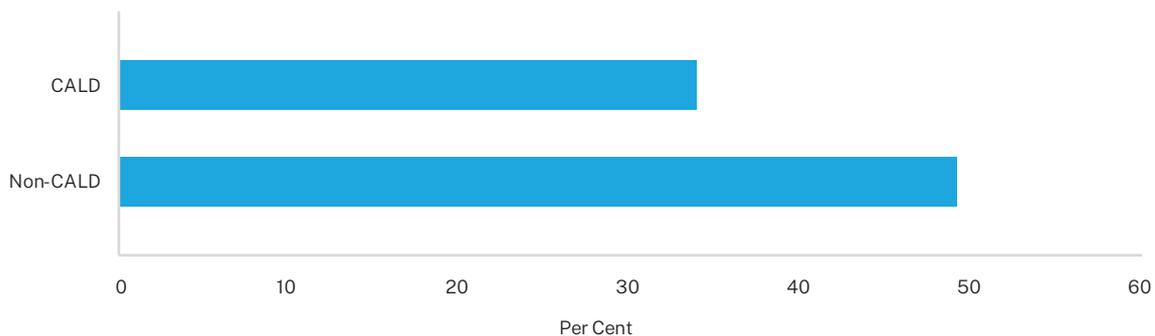


FIGURE 3.30

History of Treatment for Mental Health Problem by CALD Status

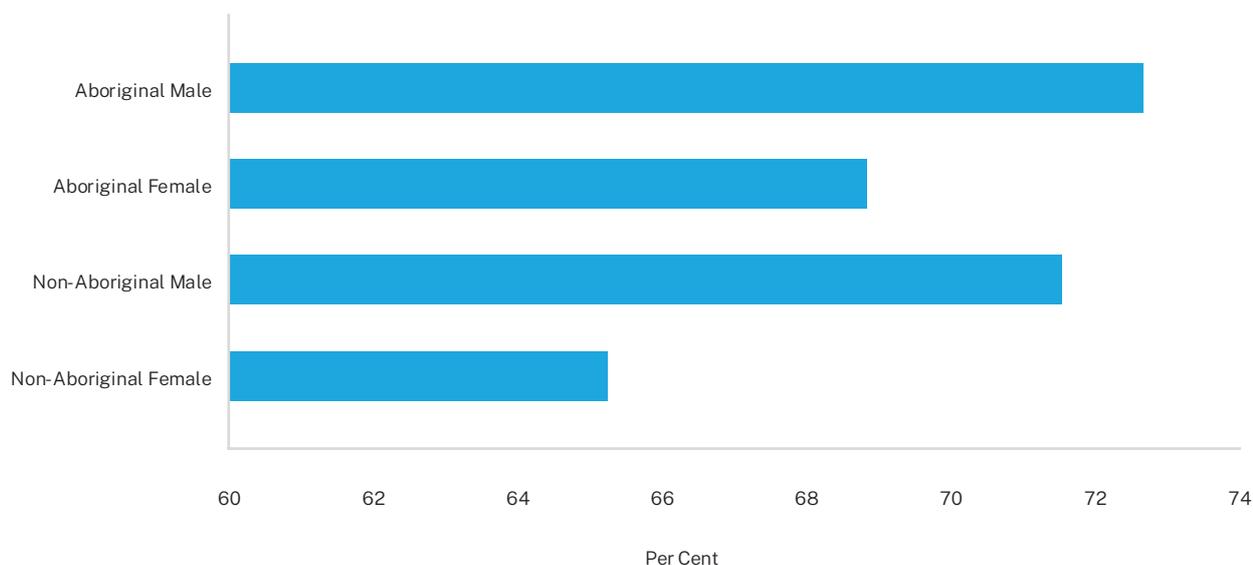


Note. CALD: culturally and linguistically diverse backgrounds.

Figure 3.31 presents the proportion of self-reported responses to received mental health treatment by Aboriginal identity and sex. Similar proportions of Aboriginal and non-Aboriginal people responded to mental health treatment (71.8% and 70.4%, respectively). CALD and non-CALD people also reported responding to mental health treatment (70.8% and 70.9%, respectively).

FIGURE 3.31

Reported Response to Mental Health Treatment by Aboriginal Identity and Sex

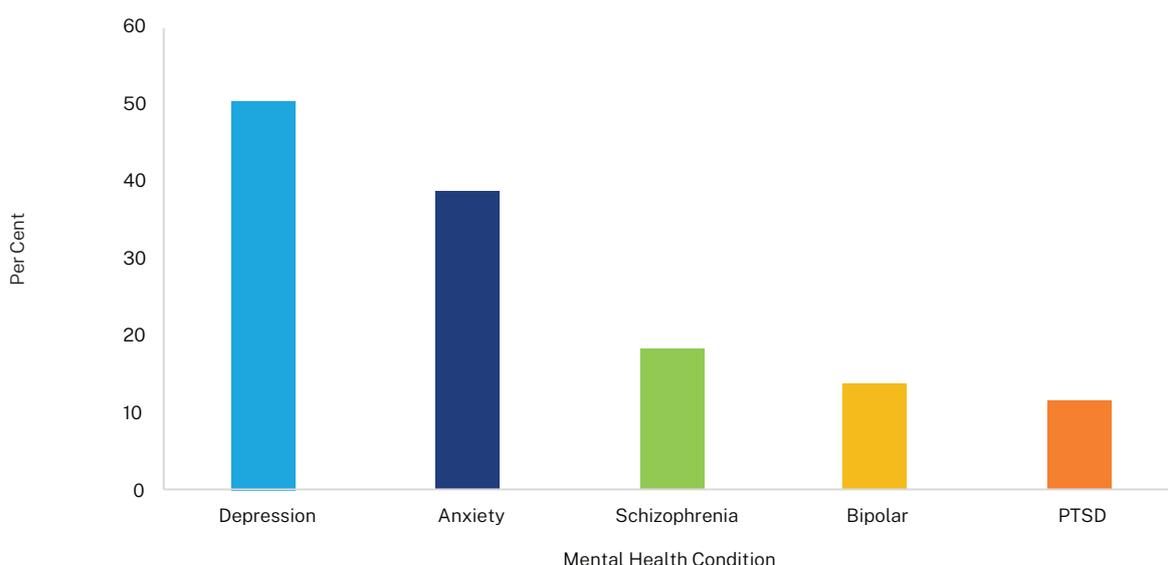


3.5.3 Mental Health Conditions Reported by People Receiving Treatment

There is an over-representation of mental health conditions among prison populations – approximately 15% of people in prison are diagnosed with psychosis or depression (10). Among people who entered prison in 2020 and reported receiving treatment for a mental health issue, the most prevalent mental health condition was depression (50.4%, *n* = 2038), followed by anxiety (38.5%, *n* = 1556). The number of people affected by depression or anxiety represents 23.7% and 18.1% of people who entered prison in 2020, respectively. The third most common mental health condition was schizophrenia (18.3%, *n* = 738), followed by bipolar disorder (13.7%, *n* = 554) and post-traumatic stress disorder (11.5%, *n* = 463) (see Figure 3.32).

FIGURE 3.32

Top Five Mental Health Conditions

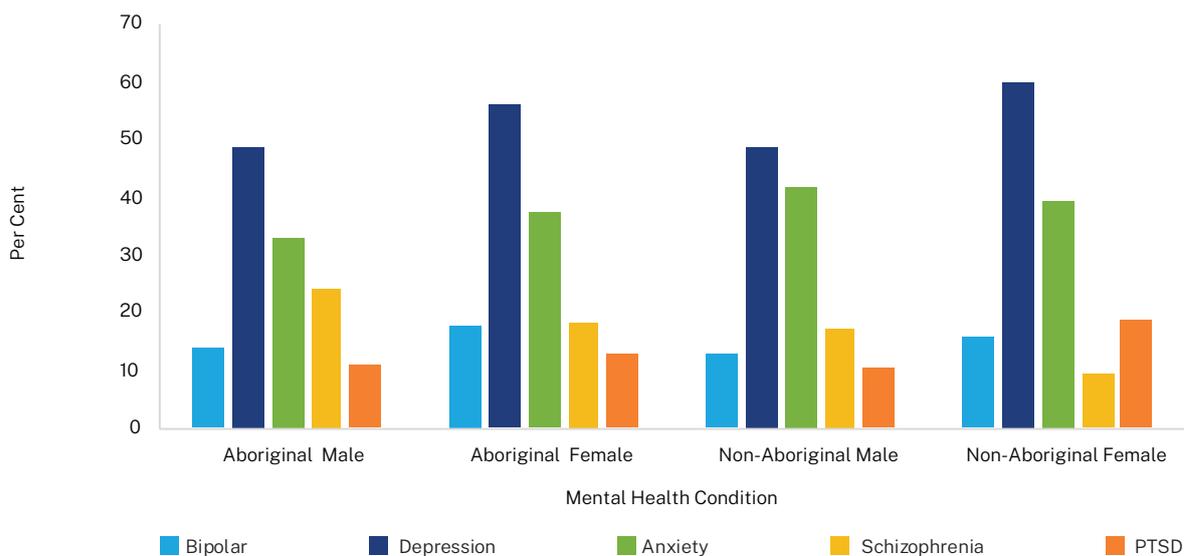


Note. For people reporting treatment for a mental health condition. PTSD: post-traumatic stress disorder.

3.5.3.1 Depression

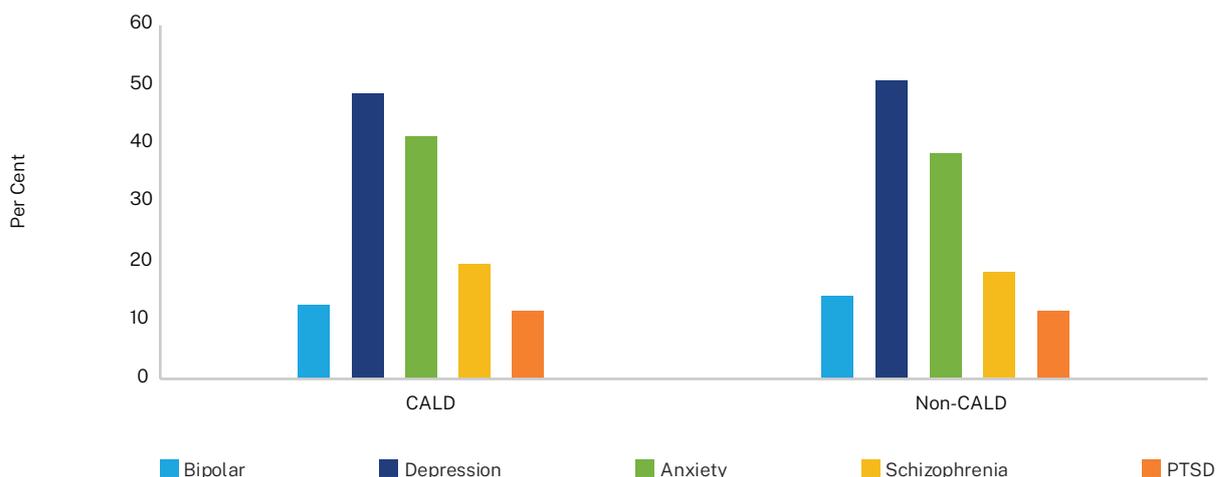
Depression was reported more frequently by women than men (58.3% v. 48.5%). Considering Aboriginal identity and sex, non-Aboriginal women reported the highest proportion of depression (60.0%, $n = 295$), followed by Aboriginal women (55.8%, $n = 172$). A similar proportion of Aboriginal and non-Aboriginal men reported depression (48.6% and 48.4%, respectively) (see Figure 3.33). A lower proportion of CALD people reported depression (48.4%, $n = 197$) than non-CALD people (50.7%, $n = 1827$) (see Figure 3.34).

FIGURE 3.33
Top Five Mental Health Conditions by Aboriginal Identity and Sex



Note. For people reporting treatment for mental health condition.

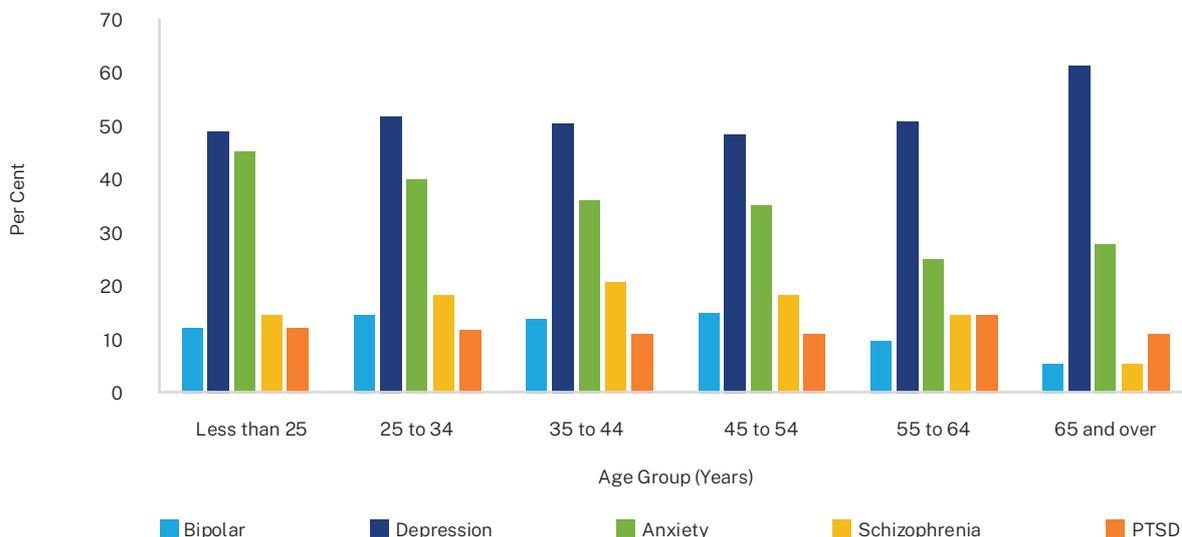
FIGURE 3.34
Top Five Mental Health Conditions by CALD Status



Note. For people reporting treatment for mental health condition. CALD: culturally and linguistically diverse background.

Among people who reported receiving treatment for a mental health issue, the prevalence of depression was highest among people aged 65 years and over (61.1%, $n = 11$) (see Figure 3.35). Similar proportions of depression were reported by young people (< 45 years) and older people (≥ 45 years) (50.7% and 49.3%, respectively).

FIGURE 3.35
Top Five Mental Health Conditions by Age Groups



Note. For people reporting treatment for mental health condition.

The findings regarding depression are consistent with published literature; older people with mental illness are the fastest-growing subpopulation of those in custody. Depression and suicidal ideation are especially prevalent among this subpopulation compared to the younger custodial population (57, 58).

3.5.3.2 Anxiety

Anxiety was the second most commonly reported mental health condition among people who had mental health treatment. Figure 3.33 shows that 41.8% ($n = 876$) of non-Aboriginal men reported anxiety, whereas 32.6% ($n = 366$) of Aboriginal men reported anxiety. A higher proportion of CALD people who received treatment for a mental health condition reported anxiety than non-CALD people (41.0% v. 38.2%) (see Figure 3.34).

Unlike depression, which is more prevalent among older people (≥ 65 years), 45.2% ($n = 289$) of people younger than 25 years reported receiving treatment for anxiety (see Figure 3.35). By comparison, 33.1% ($n = 202$) of people aged 45 years or over reported treatment for anxiety.

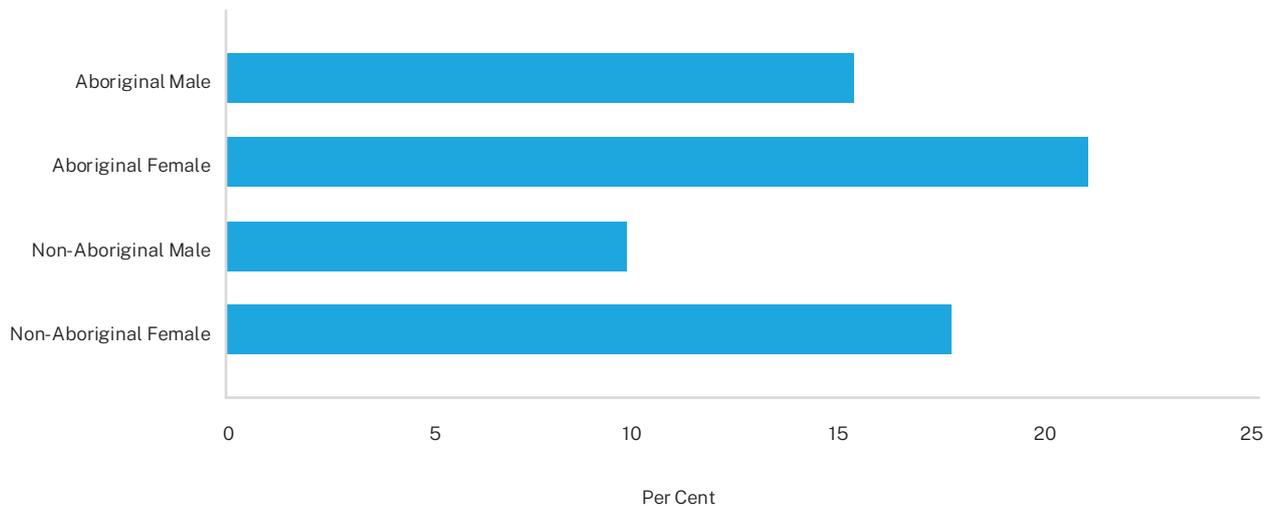
3.5.4 Self-Harm and Suicidal Behaviour

3.5.4.1 Attempted Self-Harm

Of the 8599 people who entered prison in 2020, 1104 (12.8%) reported a history of attempted self-harm. Of these, 340 people (30.8%) were hospitalised, which represents 4.0% of all people who entered prison in 2020. The highest proportion of self-harm was reported by Aboriginal women (20.8%, $n = 120$), followed by non-Aboriginal women (17.6%, $n = 167$). Overall, more women (18.8%, $n = 288$) than men (11.6%, $n = 816$), and more Aboriginal people (16.3%, $n = 475$) than non-Aboriginal people (11.0%, $n = 620$) reported self-harming (see Figure 3.36).

FIGURE 3.36

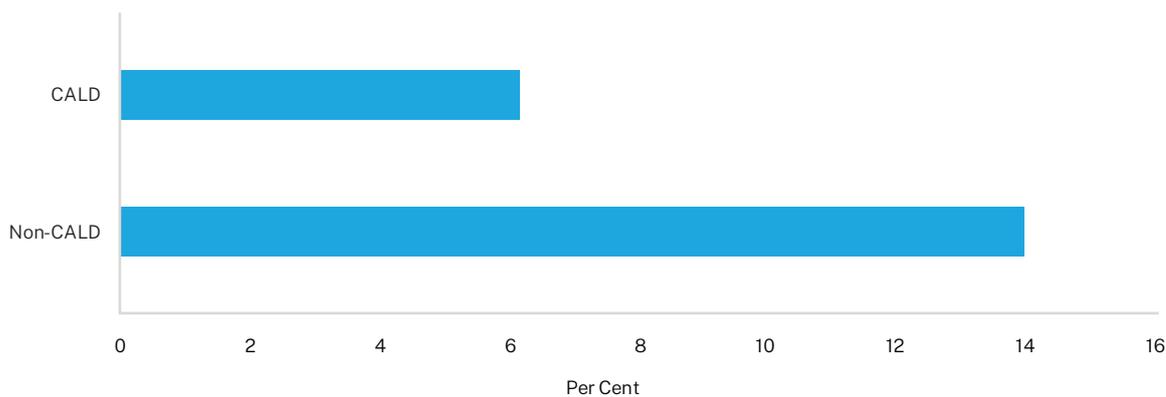
History of Self-Harm Attempts by Aboriginal Identity and Sex



Six per cent (6.2%, $n = 74$) of CALD people reported self-harm attempts. This proportion was less than half that of non-CALD people who reported self-harm attempts (13.9%, $n = 1021$) (see Figure 3.37).

FIGURE 3.37

History of Self-Harm Attempts by CALD Status

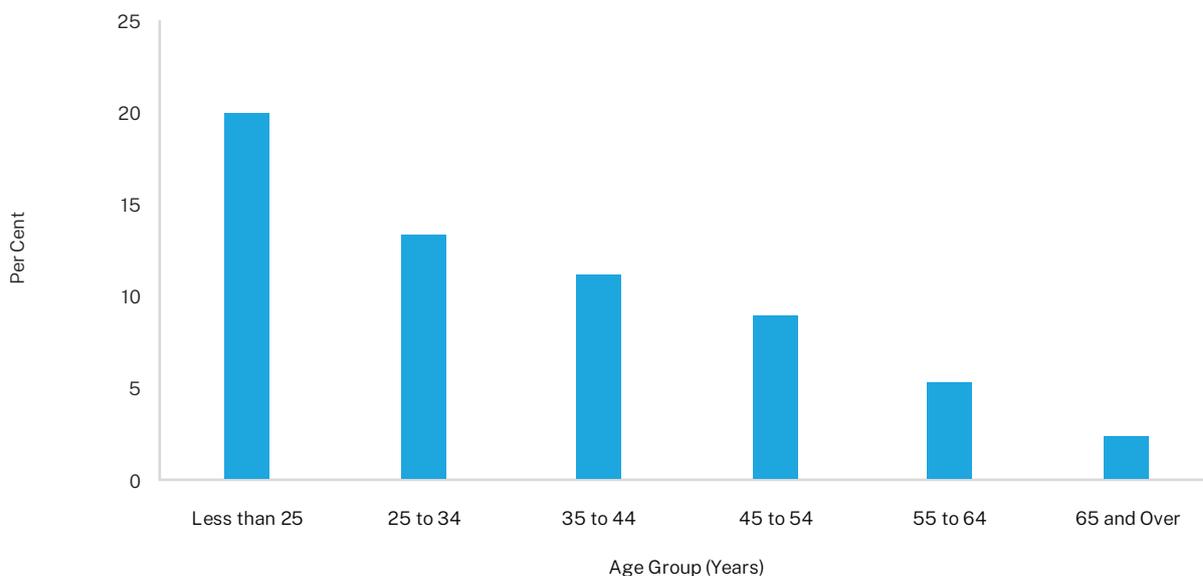


Note. CALD: culturally and linguistically diverse backgrounds.

Considering reported self-harm by age group, as the age increased, reported self-harm decreased. The highest proportion of reported self-harm attempts was among young people (< 25 years) (19.9%, $n = 293$) compared to 2.3% ($n < 5$) for the oldest age group (≥ 65 years) (see Figure 3.28).

FIGURE 3.38

History of Self-Harm Attempts by Age Groups

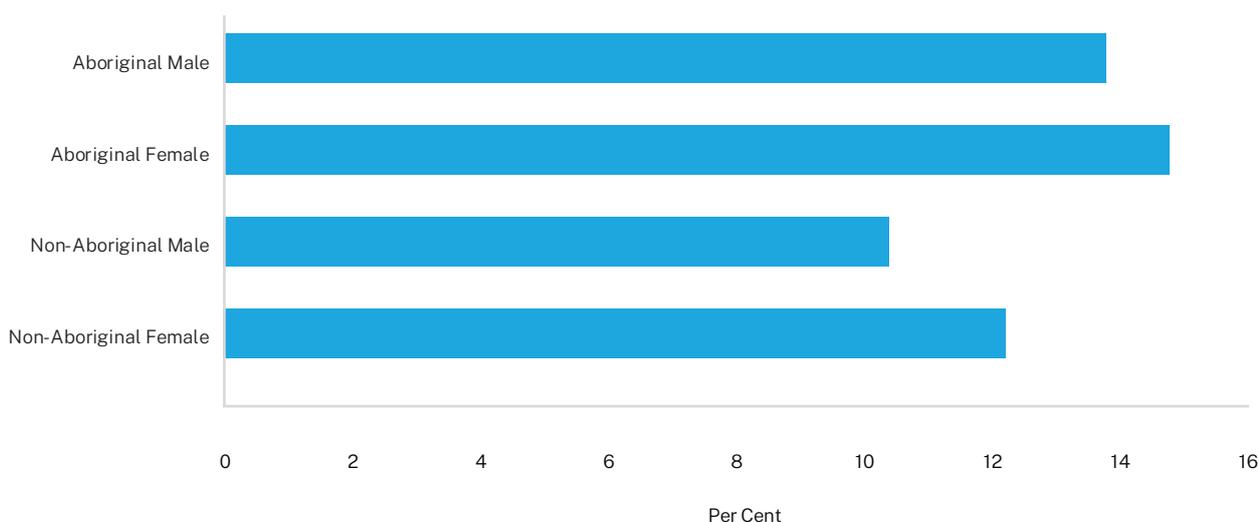


3.5.4.2 Suicide Attempts

Among people entering prison in 2020, 11.8% ($n = 1017$) reported a history of attempted suicide. Hospital admissions for suicide attempts were reported by 45.5% ($n = 463$) of these people — 5.4% of people who entered prison in 2020. A higher proportion of Aboriginal people reported a history of suicide attempts than non-Aboriginal people (14.0% v. 10.7%) and a higher proportion of women reported a history of suicide attempts than men (13.1% v. 11.5%). Almost 15 per cent (14.8%, $n = 85$) of Aboriginal women reported past suicide attempts compared to 13.8% ($n = 323$) of Aboriginal men. Similarly, 12.2% ($n = 116$) of non-Aboriginal women reported a history of suicide attempts compared to 10.4% ($n = 486$) of non-Aboriginal men (see Figure 3.39).

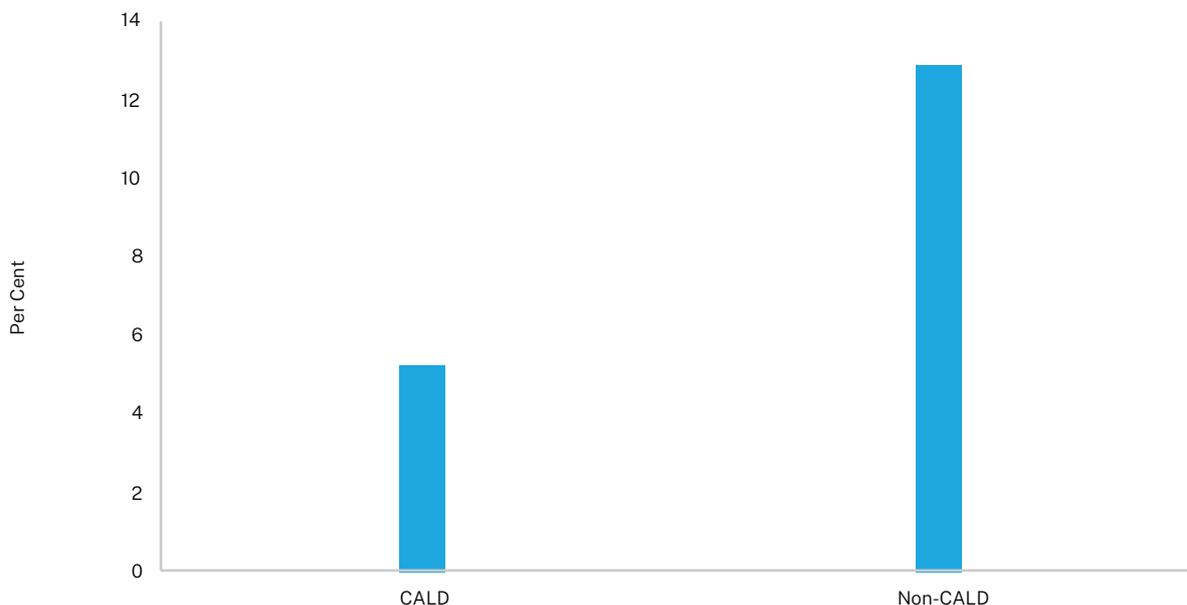
FIGURE 3.39

History of Suicide Attempts by Aboriginal Identity and Sex



Sixty-three CALD people (5.2%) reported previous suicide attempts. This was 7.6 percentage points lower than the proportion of reported previous suicide attempts by non-CALD people (12.9%, $n = 943$) (see Figure 3.40).

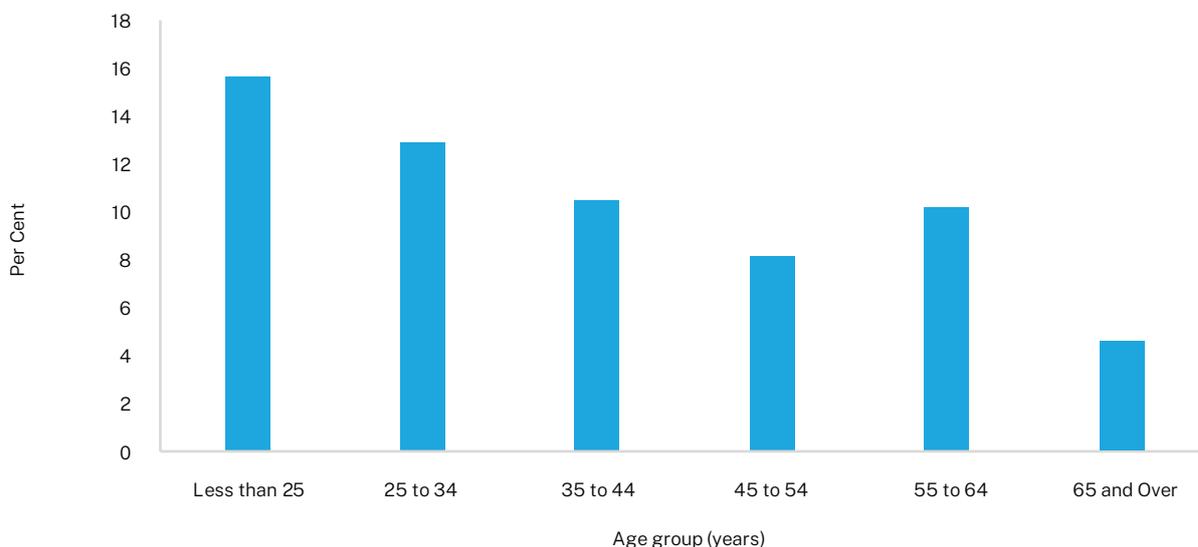
FIGURE 3.40
History of Suicide Attempts by CALD Status



Note. CALD: culturally and linguistically diverse backgrounds.

Like self-harm, people younger than 25 years reported the highest proportion of suicide attempts (15.6%, $n = 229$) of all age groups. This proportion decreased with the increase in age to 8.1% ($n = 90$) among people 45–54 years. Conversely, more people aged 55–64 years reported suicide attempts than those aged 45–54 years old (10.1% v. 8.1%) (see Figure 3.41).

FIGURE 3.41
History of Suicide Attempts by Age Groups



Of the 8599 people who entered custody in 2020, 719 (8.4%) reported a family history of self-harm or suicide attempts (see Figure 3.42). Of these, 30.6% ($n = 220$) reported attempting suicide themselves. In contrast, this proportion was 9.7% ($n = 649$) among those without a family history of self-harm or suicide attempts (see Figure 3.43).

FIGURE 3.42

Family History of Self-Harm or Suicide Attempts

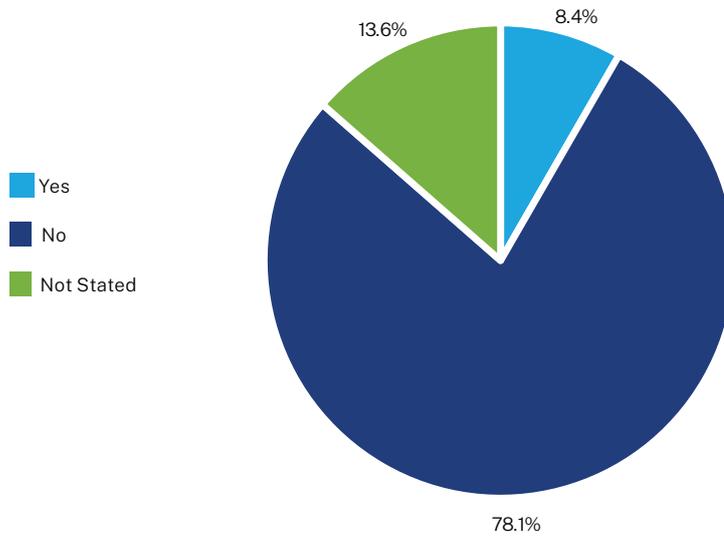
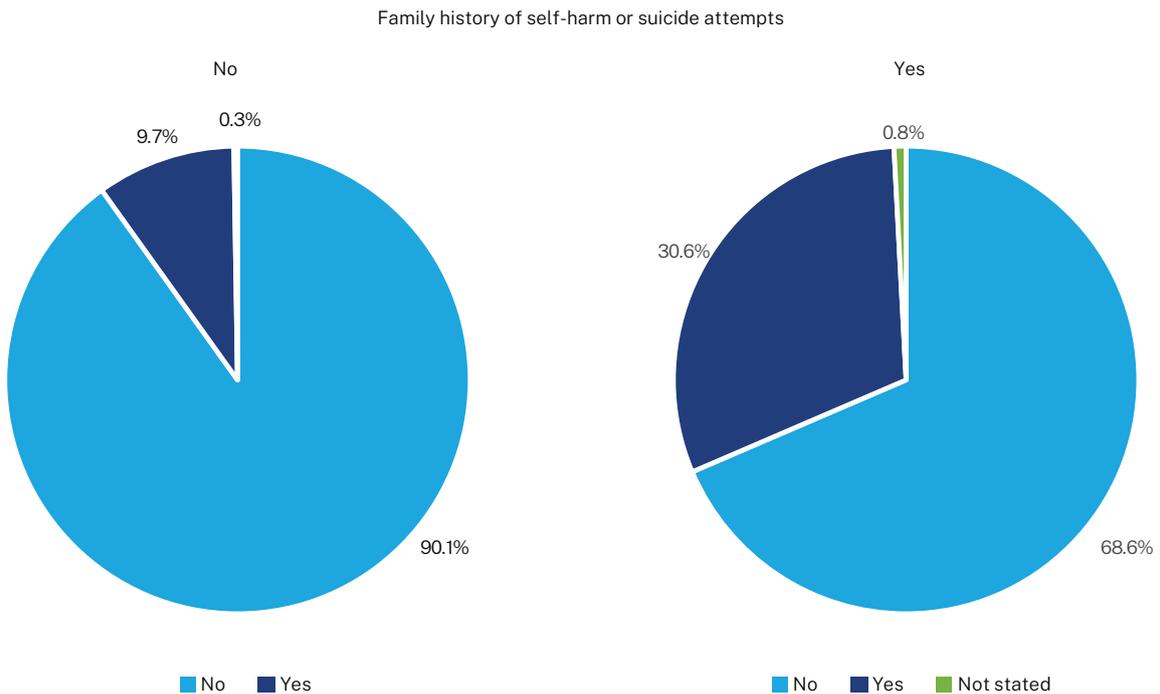


FIGURE 3.43

Suicide Attempts by Family History of Self-Harm or Suicide Attempts



Of the 8599 people who entered custody in 2020, 843 (9.8%) had a Mandatory Notification Form (MNF) completed by reception screening staff; that is, staff identified them as a suicide or self-harm risk. All individuals with an MNF were under Risk Intervention Team (RIT) management. The RIT comprises Justice Health NSW and Corrective Services NSW staff; they must regularly assess the individual's risk and develop a management plan that considers cell placement, restrictions, observations, review frequency and relevant referrals (59, 60).

3.6 Substance Use

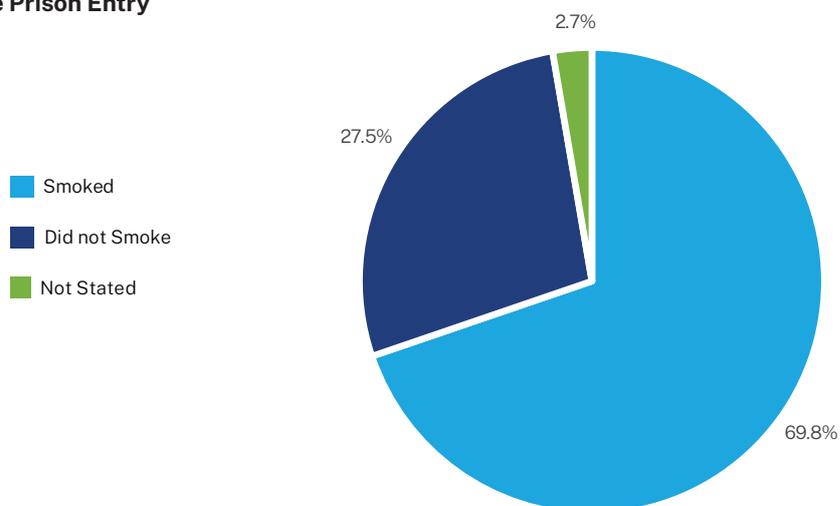
3.6.1 Smoking

Smoking is associated with morbidities and mortality (61–63). In 2015, the World Health Organization estimated that tobacco use was responsible for 6 million deaths annually worldwide (63). The global prevalence of tobacco smoking is declining; however, the prevalence of smoking in prison populations has remained higher than in the general population (7, 64).

A total of 6001 (69.8%) people who entered prison in 2020 reported that they smoked before entering custody (see Figure 3.44). In contrast, in 2019, 12.8% of men and 10.4% of women in the general Australian population over 18 years reported smoking (65).

FIGURE 3.44

Smoking Status Before Prison Entry

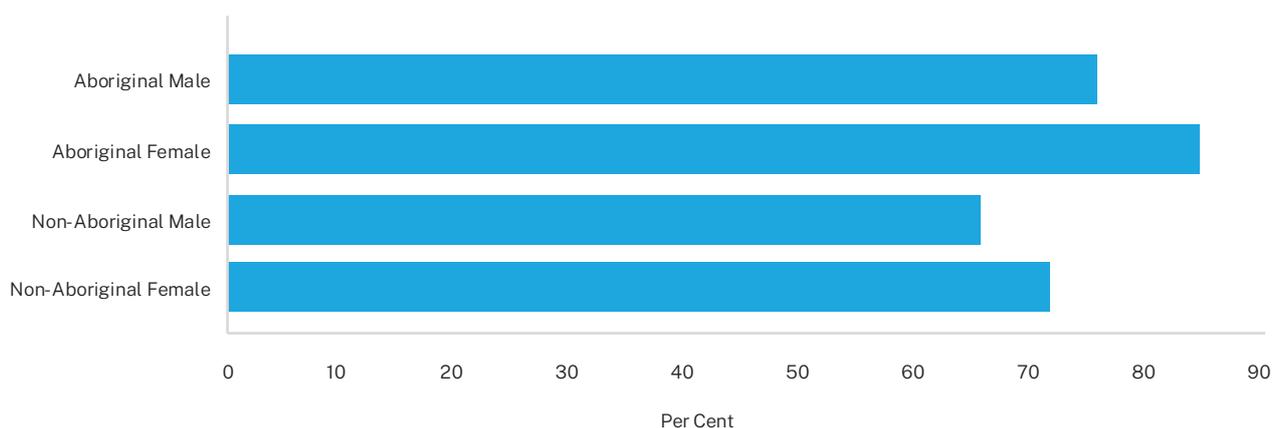


Although more than two-thirds of people who entered prison in 2020 reported smoking before entering custody, the proportion of people smoking varies by sociodemographic characteristics.

The prevalence of smoking is higher in men in the general population (7, 63, 65). However, Australian national data on smoking prevalence in the prison population shows a higher prevalence among women in custody. In 2018, 86% of Australian women in prison reported being current smokers, compared with 74% of men (7). Among our study population of people who entered prison in 2020, a higher proportion of women than men reported smoking (75.9% v. 68.5%). Similar results were found when considering Aboriginal identity – higher proportions of Aboriginal and non-Aboriginal women reported smoking than Aboriginal and non-Aboriginal men (see Figure 3.45).

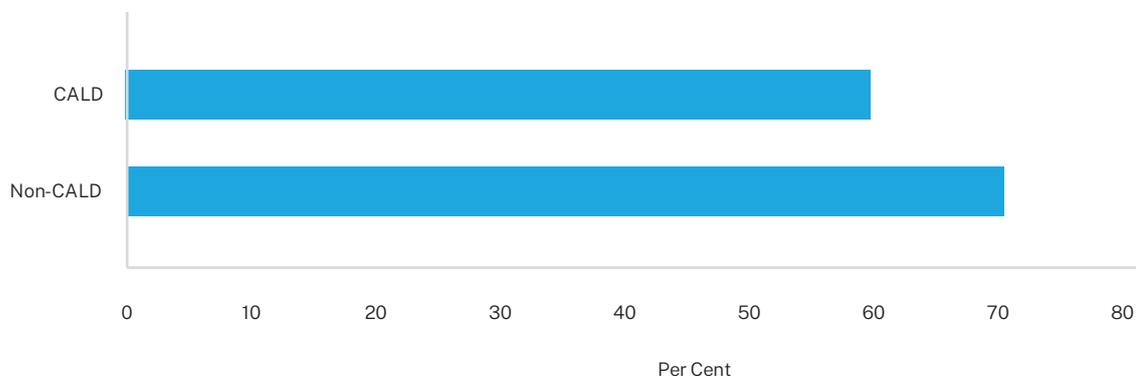
FIGURE 3.45

Smoking by Aboriginal Identity and Sex



A lower proportion of CALD people reported that they smoked at the time of prison entry than non-CALD people – 60.8% ($n = 730$) and 71.3% ($n = 5231$), respectively (see Figure 3.46).

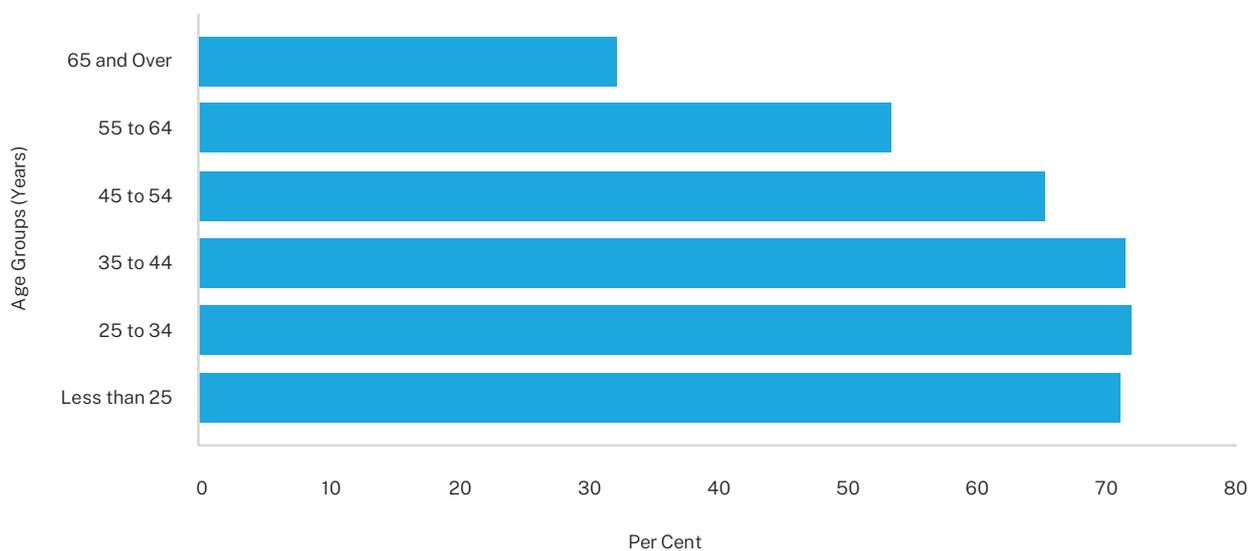
FIGURE 3.46
Smoking by CALD Status



Note. CALD: culturally and linguistically diverse backgrounds.

Figure 3.47 shows that the highest proportion of people reporting smoking was aged 25 to 34 years (72.0%, $n = 2234$). A higher proportion of people younger than 45 years reported smoking than those aged 45 years and over (71.6% v. 61.0%).

FIGURE 3.47
Smoking by Age Groups



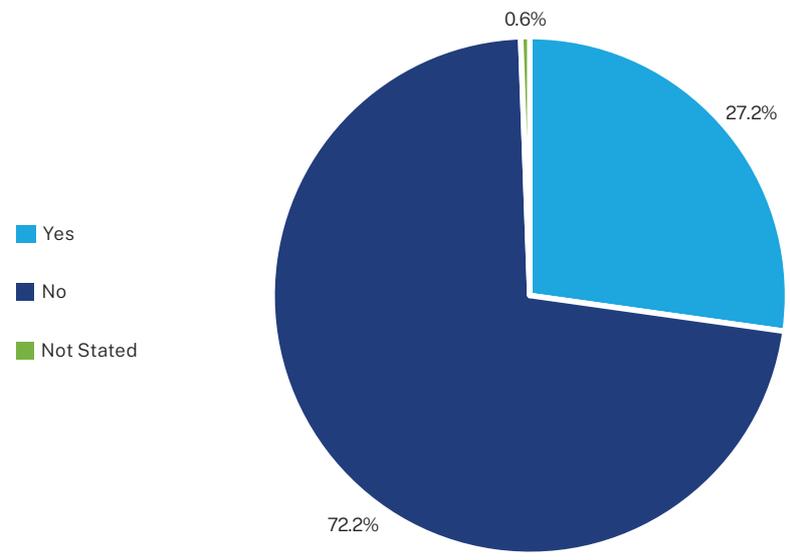
The prevalence of smoking across age-based cohorts of men, women and Aboriginal and non-Aboriginal people varied widely. Smoking prevalence was highest in Aboriginal women aged 45 years and over (86.8%, $n = 46$), followed by Aboriginal women aged under 45 years (83.9%, $n = 439$), then Aboriginal men under the age of 45 years (76.3%, $n = 1576$).

3.6.2 Alcohol Consumption

3.6.2.1 Alcohol Consumption Four Weeks Before Prison Entry

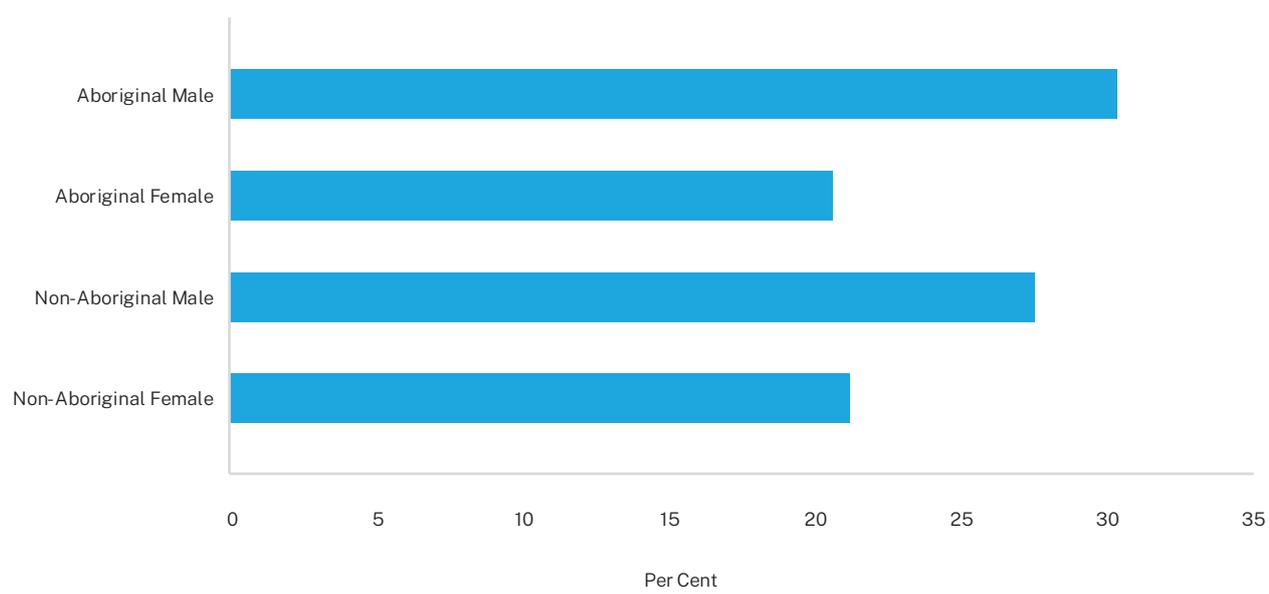
A total of 2340 (27.2%) people entering prison in 2020 reported consuming alcohol within four weeks before entering custody (see Figure 3.48).

FIGURE 3.48
Alcohol Consumption Four Weeks Before Prison Entry



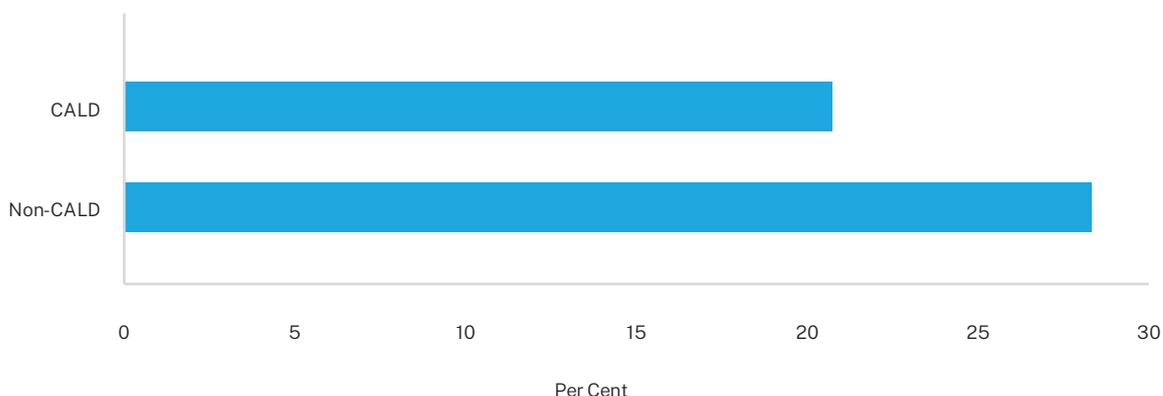
Overall, a lower proportion of women than men reported consuming alcohol in the four weeks before entering prison. When comparing by sex and Aboriginal identity, this trend continued. Approximately one-fifth of Aboriginal and non-Aboriginal women (20.7%, $n = 119$; 21.3%, $n = 202$, respectively) reported consuming alcohol compared to 30.4% ($n = 712$) of Aboriginal men and 27.6% ($n = 1289$) of non-Aboriginal men (see Figure 3.49). This finding is consistent with the published literature on alcohol use by sex among prison populations (4, 7, 66).

FIGURE 3.49
Alcohol Consumption Four Weeks Before Prison Entry by Aboriginal Identity and Sex



One in five (20.7%, $n = 249$) CALD people reported alcohol consumption in the four weeks before entering custody. This proportion was lower than that reported by non-CALD people (28.3%, $n = 2078$) (see Figure 3.50).

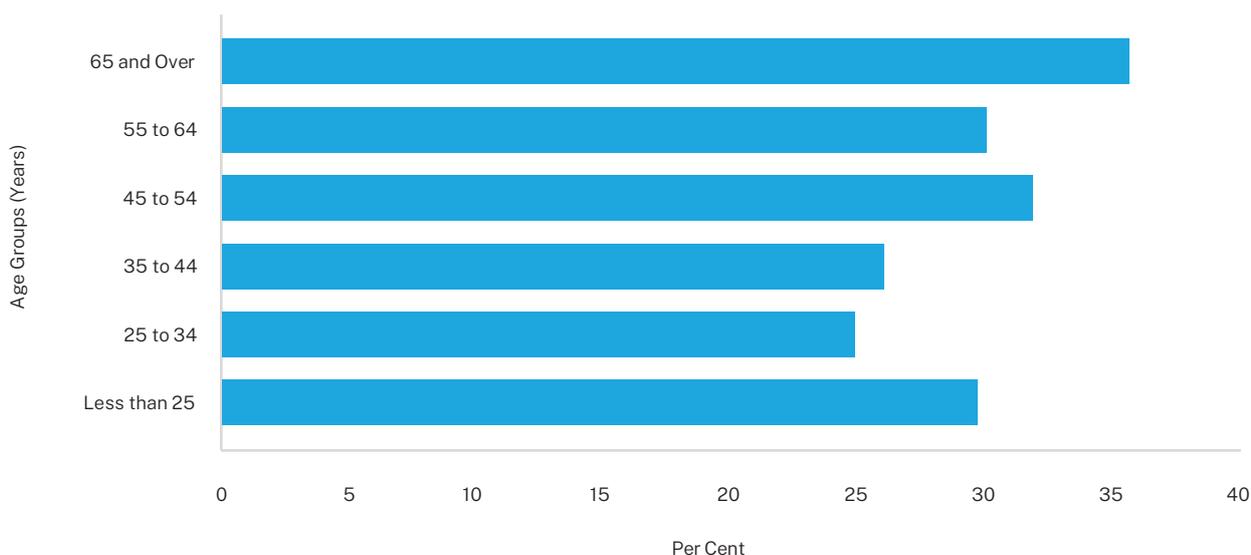
FIGURE 3.50
Alcohol Consumption Four Weeks Before Prison Entry by CALD Status



Note. CALD: culturally and linguistically diverse backgrounds.

Differences were also found in the reported alcohol consumption by age groups. People aged 45 years and over reported a higher prevalence of alcohol consumption in the four weeks prior to custody compared to people aged less than 45 years (31.8% v. 26.3%). Figure 3.51 shows the prevalence of reported alcohol consumption in the four weeks prior to custody was highest in those aged over 65 years (35.6%, $n = 31$).

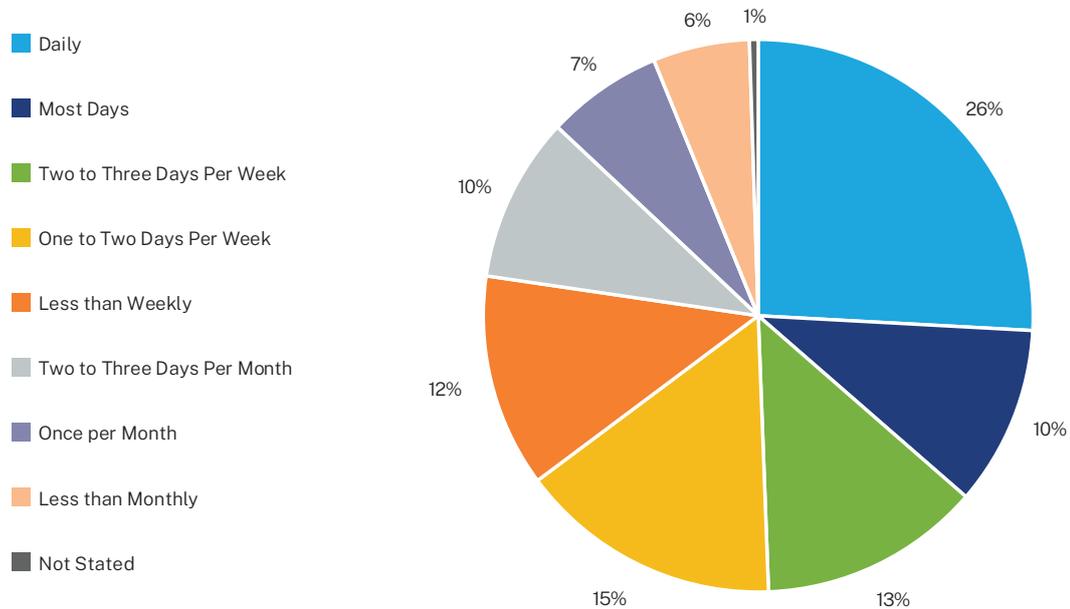
FIGURE 3.51
Alcohol Consumption Four Weeks Before Prison Entry by Age



3.6.2.2 Alcohol Consumption Frequency

As part of the RSA, people were asked about their frequency of alcohol consumption. Of people who reported consuming alcohol within the four weeks before entering custody, 25.9% ($n = 605$) consumed alcohol daily, and 10.5% ($n = 246$) consumed alcohol on most days (see Figure 3.52).

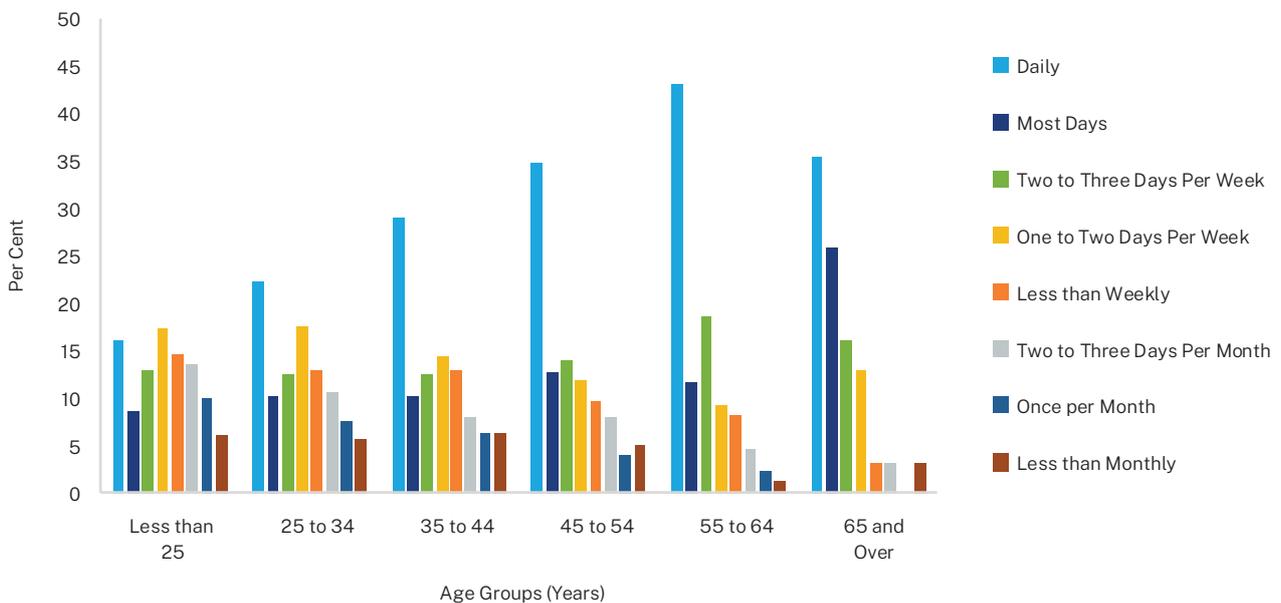
FIGURE 3.52
Alcohol Consumption Frequency



Note. For people reporting consuming alcohol in the four weeks before entering custody.

The prevalence of daily alcohol use was higher among certain cohorts. Of those who reported consuming alcohol within four weeks before entering custody, those aged 45 years and over reported daily use at a higher proportion (36.4%, $n = 471$) than those under 45 years (23.2%, $n = 434$). Figure 3.53 illustrates that the prevalence of daily alcohol consumption increases for each age cohort until the age range of 55–64 years (43.0%, $n = 37$), after which the prevalence drops for those aged 65 years and over (35.5%, $n = 8$).

FIGURE 3.53
Alcohol Consumption Frequency by Age Groups

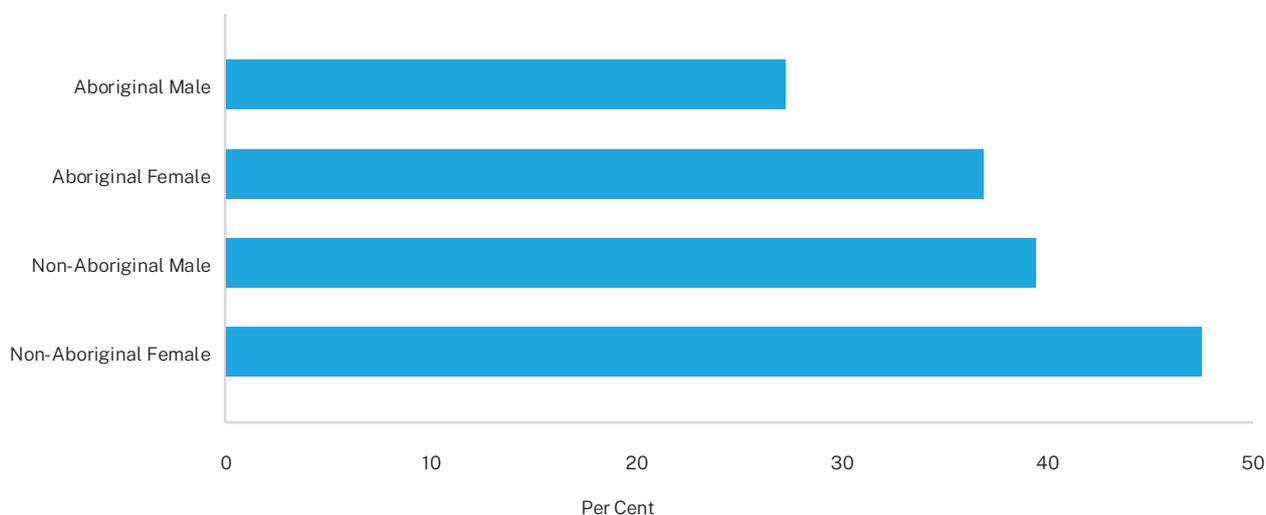


Note. For people reporting consuming alcohol in the four weeks before entering custody.

Daily alcohol consumption was higher among women than men (31.6% v. 25.0%). The prevalence of alcohol consumption daily or on most days in the four weeks before prison entry was highest among non-Aboriginal women (47.5%, $n = 96$) and lowest among Aboriginal men (27.2%, $n = 194$) (see Figure 3.54). Although Aboriginal men reported that they had consumed alcohol within the four-week pre-custody period at the highest prevalence, a higher proportion of non-Aboriginal men and women than Aboriginal men and women reported that they consumed alcohol daily or on most days.

FIGURE 3.54

Proportion of Daily or Most Days Alcohol Use by Aboriginal Identity and Sex



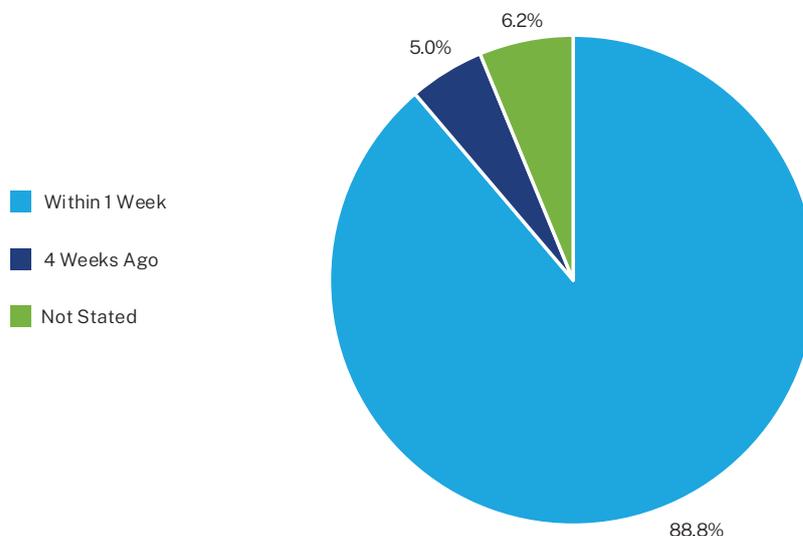
Among CALD people who reported alcohol use in the four weeks before custody, 27.3% ($n = 68$) reported daily or almost daily alcohol use. This proportion of CALD people was lower than that of non-CALD people who reported alcohol use in the four weeks before custody, of whom 37.5% ($n = 779$) reported daily or almost daily alcohol use.

3.6.2.3 Last Alcohol Use

Prison entrants who reported alcohol use within the four weeks before entering custody were then asked to identify the timeframe of their last alcohol consumption. Figure 3.55 shows that 88.8% ($n = 2077$) of prison entrants who reported alcohol use in the past four weeks stated that they had consumed alcohol within the preceding week.

FIGURE 3.55

Last Alcohol Use

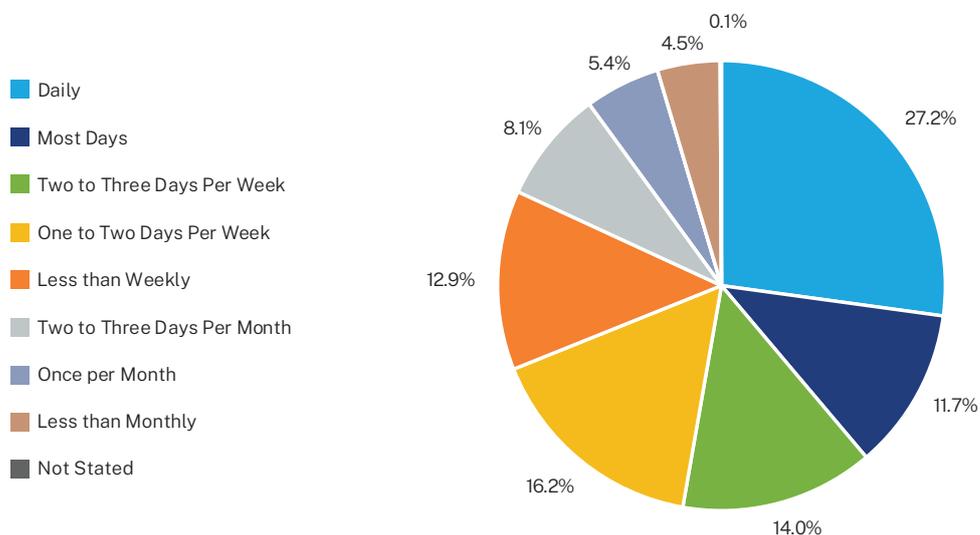


Note. For people reporting alcohol consumption within four weeks before entering custody.

Of people who had consumed alcohol within one week before incarceration, more than one-quarter ($n = 564$) reported consuming alcohol daily. Figure 3.56, shows that 1 in 10 (11.7%, $n = 242$) reported consuming alcohol on most days in that week.

FIGURE 3.56

Alcohol Consumption Frequency Within One Week Before Prison Entry



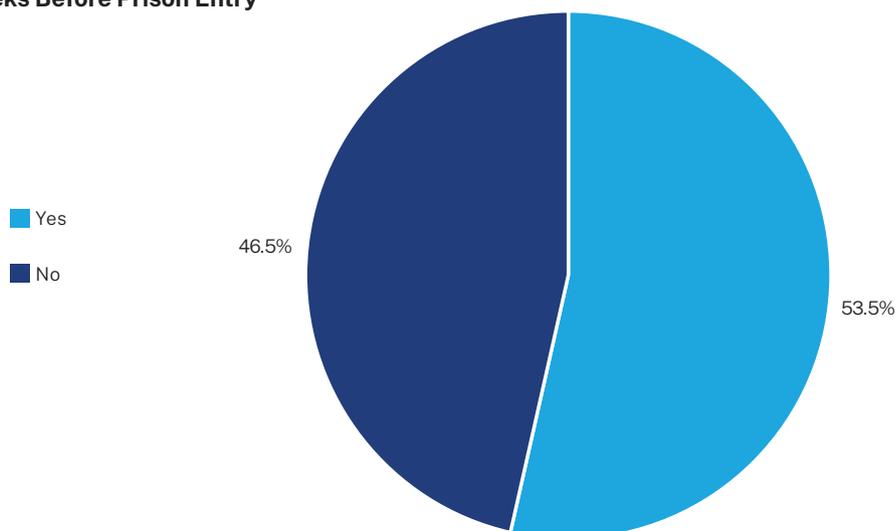
Note. For people reporting alcohol consumption within one week before entering custody.

3.6.3 Drug Use

The prevalence of substance use is higher in the prison population than in the general Australian population (7). Over half (53.5%, $n = 4604$) of people who entered prison in 2020 reported using drugs in the four weeks before entering custody (see Figure 3.57).

FIGURE 3.57

Drug Use Four Weeks Before Prison Entry

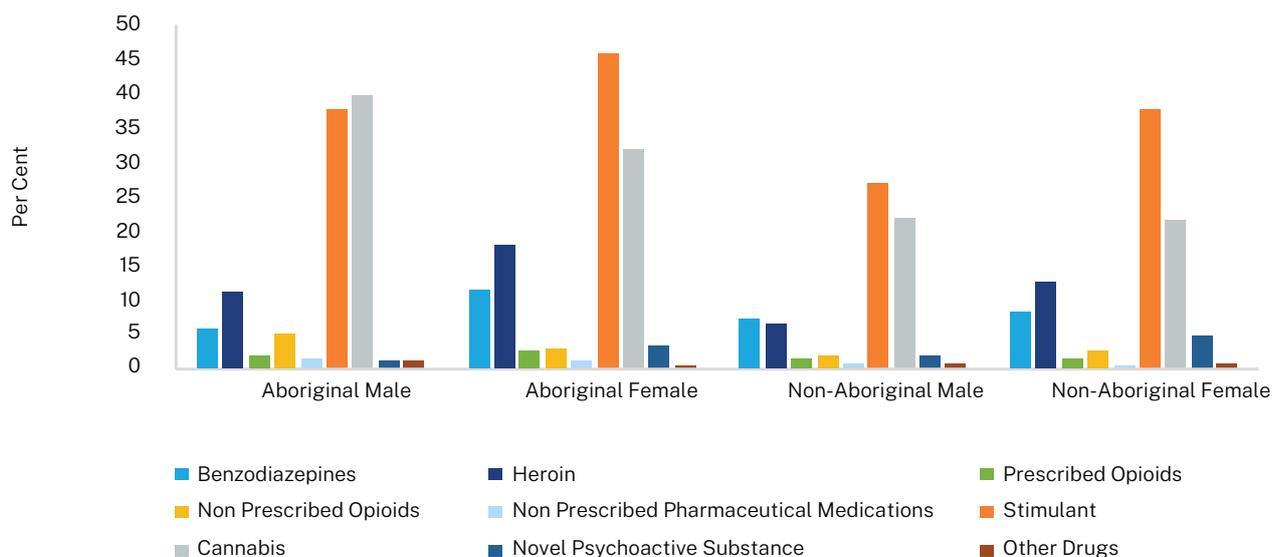


A higher proportion of women than men reported drug use (60.6% v. 52.0%). This finding was consistent for Aboriginal women (67.9% for Aboriginal women v. 64.1% for Aboriginal men) and non-Aboriginal women (56.3% for non-Aboriginal women v. 46.0% for non-Aboriginal men). The proportion of CALD people reporting drug use was 34.6% ($n = 416$) compared to 56.6% ($n = 4152$) among non-CALD people.

The proportion of reported drug use decreased with the increase in age, with 58.1% ($n = 854$) of people younger than 25 years reporting drug use and 9.2% ($n = 8$) of people aged 60 years or older.

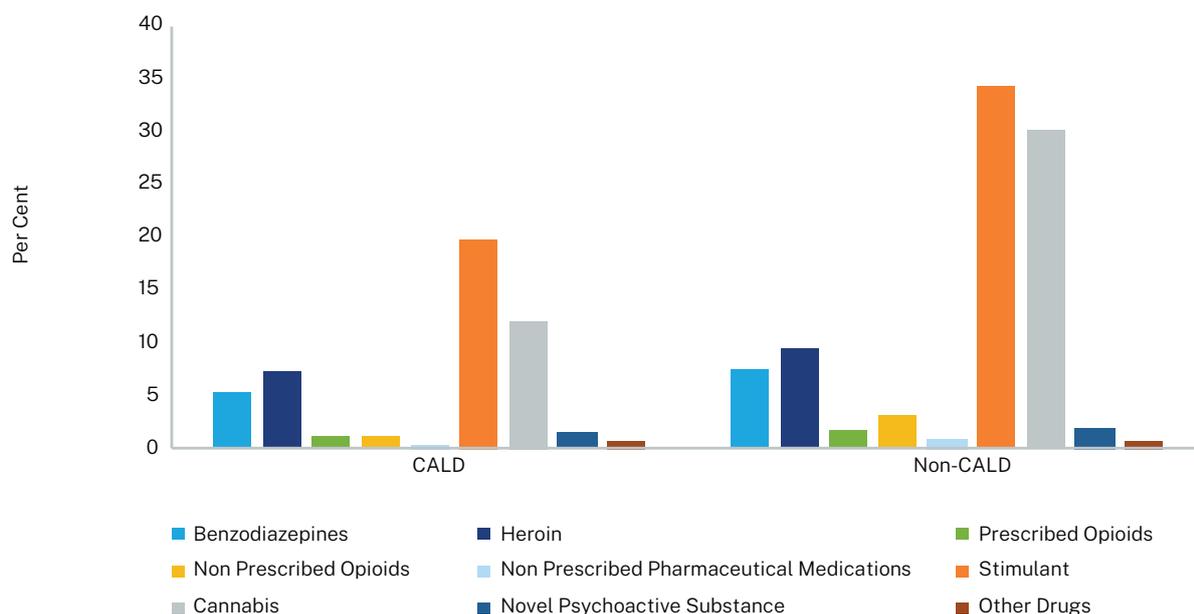
The most commonly reported drug type used was stimulants. Stimulants were used by 60.3% ($n = 2776$) of people who reported drug use in the four weeks before entering custody, and this represents 32.3% of all people who entered prison in 2020. Stimulants were the most common drug used by all women and non-Aboriginal men. Aboriginal men reported cannabis use in the past four weeks at a slightly higher proportion (39.9%, $n = 936$) than stimulants (37.8%, $n = 885$) (see Figure 3.58).

FIGURE 3.58
Type of Drug by Aboriginal Identity and Sex



Stimulants were the most common drug type used by CALD and non-CALD people. However, a lower proportion of CALD people reported stimulant use than non-CALD people (19.7% v. 34.3%) (see Figure 3.59).

FIGURE 3.59
Type of Drug by CALD Status

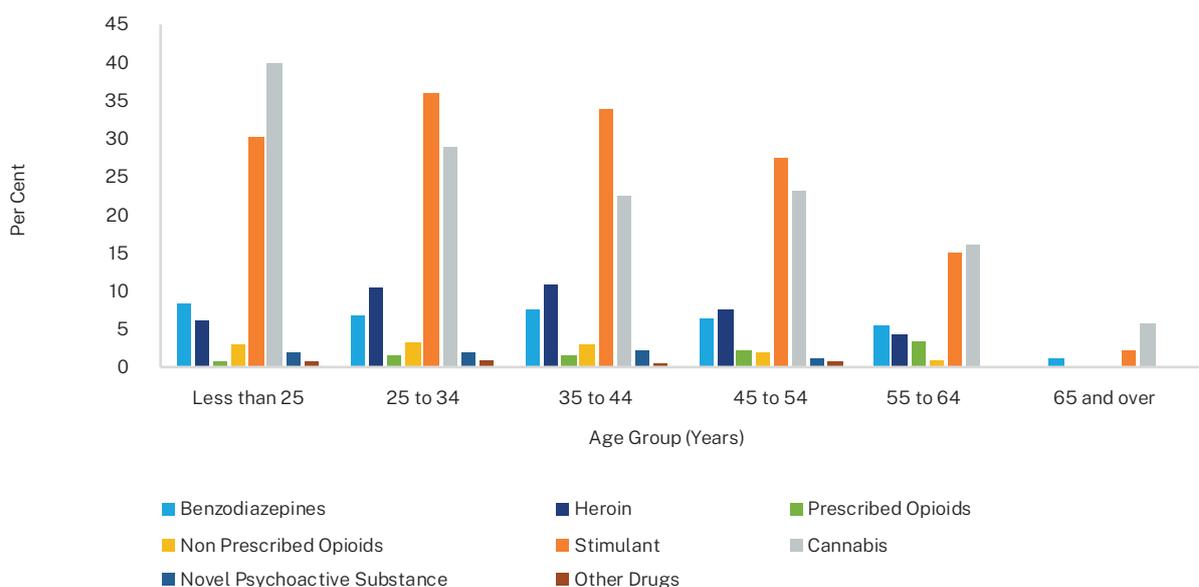


Note. CALD: culturally and linguistically diverse backgrounds.

Stimulants were the most commonly reported drug type used across older (≥ 45 years) and younger (< 45 years) age groups. More than one-third (34.1%, $n = 2428$) of people younger than 45 years reported using stimulants in the four weeks before entering custody, compared with 23.5% ($n = 348$) of prison entrants aged 45 years and over.

Cannabis use was self-reported at the second highest prevalence by people who entered prison in 2020. More than one-quarter (28.9%, $n = 2056$) of people younger than 45 years used cannabis in the four weeks before prison, compared with 20.8% ($n = 307$) of those aged 45 years and over. The prevalence of reported cannabis use in the past four weeks was higher among people younger than 25 years (39.8%, $n = 585$). This was higher than reported stimulant use (30.2%, $n = 444$) (see Figure 3.60).

FIGURE 3.60
Type of Drug by Age Groups

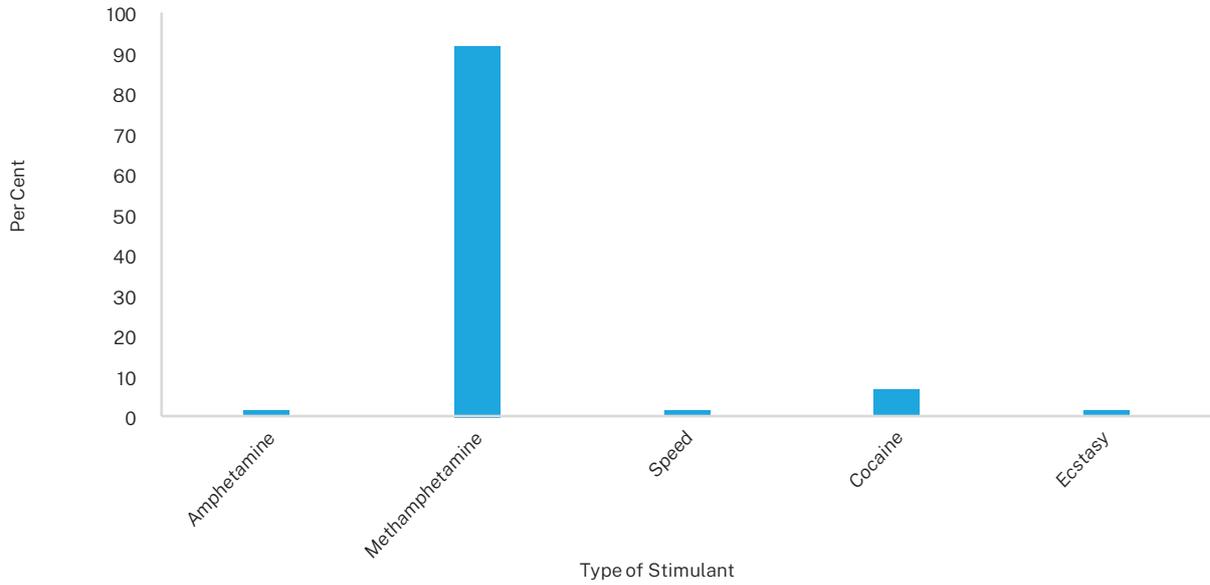


3.6.3.1 Stimulant Types

Methamphetamine was the most commonly reported stimulant used four weeks before prison entry. Methamphetamine is found in three main forms: powder (speed), crystalline form (crystal methamphetamine or ice) and paste (base) (67). In the general Australian population, crystal methamphetamine has been the most commonly used form since 2013 (65).

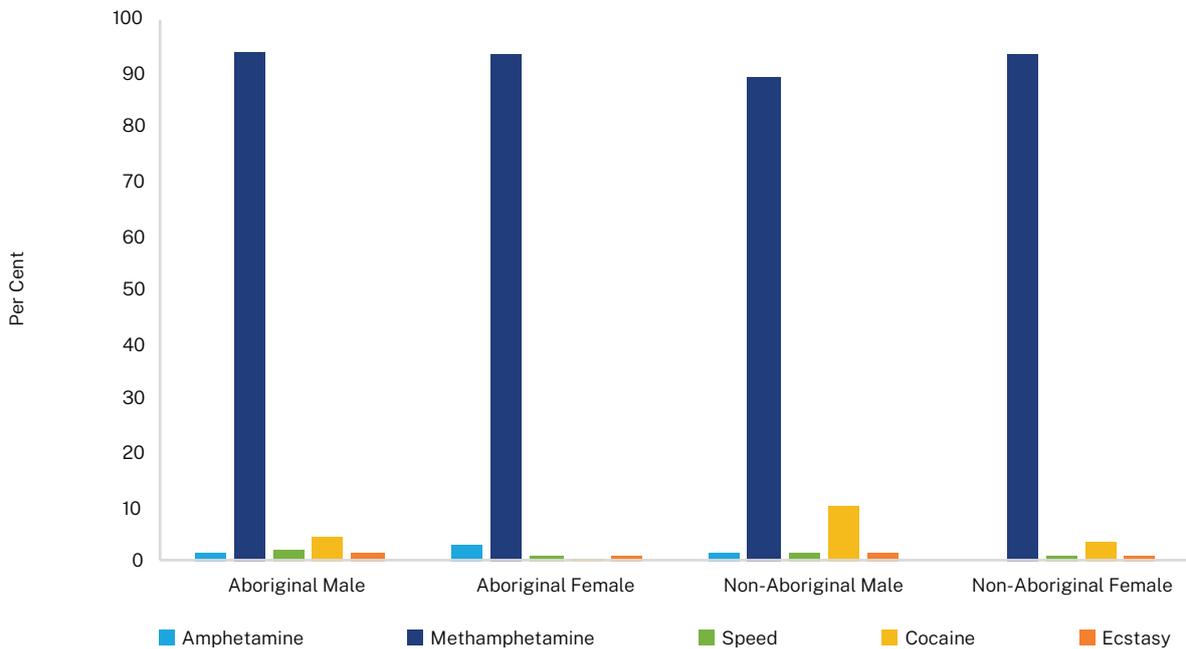
Figure 3.61 shows that of those who reported stimulant use in the four weeks before entering custody, 91.6% ($n = 2543$) used methamphetamine; that is, 29.6% of all people who entered prison in 2020 and 55.2% of those who reported drug use in the four weeks before prison entry. Methamphetamine was the predominant stimulant used regardless of Aboriginality, sex, CALD status or age (see Figures 3.62, 3.63, 3.64). Methamphetamine use was higher among women than men (38.0% v. 27.7%) and among Aboriginal people than non-Aboriginal people (36.9% v. 25.8%).

FIGURE 3.61
Type of Stimulant



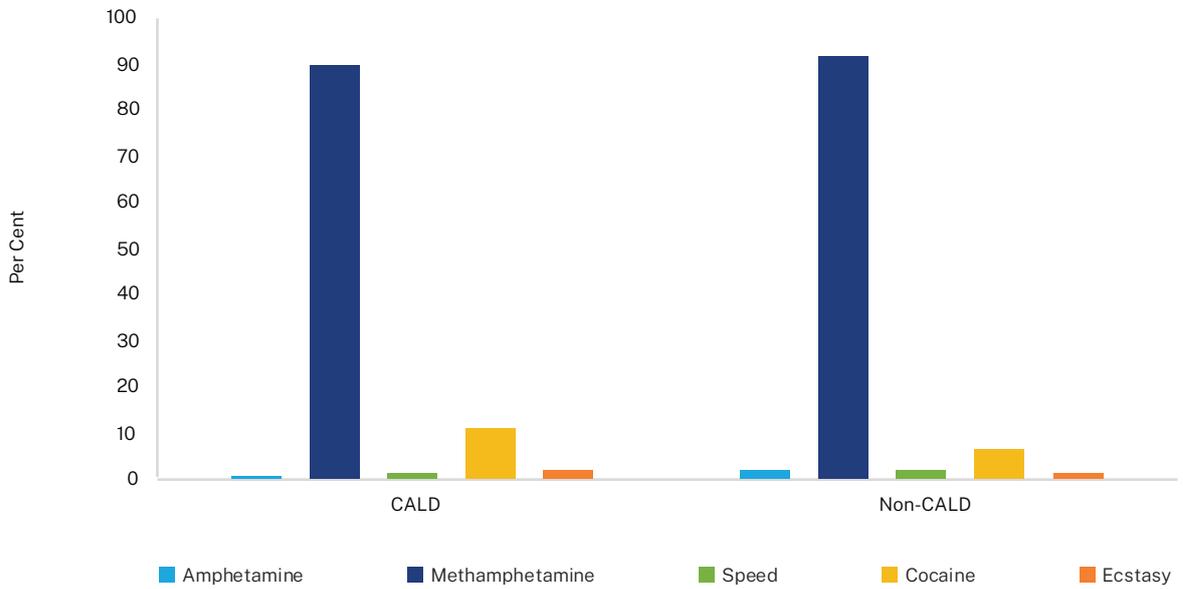
Note. For people reporting using stimulants in the four weeks before entering custody.

FIGURE 3.62
Type of Stimulant by Aboriginal Identity and Sex



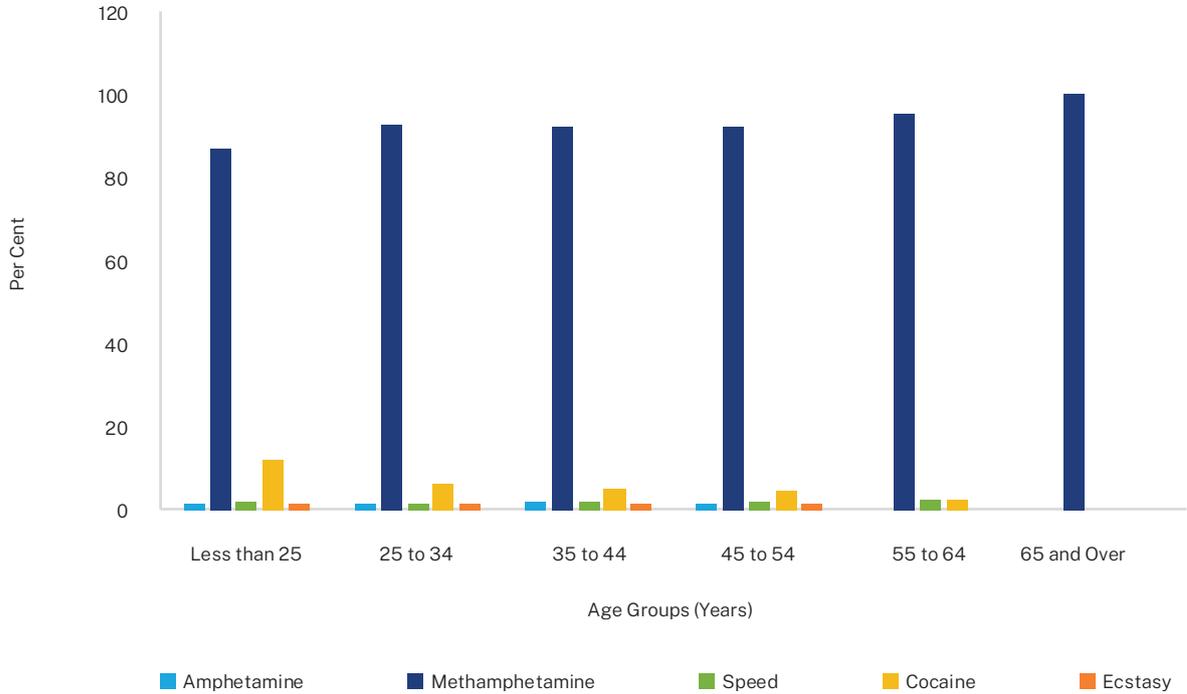
Note. For people reporting using stimulants in the four weeks before entering custody.

FIGURE 3.63
Type of Stimulant by CALD Status



Note. For people reporting using stimulants in the four weeks before entering custody. CALD: culturally and linguistically diverse backgrounds.

FIGURE 3.64
Type of Stimulant by Age Groups

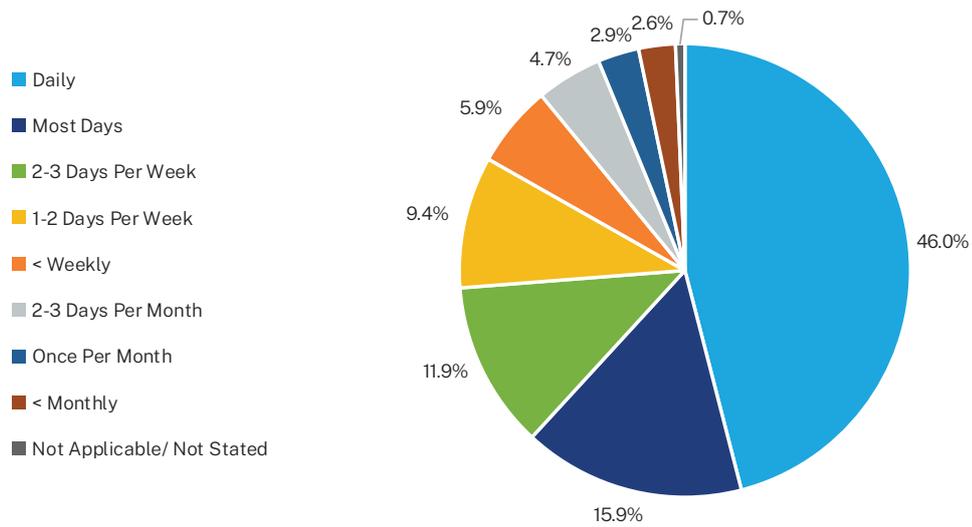


Note. For people reporting using stimulants in the four weeks before entering custody.

In the general Australian population, the proportion of daily and weekly use of crystal methamphetamine increased from 12.4% in 2010 to 29% in 2019 among people using it as their main methamphetamine (65).

Figure 3.65 shows that almost half (46.0%, $n = 1169$) of people who used methamphetamine in the four weeks before entering custody reported using daily. A further 15.9% ($n = 404$) reported using it on most days.

FIGURE 3.65
Methamphetamine Use Frequency

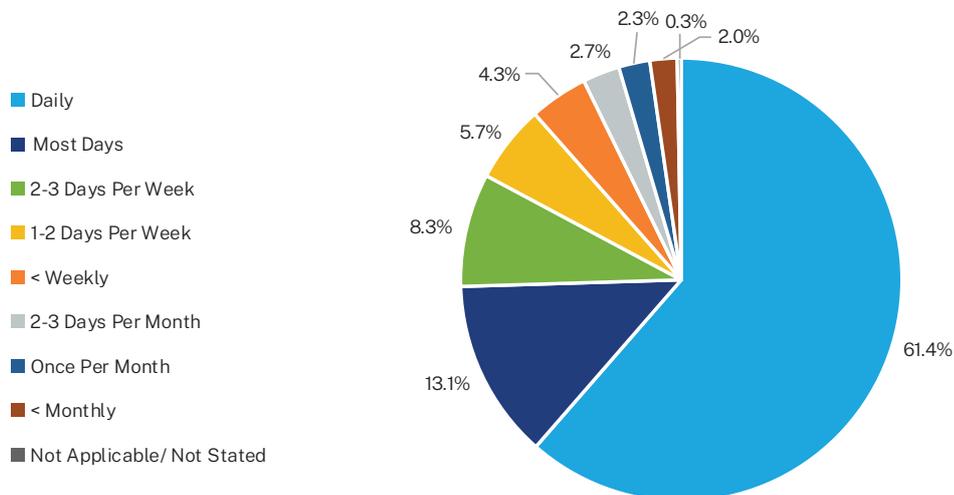


Note. For people reporting using methamphetamine in the four weeks before entering custody.

3.6.3.2 Cannabis

Cannabis was the second most prevalent drug used by people who entered prison in 2020. However, cannabis was the substance for which daily use was most commonly reported. Among those who reported cannabis use, almost two-thirds (61.4%, $n = 1452$) reported daily use (see Figure 3.66), which was higher than the reported daily use of methamphetamine in the four weeks before entering custody (46.0%).

FIGURE 3.66
Cannabis Use Frequency



Cannabis use in the four weeks before prison entry was reported at a higher prevalence by Aboriginal people than non-Aboriginal people (38.4% v. 21.8%). While a similar proportion of non-Aboriginal men and women reported cannabis use (21.8% and 21.6%, respectively), a higher proportion of Aboriginal men than Aboriginal women reported cannabis use (39.9% v. 31.9%). CALD people reported cannabis use at less than half the prevalence of non-CALD people (12.0% v. 30.0%). Cannabis use was more prevalent in those under 45 years (28.9%, $n = 2056$) than in those aged 45 years and over (20.8%, $n = 307$).

3.6.3.3 Heroin and Non-Prescribed Opioids

Heroin use in the four weeks before custody was reported at higher levels than other non-prescribed opioids. Of those who entered prison, 9.2% ($n = 790$) reported heroin use in the four weeks prior, notably higher compared to non-prescribed opioid use (2.8%, $n = 244$).

Reported heroin use in the four weeks before entering prison was highest among Aboriginal women (17.9%, $n = 103$) and lowest among non-Aboriginal men (6.5%, $n = 305$). Reported non-prescribed opioid use was highest among Aboriginal men (5.1%, $n = 120$) and lowest among non-Aboriginal men (1.8%, $n = 84$). Self-reported heroin use was slightly lower among CALD people than non-CALD people (7.3% v. 9.4%). However, the proportion of non-prescribed opioid use was more than double among non-CALD people than CALD people (3.1% v. 1.2%).

Heroin and non-prescribed opioid use were more prevalent in people aged under 45 years, at 9.7% ($n = 693$) and 3.1% ($n = 219$), respectively, than heroin (6.6%, $n = 97$) and non-prescribed opioid use (1.7%, $n = 25$) in those over 45 years (see Figure 3.60).

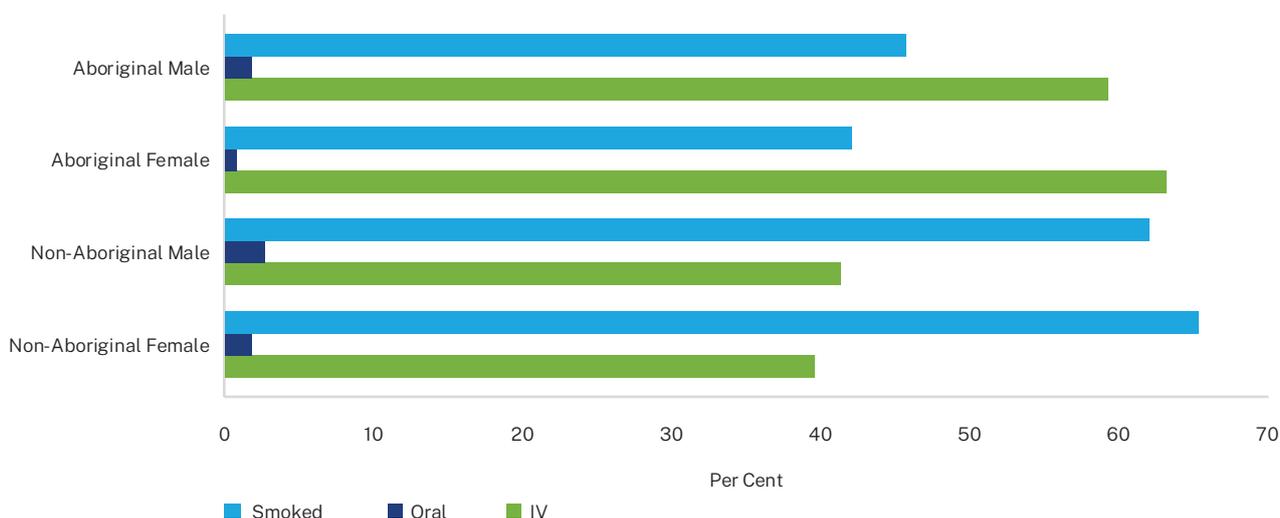
3.6.3.4 Route of Drug Use

People who inject drugs are over-represented in the prison population (47). Further, intravenous (injecting) drug use is associated with various harms, such as death from overdose and transmission of communicable diseases (68, 69). Intravenous drug use in the four weeks before entering custody was reported by more than one-third (34.9%, $n = 1605$) of people who entered prison in 2020 and reported drug use (18.7% of all people who entered prison in 2020). The substance with the highest reported prevalence of intravenous use was heroin (69.7%, $n = 551$), followed by non-prescribed opioids (54.5%, $n = 133$), then stimulants (49.2%, $n = 1250$).

Smoking was the most common route of stimulant administration for 65.3% ($n = 218$) of non-Aboriginal women and 62.0% ($n = 694$) of non-Aboriginal men who reported stimulant use in the four weeks before prison entry. Intravenous injection was the most common route of stimulant administration for 63.2% ($n = 156$) of Aboriginal women and 59.3% ($n = 492$) of Aboriginal men who reported stimulant use within four weeks before prison entry (see Figure 3.67).

FIGURE 3.67

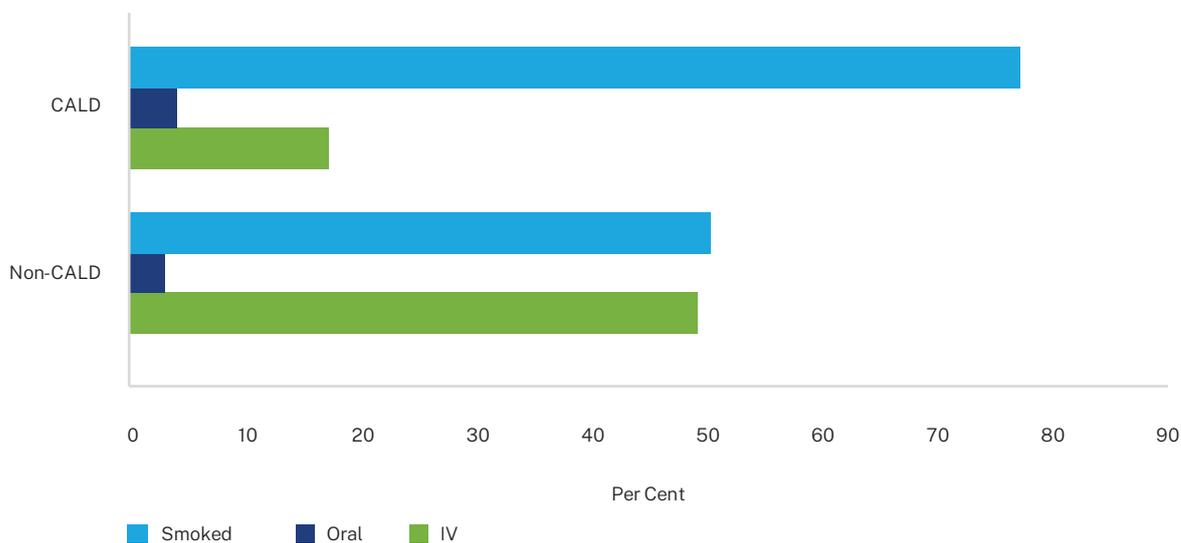
Route of Stimulant Use by Aboriginal Identity and Sex



Note. For people reporting using stimulants in the four weeks before entering custody IV: intravenous injection.

More than three-quarters (77.2%, $n = 183$) of CALD people who reported stimulant use within four weeks before prison entry stated that smoking was their route of administration. Unlike CALD people, non-CALD people reported a similar proportion of intravenous injection and smoking as their route of administration (50.5%, $n = 1271$ and 49.4%, $n = 1244$) (see Figure 3.68).

FIGURE 3.68
Route of Stimulant Use by CALD Status



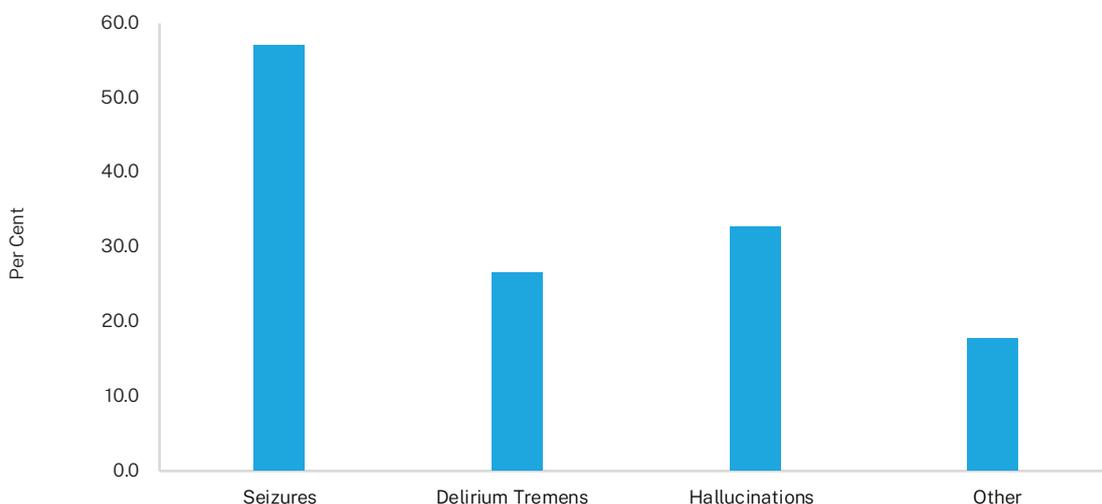
Note. For people reporting using stimulants in the four weeks before entering custody. CALD: culturally and linguistically diverse backgrounds IV: intravenous injection.

3.6.3.5 Withdrawal

The RSA captured the proportion of prison entrants who reported a history of drug and alcohol withdrawal. A total of 4.2% ($n = 361$) of those reporting a history of drug or alcohol use reported a history of withdrawal; 30.7% ($n = 111$) of these reported requiring medical intervention for withdrawals.

Many people who reported a history of withdrawal also reported experiencing complications with their withdrawals, including seizures (57.1%, $n = 206$), hallucinations (32.7%, $n = 118$), delirium tremens (26.6%, $n = 96$) or another complication (17.7%, $n = 64$) (see Figure 3.69).

FIGURE 3.69
Type of Withdrawal Complications



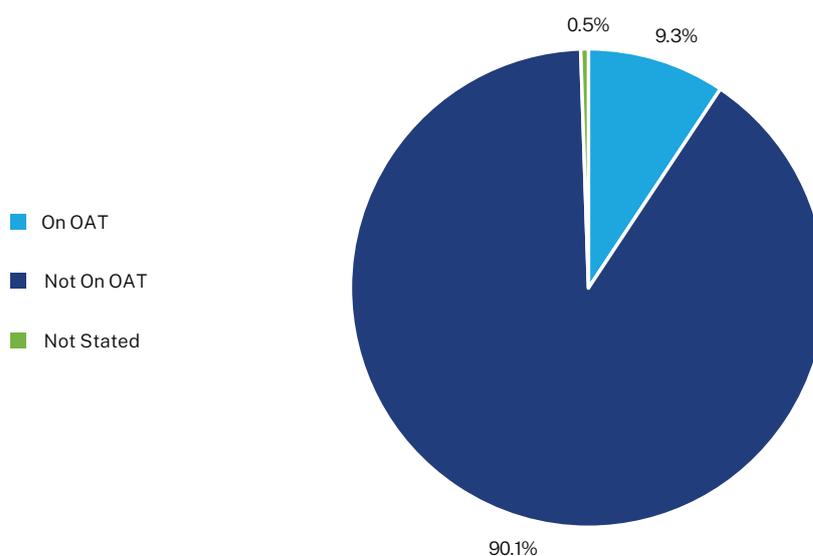
Note. For people reporting a history of withdrawal.

During the RSA process, a clinical assessment was performed for each person to identify those with active withdrawal or showing signs of intoxication. This assessment is to ensure that all people with drug and alcohol risk are followed up within 24–48 hours for further assessment or intervention to reduce medical complications associated with the withdrawal (70). A total of 9.8% ($n = 846$) of people who entered prison in 2020 were in active withdrawal or showing signs of intoxication while completing the RSA. The proportion of people affected was highest for Aboriginal men (11.9%, $n = 278$), followed by Aboriginal women (10.4%, $n = 60$) and then non-Aboriginal men (9.3%, $n = 437$). Seventy-seven CALD people (6.4%) were in active withdrawal or showed signs of intoxication at reception compared to 10.3% ($n = 759$) of non-CALD people. Similar proportions of people in active withdrawal or showing signs of intoxication were observed among people younger than 45 years and those 45 years or older (9.8% and 10.0%, respectively).

3.6.3.6 OAT

OAT is a treatment for opioid use disorder that involves the regular administration of long-acting opioid medication (71). OAT is an important treatment to address the harms associated with opioid use (71). Opioids remain the most prevalent substance in drug-induced deaths, accounting for nearly two-thirds (64.5%) of drug-induced deaths in Australia in 2018 (72). OAT is associated with improved patient outcomes across physical, psychological and psychosocial areas, and reduced risk of offending (71). In 2020, 9.3% ($n = 804$) of people who entered prison were on OAT on entering custody (see Figure 3.70). Of these people, 19.5% reported still using heroin, and 2.1% reported still using non-prescribed opioids.

FIGURE 3.70
OAT Status



Figures 3.71 and 3.72 show the proportion of people who entered prison in 2020 who reported being on prescribed OAT at prison reception by Aboriginal identity and sex, and CALD status, respectively. A higher proportion of Aboriginal women and Aboriginal men reported OAT prescriptions than non-Aboriginal women and non-Aboriginal men (12.0% and 11.9% v. 7.6% and 8.2%, respectively). Of CALD people, 6.4% ($n = 77$) reported being on prescribed OAT at reception; this was 9.7% ($n = 714$) of non-CALD people.

FIGURE 3.71
OAT at Reception by Aboriginal Identity and Sex

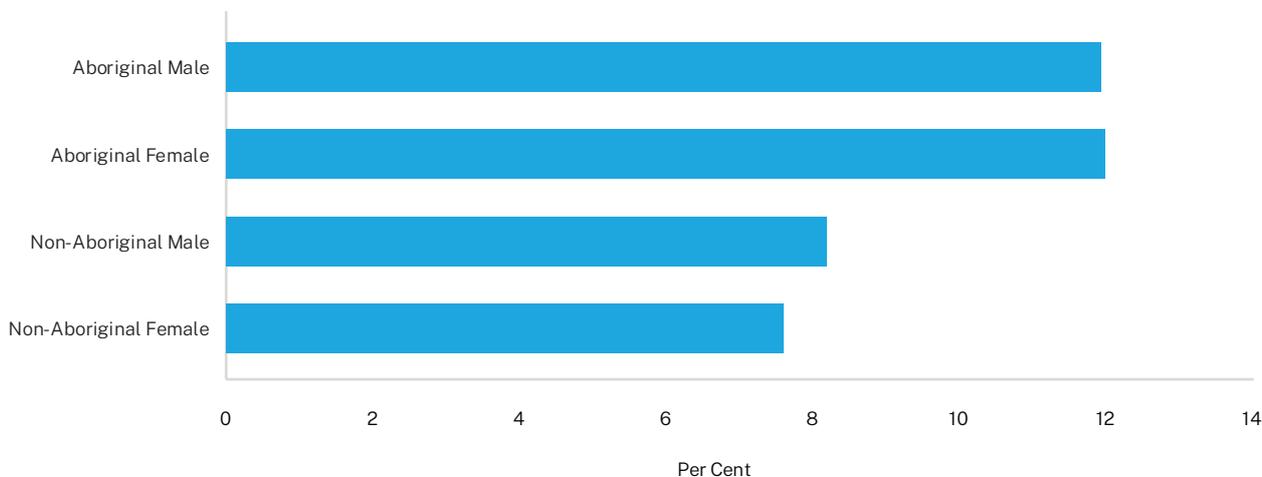
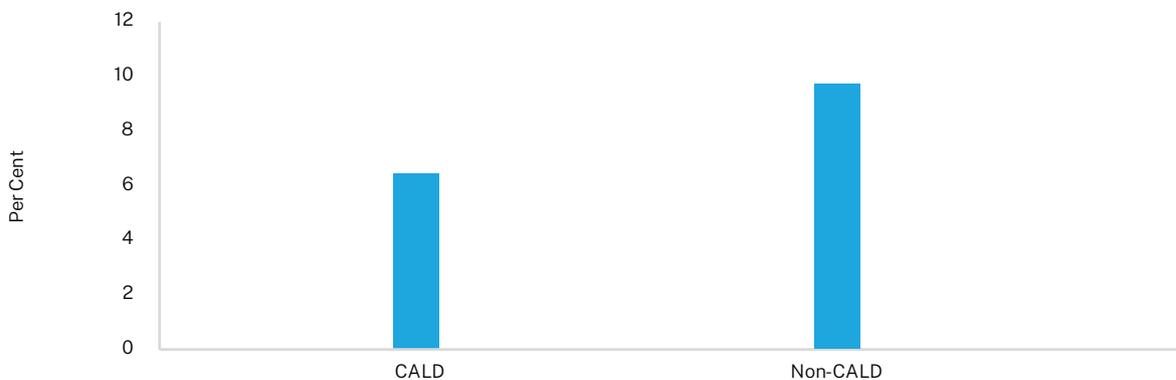


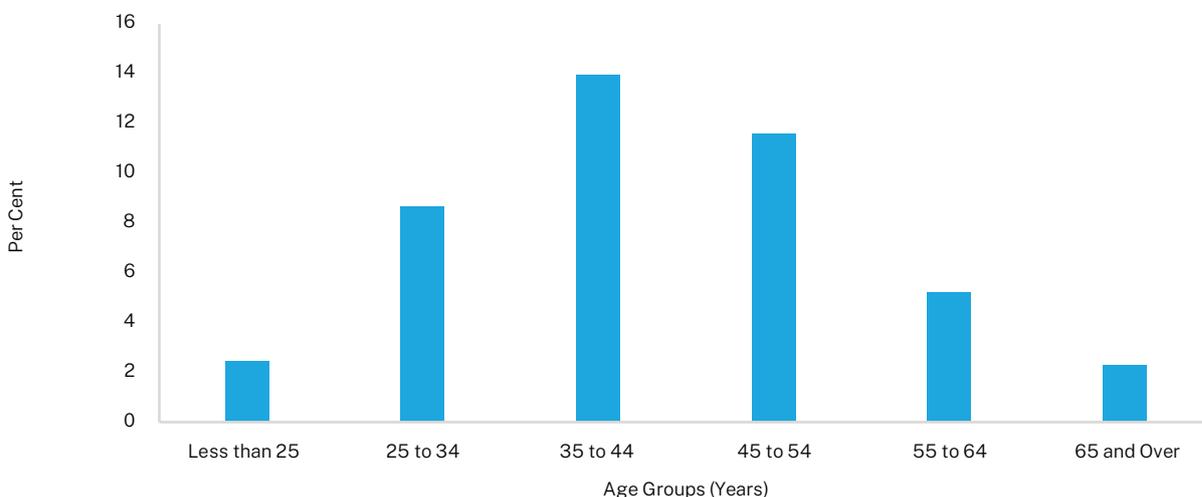
FIGURE 3.72
OAT at Reception by CALD Status



Note. CALD: culturally and linguistically diverse backgrounds.

The proportion of people on prescribed OAT varied by age. Figure 3.73 shows that the proportion of people reporting OAT increased across the age groups of people aged under 45 years; this trend declined with each age group among those aged 45 years and over. The highest proportion of prescribed OAT was in the 35 to 44 years age group (13.9%, $n = 355$).

FIGURE 3.73
OAT at Reception by Age Groups



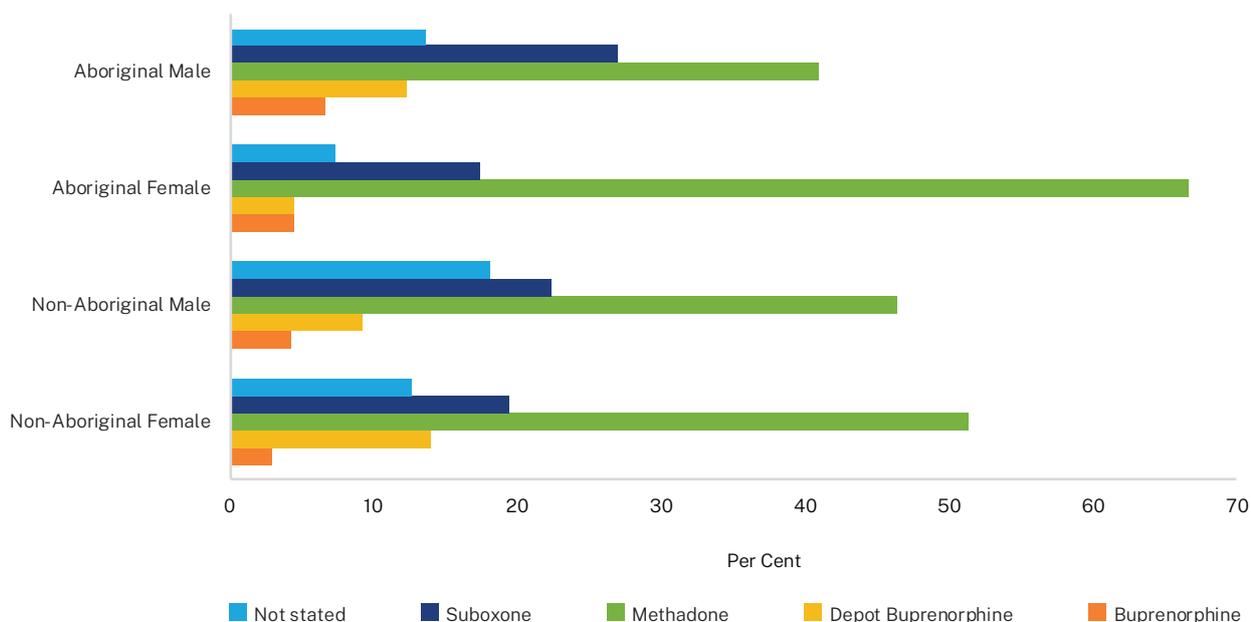
3.6.3.7 Type of OAT

Just under half (46.6%, $n = 375$) of people who entered prison in 2020 who were on OAT reported that they were prescribed methadone. Methadone was the most commonly reported OAT among Aboriginal and non-Aboriginal people (see Figure 3.74), CALD and non-CALD people (see Figure 3.75), and people aged 25 to 64 years (see Figure 3.76). Among people younger than 25 years, Suboxone® was the most common type of OAT, while a similar proportion of people aged 65 years or older reported depot buprenorphine and methadone (see Figure 3.76).

Suboxone® was the second most common type of medication reported by people on OAT at reception (23.3%, $n = 187$). Ten per cent ($n = 82$) of people on OAT at reception reported being on depot buprenorphine. Depot buprenorphine is a new long-acting formulation of buprenorphine. Its use was scaled-up in NSW prisons in early 2020; by July 2020, approximately 800 people in NSW prisons had received depot buprenorphine (73). Buprenorphine was the OAT type reported by 4.9% ($n = 39$) of people on OAT at reception. Buprenorphine is found in multiple products in Australia, including Suboxone® and depot buprenorphine (74). For the 39 people who reported being on buprenorphine, the RSA data did not specify the type of buprenorphine product prescribed.

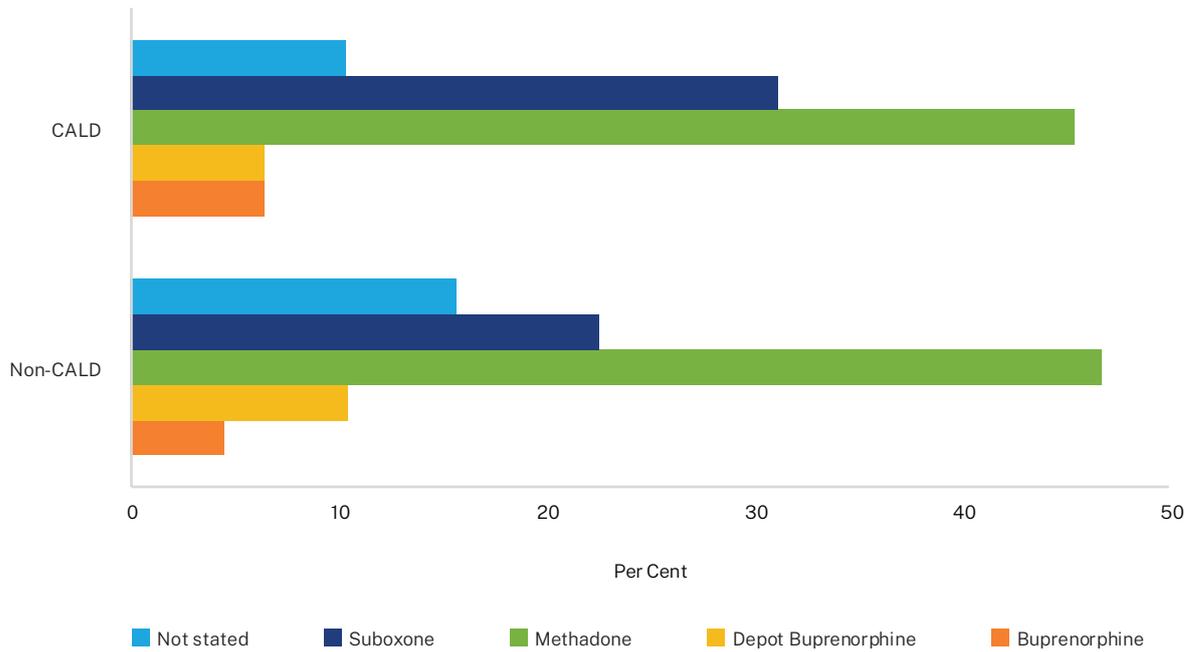
FIGURE 3.74

Type of OAT at Reception by Aboriginal Identity and Sex



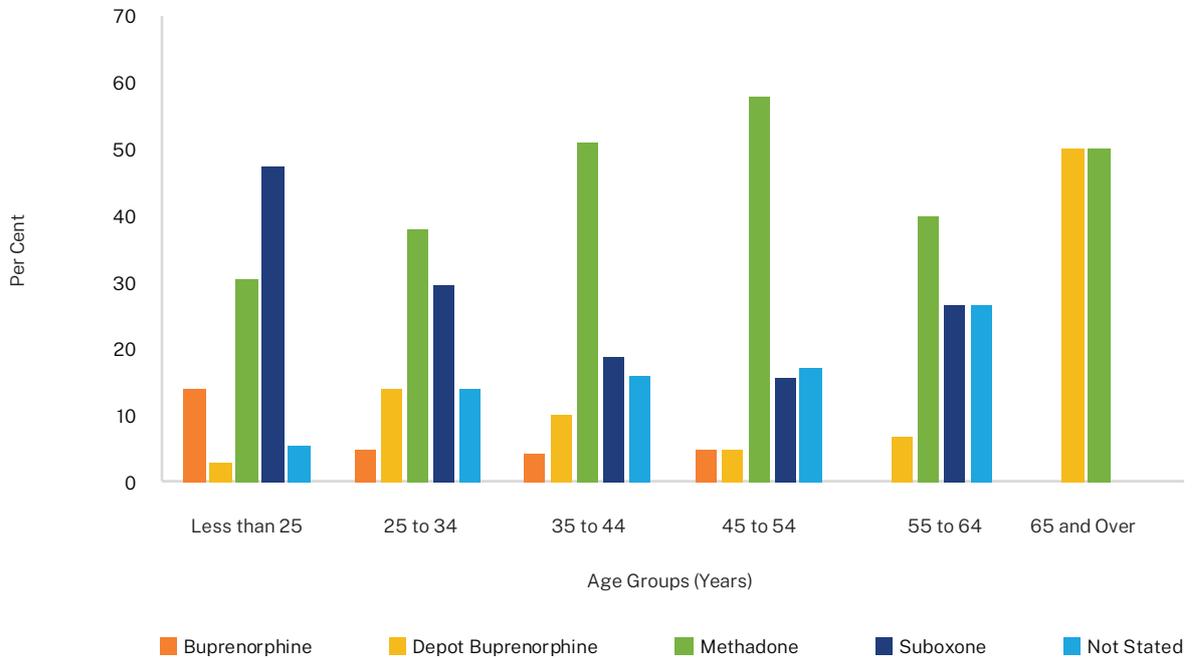
Note. For people reporting being on prescribed OAT at reception.

FIGURE 3.75
Type of OAT at Reception by CALD Status



Note. For people reporting being on prescribed OAT at reception. CALD: culturally and linguistically diverse backgrounds.

FIGURE 3.76
Type of OAT at Reception by Age Groups



Note. For people reporting being on prescribed OAT at reception.



4. Service Utilisation in 2020

Chapter 4 presents information on service utilisation, including appointments, priority, waiting lists, hospital admissions and active alerts that occurred in 2020 for patients who entered NSW public prisons from 2015 to 2020. Further information on the data source is available in Chapter 2 Method.

4.1 Appointments

4.1.1 Booked Appointments

In 2020, 801,627 booked appointments occurred for the study population (people who entered NSW public prisons from 2015 to 2020). This number represents 85.8% of all booked appointments ($n = 934,546$) recorded in 2020 for all adult custodial patients in PAS. Thirty-two per cent ($n = 256,126$) of all appointments were booked for Aboriginal patients, and 13.7% ($n = 110,023$) were booked for women (see Figures 4.1 and 4.2).

FIGURE 4.1
Booked Appointments by Aboriginal Identity

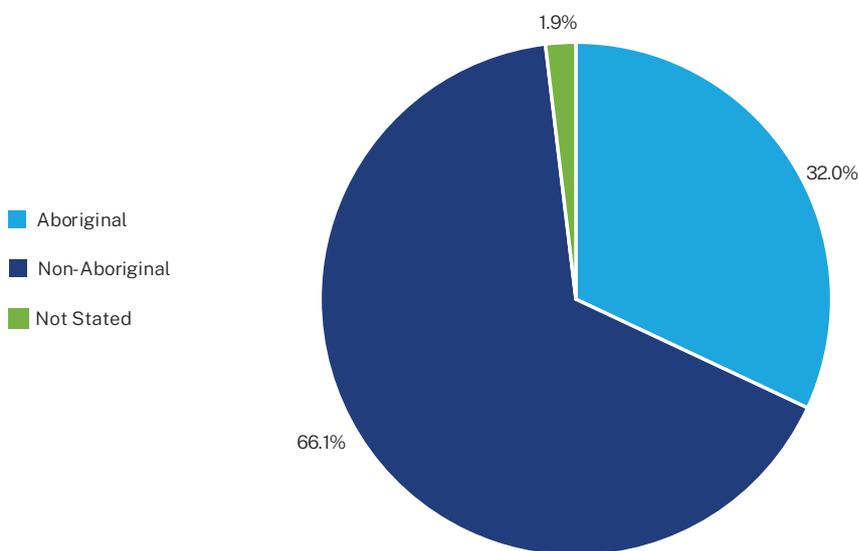


FIGURE 4.2
Booked Appointments by Sex

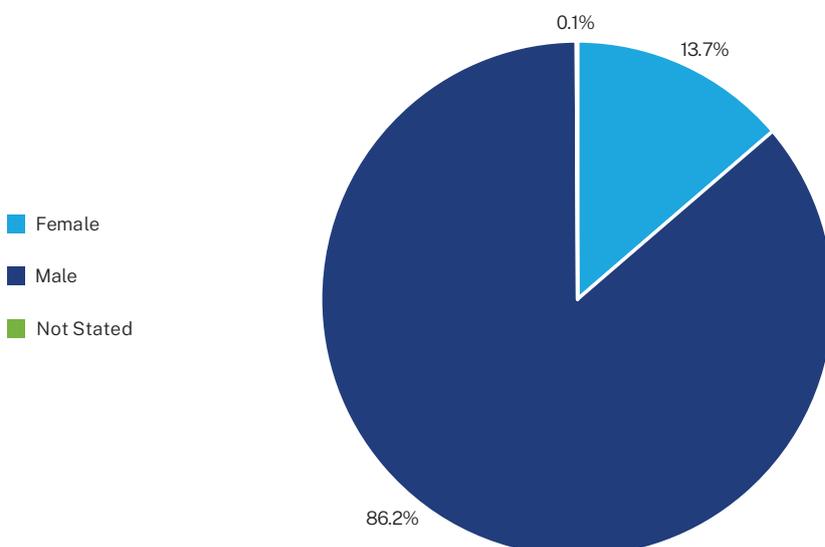
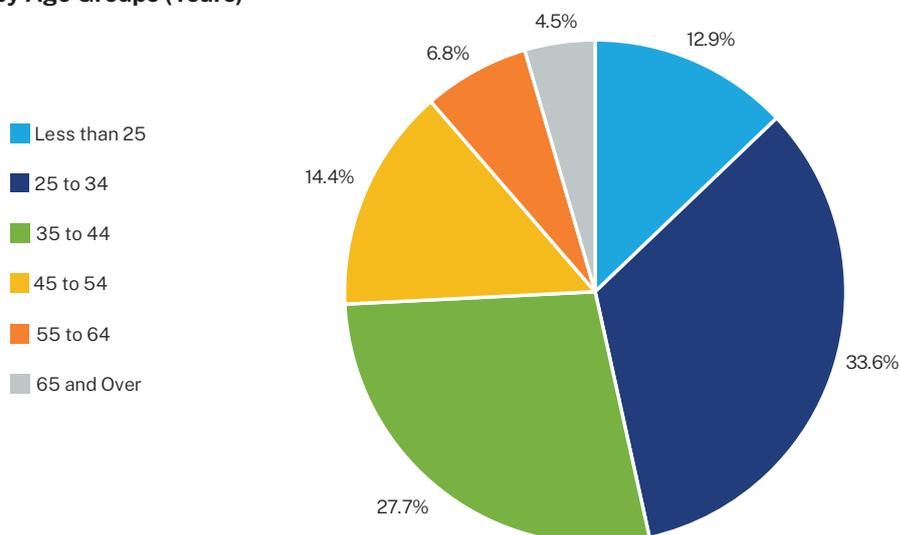


Figure 4.3 presents the proportion of booked appointments by age group. One-third (33.6%, $n = 269,459$) of these appointments were booked for patients aged 25–34 years, followed by more than one-quarter (27.7%, $n = 221,940$) for patients aged 35–44 years. Appointments booked for patients aged 45 years or over were 25.8% ($n = 206,615$) of the total booked appointments.

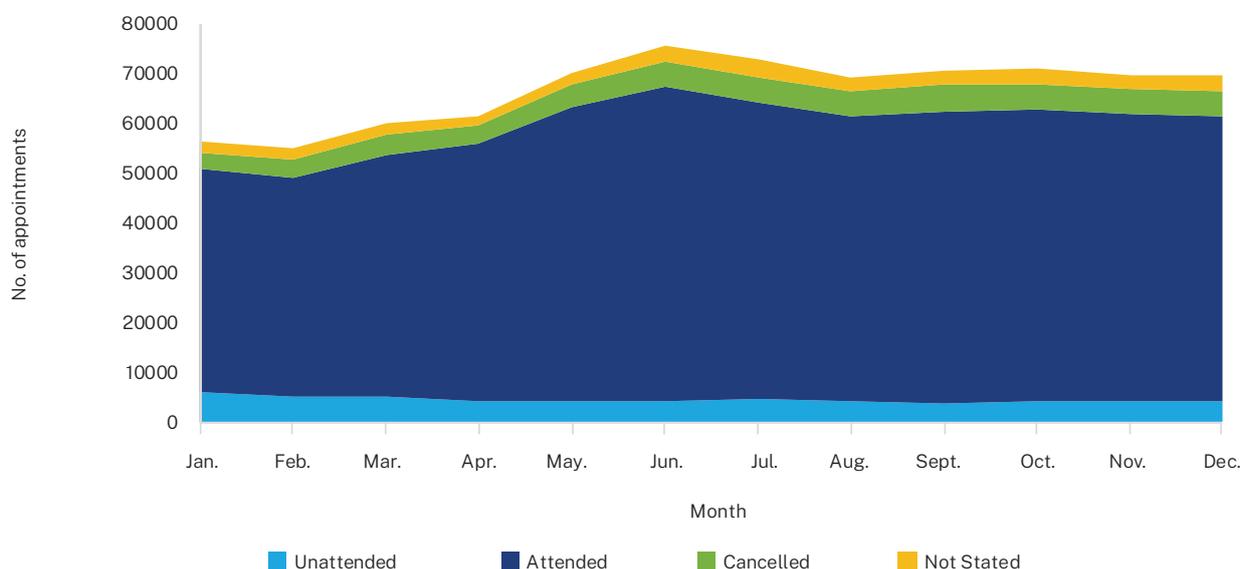
FIGURE 4.3
Booked Appointments by Age Groups (Years)



Note. Excludes 333 appointments with unknown age.

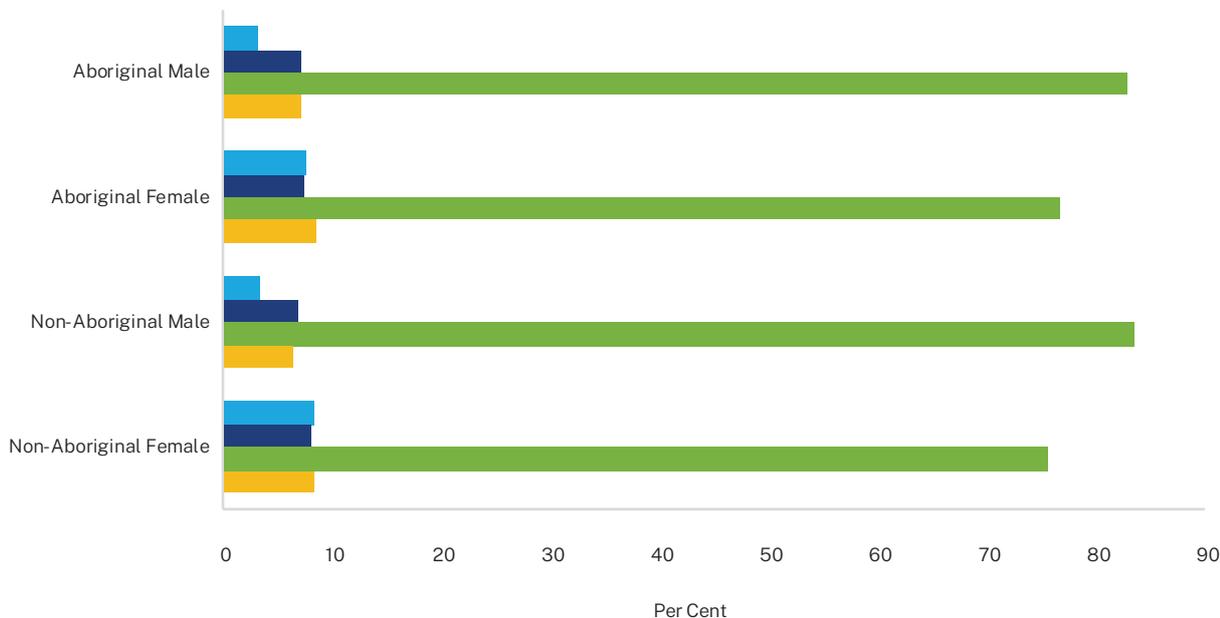
The majority of the booked appointments were attended (82.2%, $n = 659,125$), 7.0% ($n = 55,766$) were cancelled, and 6.8% ($n = 54,878$) were not attended. Attended appointments in our study population represented 85.1% of all attended appointments ($n = 774,962$) recorded in 2020 for all adult custodial patients in PAS. Figure 4.4 shows the number of booked appointments by appointment status and month. The lowest number of attended appointments was in February ($n = 43,984$). Appointment numbers increased in the following three months to peak at 63,011 in June. In the second half of the year, the number of attended appointments remained relatively stable. Unlike attended appointments, the highest number of unattended appointments was in January ($n = 6120$). Unattended appointments started to decrease in February and were the lowest in September ($n = 4019$), followed by a slight fluctuation until the end of the year.

FIGURE 4.4
Number of Booked Appointments by Appointment Status and Month



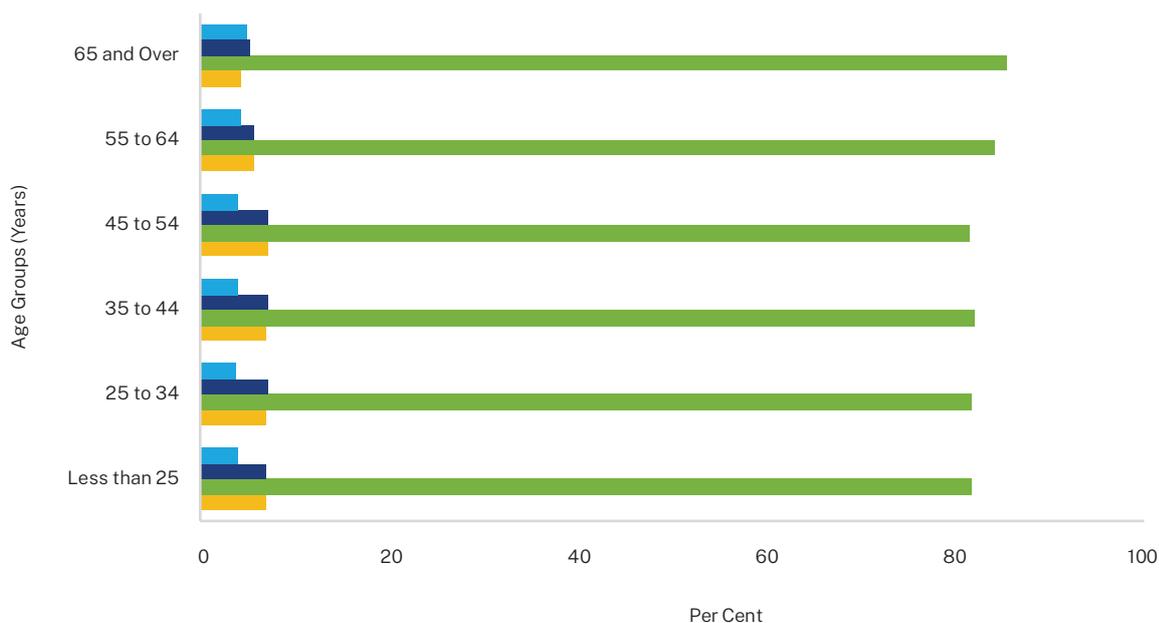
A higher proportion of attended appointments were among men than women (83.2% v. 76.0%). For instance, Aboriginal men attended 82.8% ($n = 174,935$) of their booked appointments, and non-Aboriginal men attended 83.4% ($n = 388,427$). This proportion was 76.7% ($n = 34,259$) and 75.5% ($n = 48,425$) of booked appointments for Aboriginal women and non-Aboriginal women, respectively (see Figure 4.5).

FIGURE 4.5
Appointment Status by Aboriginal Identity and Sex



The proportion of attended appointments for people aged 45 years or more was slightly higher than that for patients younger than 45 years (83.1% v. 81.9%) (see Figure 4.6).

FIGURE 4.6
Appointment Status by Age Group



4.1.2 Attended Appointments

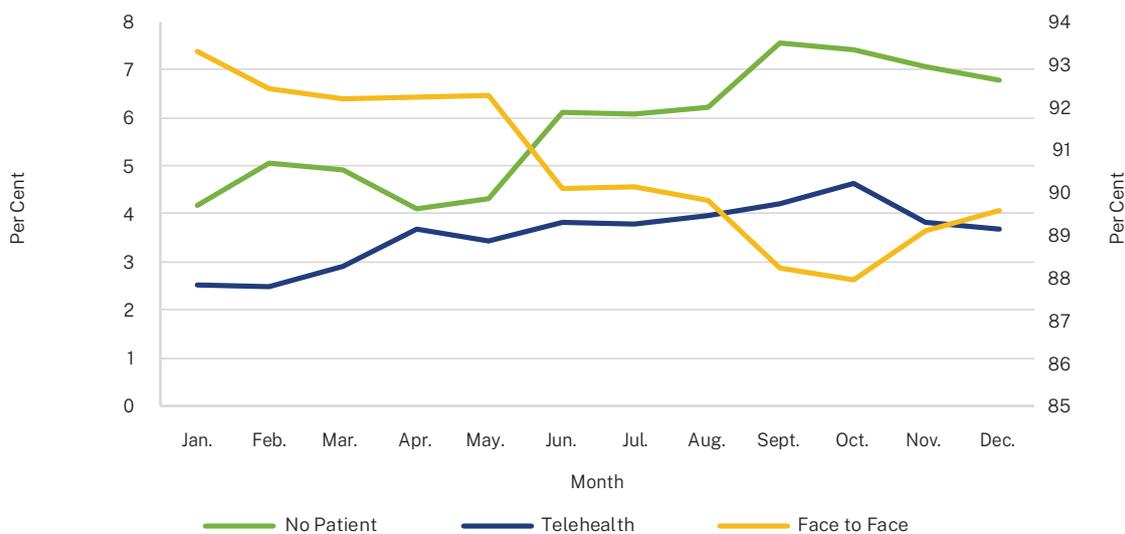
There were 659,125 attended appointments in 2020; the majority (90.5%, $n = 596,342$) of these appointments were face-to-face. Appointments with no patient (e.g., case plan review or file review)

represented 5.9% ($n = 38,850$) of all attended appointments, and only 3.6% ($n = 23,933$) of appointments were attended through telehealth.

Figure 4.7 shows the proportion of attended appointments by mode of delivery and month. A clear decrease in the proportion of face-to-face appointments and an increase in the proportion of no patient and telehealth appointments is evident. This change in the mode of delivery was prominent in the third quarter of the year (July to September).

FIGURE 4.7

Attended Appointments by Mode of Delivery and Month



Note. Attended appointments only.

More than three-quarters (78.0%) of the attended appointments were with primary health, and 10.2% were drug and alcohol. The third highest proportion of attended appointments (6.8%) was in adult ambulatory mental health. Allied health, Aboriginal health and women’s health represented 0.8%, 0.6% and 0.2% of the total attended appointments, respectively (see Table 4.1).

TABLE 4.1

Clinic Speciality

Clinic speciality	No.	%
Aboriginal health	3,820	0.6
Adult ambulatory mental health	44,913	6.8
Allied health	5,205	0.8
Drug and alcohol	67,075	10.2
Intellectual disability and mental health	308	0.0
Medical appointments unit	3,489	0.5
Population health	18,023	2.7
Primary health	513,868	78.0
Specialised mental health services for older persons	645	0.1
Women’s health	1,441	0.2
Not stated	338	0.1
Total	659,125	100.0

Note. Attended appointments only.

Table 4.2 presents clinic speciality by Aboriginal identity. A similar proportion of intellectual disability and mental health appointments were attended by Aboriginal and non-Aboriginal patients (50%). Aboriginal patients attended 40.9% of the population health appointments and 38.8% of the drug and alcohol appointments. Only 5.9% of specialised mental health services for older persons were attended by Aboriginal men.

TABLE 4.2
Clinic Speciality by Aboriginal Identity and Sex

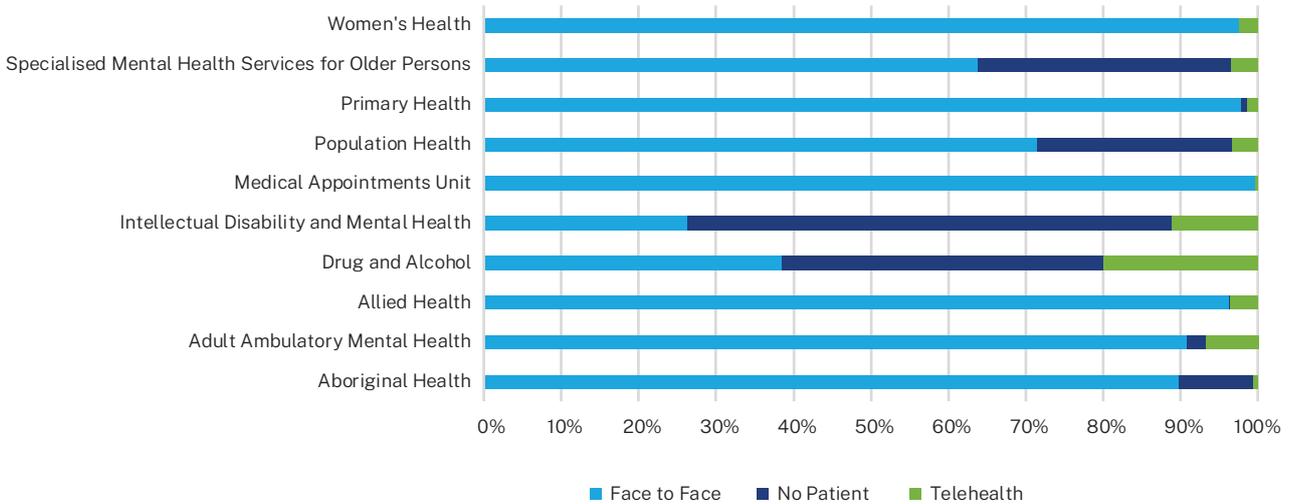
Clinic speciality	Non-Aboriginal		Aboriginal		Not stated	Total
	Female	Male	Female	Male		
	n (%)	n (%)	n (%)	n (%)		
Aboriginal health	-	-	929 (24.3)	2,864 (75.0)	27 (0.7)	3,820 (100.0)
Adult ambulatory mental health	3,764 (8.4)	27,371 (60.9)	2,711 (6.0)	10,489 (23.4)	578 (1.3)	44,913 (100.0)
Allied health	214 (4.1)	3,593 (69.0)	128 (2.5)	1,154 (22.2)	116 (2.2)	5,205 (100.0)
Drug and alcohol	7,447 (11.1)	32,505 (48.5)	5,816 (8.7)	20,144 (30.0)	1,163 (1.7)	67,075 (100.0)
Intellectual disability and mental health	12 (3.9)	142 (46.1)	32 (10.4)	122 (39.6)	0 (0.0)	308 (100.0)
Medical appointments unit	0 (0.0)	2,765 (79.2)	0 (0.0)	646 (18.5)	78 (2.2)	3,489 (100.0)
Population health	1,197 (6.6)	9,057 (50.3)	1,123 (6.2)	6,246 (34.7)	400 (2.2)	18,023 (100.0)
Primary health	34,833 (6.8)	312,194 (60.8)	22,985 (4.5)	133,191 (25.9)	10,665 (2.1)	513,868 (100.0)
Specialised mental health services for older persons	0 (0.0)	577 (89.5)	0 (0.0)	38 (5.9)	30 (4.7)	645 (100.0)
Women's health	908 (63.0)	0 (0.0)	511 (35.5)	0 (0.0)	22 (1.5)	1,441 (100.0)
Not stated	1 (8.3)	5 (41.7)	1 (8.3)	5 (41.7)	0 (0.0)	12 (100.0)
Total	48,425 (7.3)	388,427 (58.9)	34,259 (5.2)	174,935 (26.5)	13,079 (2.0)	659,125 (100.0)

Note. Attended appointments only.

The mode of delivery for attended appointments differed by clinical speciality; 19.9% ($n = 13,345$) of drug and alcohol appointments occurred through telehealth, and 41.7% ($n = 27,955$) were with no patient (see Figure 4.8). The majority (97.9%, $n = 502,965$) of primary health appointments were face-to-face, and only 1.3% ($n = 6652$) were telehealth. However, analysis of primary health by the healthcare provider profession showed that 19.5% ($n = 3490$) of the primary health appointments conducted by general practitioners and 2.8% ($n = 9$) of those conducted by consultants occurred through telehealth. This proportion was 0.6% ($n = 3140$) of appointments conducted by a nurse.

FIGURE 4.8

Clinic Specialty by Mode of Delivery

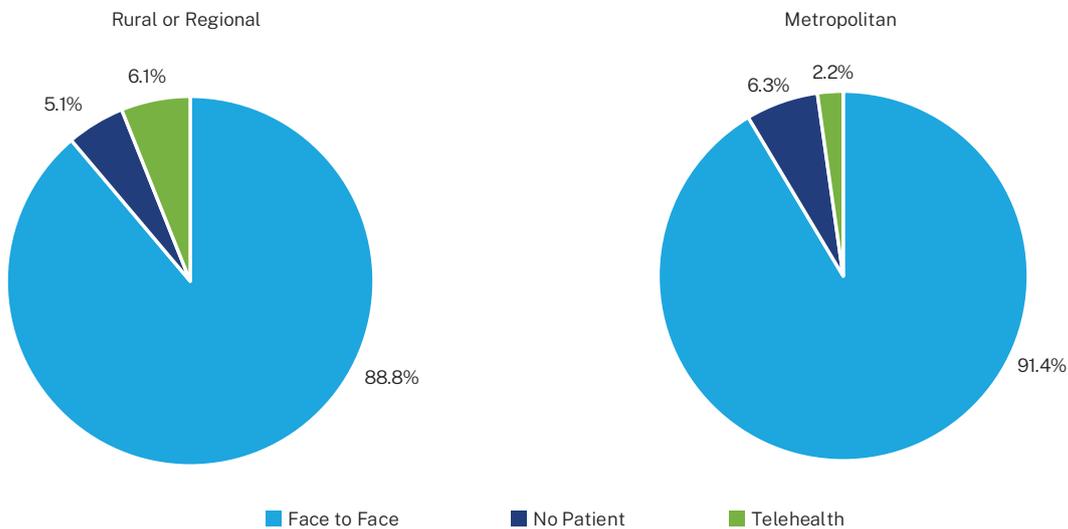


Note. Attended appointments only.

The mode of delivery also differed by clinic location; 6.1% ($n = 14,585$) of the attended appointments in rural or regional clinics were via telehealth, whereas this proportion was only 2.2% in metropolitan clinics. Ninety-one per cent ($n = 383,260$) of the attended appointments in metropolitan clinics were face-to-face, and this proportion was 88.8% ($n = 213,082$) in rural or regional clinics.

FIGURE 4.9

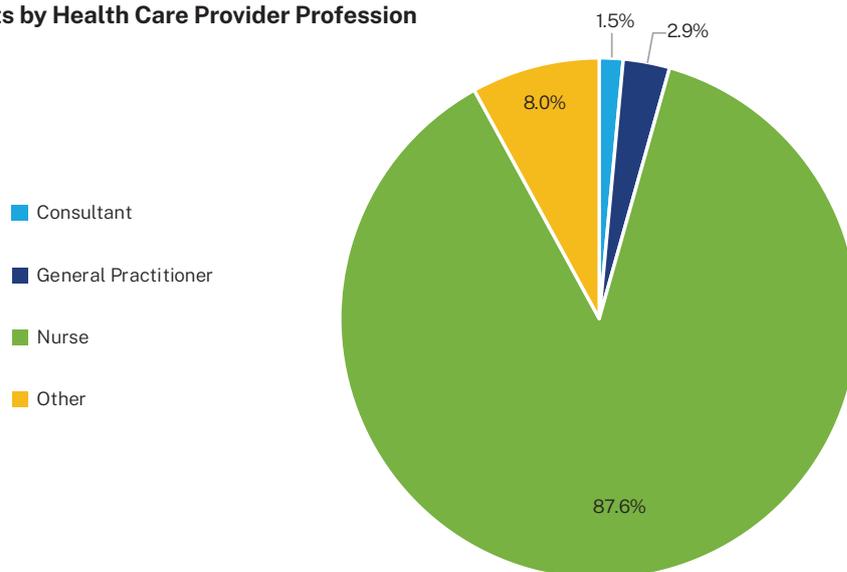
Clinic Location by Mode of Delivery



Note. Attended appointments only.

The healthcare provider's profession for the majority (87.6%) of the attended appointments was a nurse. General practitioners and consultants were the healthcare providers for 2.9% ($n = 19,125$) and 1.5% ($n = 9,750$) of appointments, respectively. Other healthcare practitioners and medical staff were the healthcare provider for 8.0% ($n = 52,750$) of appointments (see Figure 4.10).

FIGURE 4.10
Attended Appointments by Health Care Provider Profession



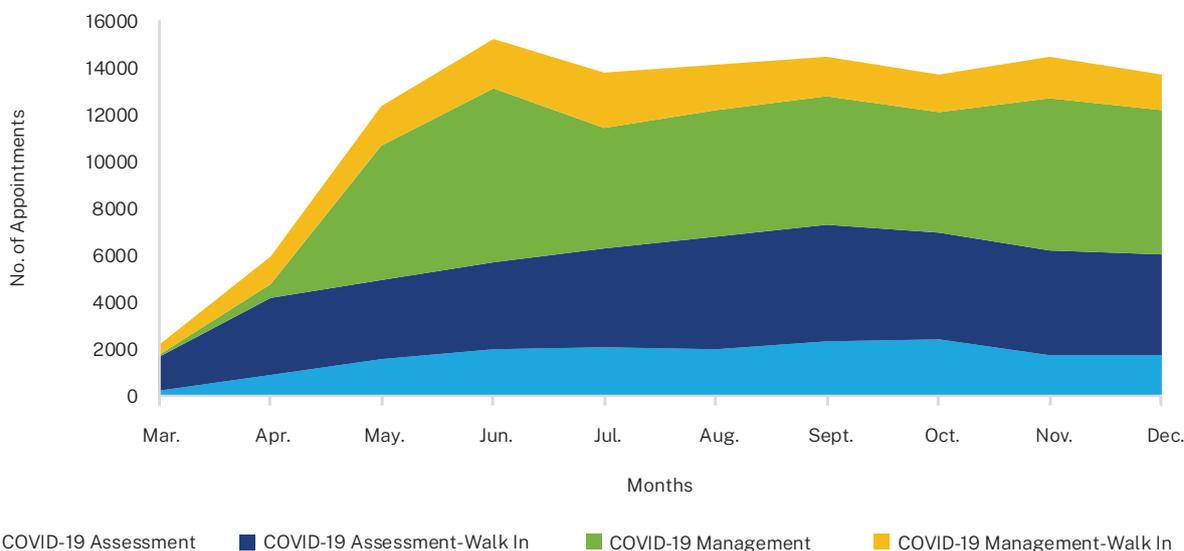
Note. Attended appointments only. Other includes dentist, diagnostic radiography, midwife, nurse practitioner, occupational therapist, physiotherapist, social worker and other healthcare practitioners and medical staff.

In total, there were 119,476 attended appointments for COVID-19 in 2020, representing 18.1% of all attended appointments. Four types of COVID-19 appointments were recorded in the PAS data:

1. COVID-19 Assessment
2. COVID-19 Assessment Walk-In
3. COVID-19 Management
4. COVID-19 Management Walk-In

COVID-19 Management represented 39.9% ($n = 47,692$) of all attended COVID-19 appointments, followed by COVID-19 Management Walk-In, which represented 13.5% ($n = 16,084$). Figure 4.11 shows the number of COVID-19 attended appointments by month; there was a sharp increase in the total number of appointments from 2129 in March to a peak of 15,178 in June. The sharp increase was mainly due to the increase in COVID-19 management appointments.

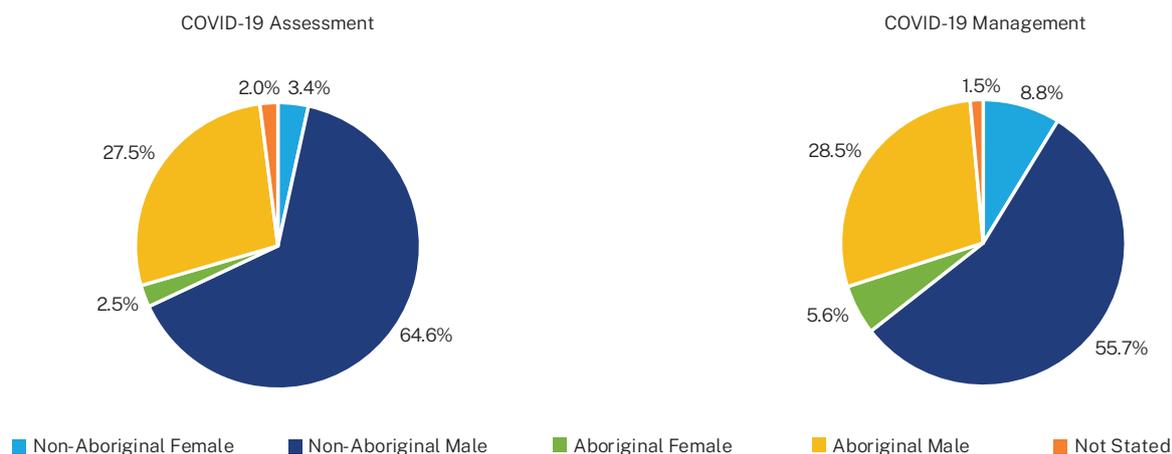
FIGURE 4.11
Attended COVID-19 Appointments by Month



Note. Attended appointments only.

We combined COVID-19 assessment and assessment walk-in (COVID-19 assessment) and COVID-19 management and management walk-in (COVID-19 management). Figure 4.12 presents COVID-19 attended appointments by Aboriginal identity and sex. Nearly two-thirds (64.6%, $n = 35,977$) of the attended COVID-19 assessment and 55.7% ($n = 35,502$) of the attended COVID-19 management appointments were by non-Aboriginal men. Similar proportions of COVID-19 assessment and management appointments were attended by Aboriginal men (27.5% and 28.5%, respectively). Women attended only 5.9% ($n = 3304$) of COVID-19 assessment appointments and 14.4% ($n = 9179$) of COVID-19 management appointments.

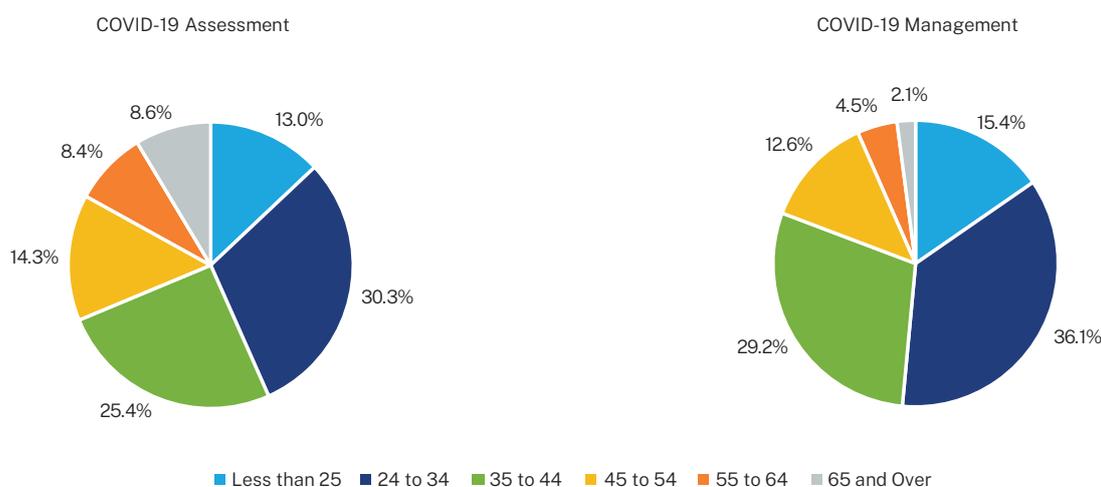
FIGURE 4.12
COVID-19 Appointments by Aboriginal Identity and Sex



Note. Attended appointment only.

More than two-thirds (68.7%, $n = 38,279$) of the COVID-19 assessment and the majority (80.7%, $n = 51,485$) of COVID-19 management appointments were attended by patients younger than 45 years. In comparison, patients aged 45 years or more attended nearly one-third (31.2%, $n = 17,405$) of all COVID-19 assessment appointments and less than one-fifth (19.3%, $n = 12,290$) of COVID-19 management appointments (see Figure 4.13).

FIGURE 4.13
COVID-19 Appointments by Age Groups (Years)



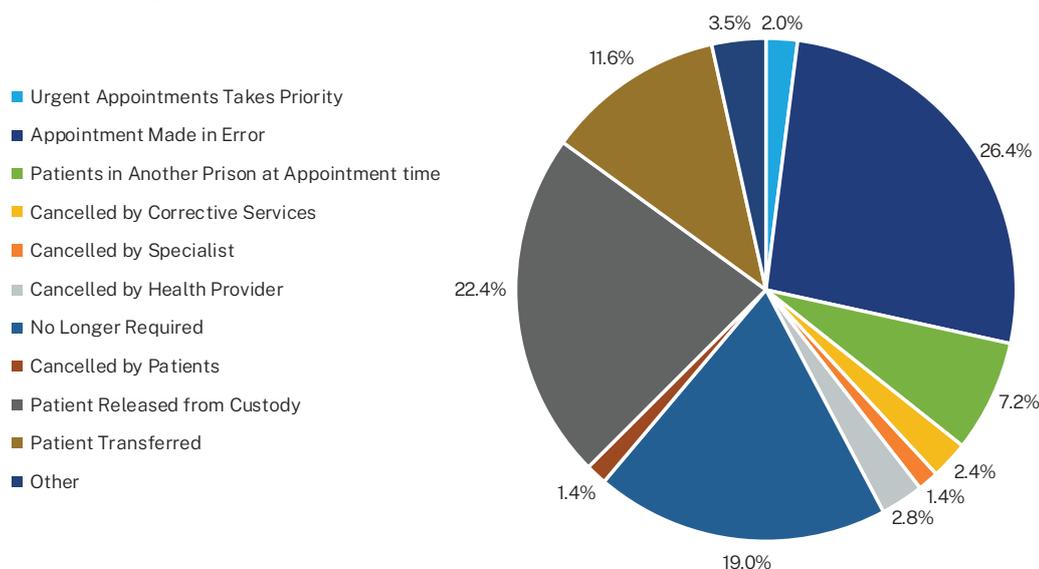
Note. Attended appointment only.

4.1.3 Cancelled Appointments

In 2020, there were 55,766 cancelled appointments. More than one-quarter (26.4%, $n = 14,722$) were cancelled because they were made in error, and 19.0% ($n = 10,579$) were cancelled because they were no longer required. Forty-one per cent of cancelled appointments were cancelled due to patients' unavailability, including their release or transfer to another prison. Only 758 (1.4%) appointments were cancelled by patients, and a similar proportion (1.4%) were cancelled by a specialist. CSNSW cancelled 1365 (2.4%) appointments (see Figure 4.14).

FIGURE 4.14

Cancelled Appointments by Reason for Cancellation



4.2 Priority Appointments

Appointments attended by patients in 2020 were prioritised as urgent, semi-urgent, non-urgent, routine or follow-up. Table 4.3 presents the definitions of waiting list priority categories according to the Justice Health NSW PAS Waiting List Priority Level Protocol (75).

TABLE 4.3

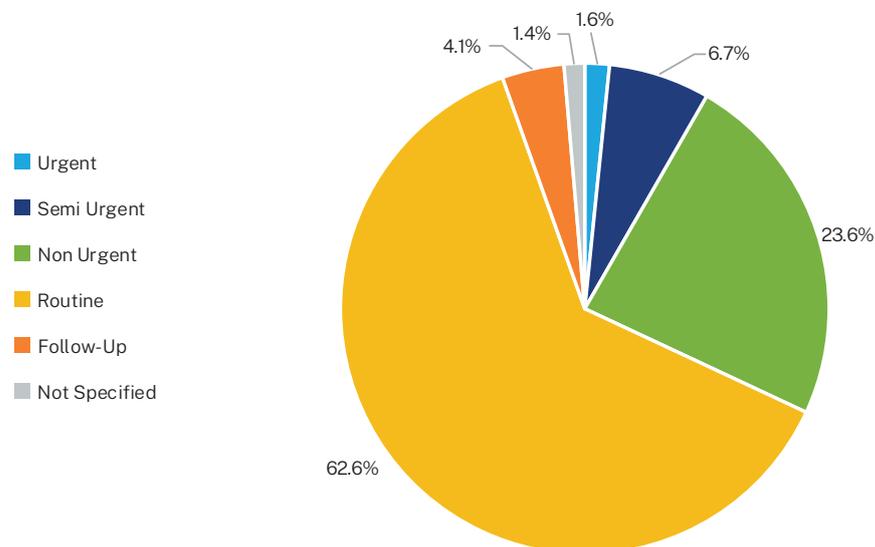
Definitions of Waiting List Priority Categories

Category	Priority level	Definition
Urgent	1	For patients whose health condition requires attention within one [1] to three [3] working days
Semi-urgent	2	For patients where lack of timely intervention may result in an adverse outcome and requires attention within three [3] to fourteen [14] working days
Non-urgent	3	For patients who are stable but will require attention within fourteen [14] days to three [3] months
Routine	4	For patient who require a routine intervention within twelve [12] months
Follow-up	5	For patients who have been treated and require a follow-up appointment. There is no specific timeframe for this priority; however, a mandatory seen-by date should be recorded.

Source: Justice Health NSW PAS Waiting List Priority Level Protocol (Page 4) (75).

Figure 4.15 illustrates that almost two-thirds (62.6%, $n = 501,786$) of appointments in 2020 were routine, and 1.6% ($n = 13,032$) were urgent.

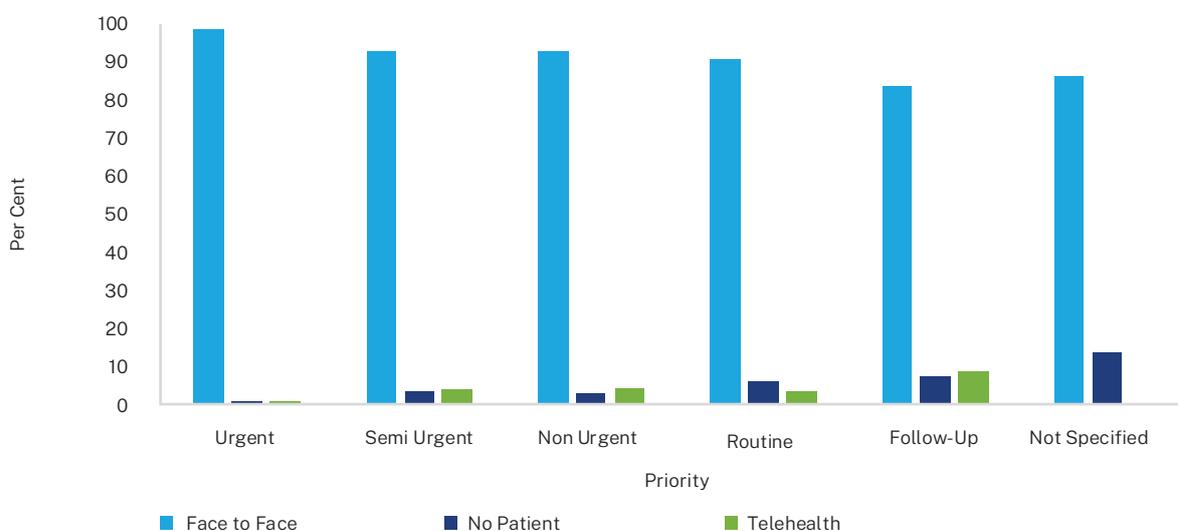
FIGURE 4.15
Priority of PAS Appointments in 2020



4.2.1 Priority Delivery Mode

Figure 4.16 highlights that throughout 2020, most appointments continued to be face-to-face irrespective of the priority. In 2020, appointments with a priority level of Urgent were more likely to be conducted face-to-face (98.2%, $n = 12,796$) than appointments with other priority ratings. Since the onset of the COVID-19 pandemic, many healthcare services have increased their use of telehealth appointments (76, 77), with patients and healthcare providers reporting satisfaction with this mode of delivery (76–78). Telehealth was highest for follow-up appointments (8.7%, $n = 2862$), followed by non-urgent appointments (4.4%, $n = 8267$).

FIGURE 4.16
Priority by Delivery Mode



4.2.2 Priority Clinic Specialty Type

Table 4.4 illustrates the number and proportion of appointments within each clinical specialty for each priority rating in 2020. Primary health represented over three-quarters (76.8%) of all appointments in 2020. Furthermore, primary health accounted for nearly three-quarters (72.7%) of urgent appointments and the highest proportion of appointments across every priority rating. The medical appointments unit accounted for 10.2% of urgent appointments, and drug and alcohol represented 7.4%. Primary health accounted for the majority of semi-urgent appointments (67.1%), followed by adult ambulatory mental health appointments (13.5%).

TABLE 4.4
Priority Clinic Specialty

Clinic specialty	Urgent	Semi-urgent	Non-urgent	Routine	Follow-up	Not specified	Total
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
Aboriginal health	6 (0.0)	107 (0.2)	1,785 (0.9)	2,047 (0.4)	825 (2.5)	2 (0.0)	4,772 (0.6)
Adult ambulatory mental health	576 (4.4)	7,260 (13.5)	13,962 (7.4)	29,926 (6)	4,527 (13.7)	426 (3.9)	56,677 (7.1)
Allied health	507 (3.9)	1,879 (3.5)	2,547 (1.3)	1,423 (0.3)	2,029 (6.2)	9 (0.1)	8,394 (1.0)
Drug and alcohol	959 (7.4)	4,583 (8.5)	12,292 (6.5)	57,647 (11.5)	3,263 (9.9)	12 (0.1)	78,756 (9.8)
Intellectual disability and mental health	0 (0.0)	0 (0.0)	195 (0.1)	161 (0.0)	0 (0.0)	0 (0.0)	356 (0.0)
Medical appointments unit	1,329 (10.2)	1,563 (2.9)	631 (0.3)	5,641 (1.1)	1,249 (3.8)	2 (0.0)	1,0415 (1.3)
Population health	156 (1.2)	1,706 (3.2)	7,102 (3.8)	11,688 (2.3)	2,368 (7.2)	330 (3.0)	23,350 (2.9)
Primary health	9,479 (72.7)	36,084 (67.1)	149,481 (79.0)	392,750 (78.3)	17,811 (54.1)	10,151 (92.8)	615,756 (76.8)
Specialised mental health services for older persons	1 (0.0)	31 (0.1)	613 (0.3)	16 (0.0)	1 (0.0)	0 (0.0)	662 (0.1)
Women's health	14 (0.1)	504 (0.9)	518 (0.3)	379 (0.1)	681 (2.1)	1 (0.0)	2,097 (0.3)
Not stated	5 (0.0)	25 (0.0)	76 (0.0)	108 (0.0)	178 (0.5)	0 (0.0)	392 (0.0)
Total	13,032 (100.0)	53,742 (100.0)	189,202 (100.0)	501,786 (100.0)	32,932 (100.0)	10,933 (100.0)	80,1627 (100.0)

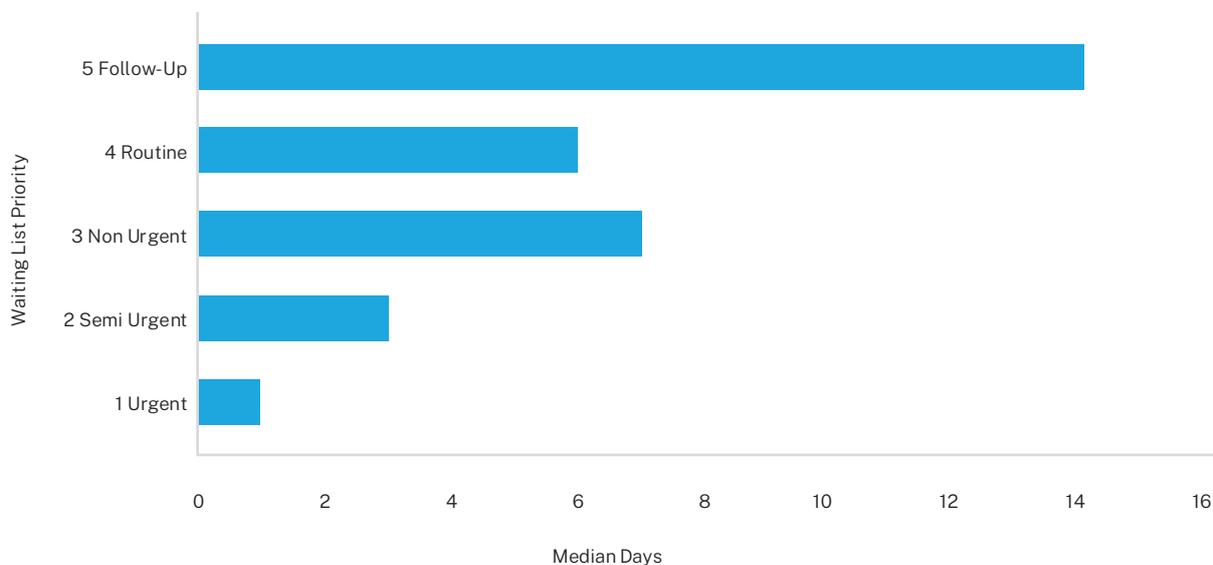
4.3 Waiting List

When considering the median days on the waiting list for attended appointments, records were included if the date on the waiting list was in 2020. Days on the waiting list were calculated from the date the patient was added to the waiting list (date on the list) to the date removed from the waiting list (waiting list removal date).

The median number of days patients were on the waiting list was six days. Figure 4.17 shows the median days on the waiting list by priority level (see Section 4.2 for priority categories). The median days on the waiting list for Priorities 1 and 2 (Urgent and Semi-Urgent) were one and three days, respectively.

FIGURE 4.17

Median Days on Waiting List by Waiting List Priority

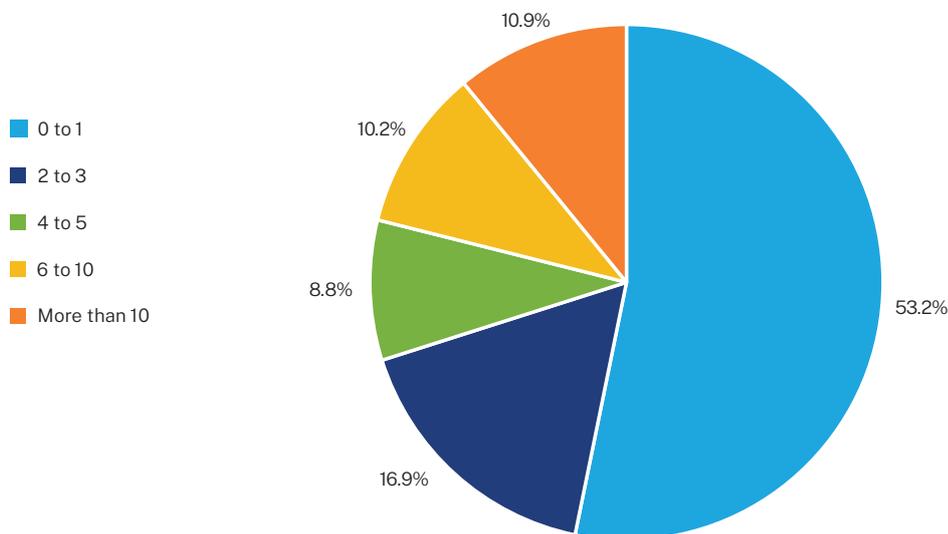


Note. For attended appointments only.

More than half (53.2%, $n = 885$) of patients triaged Priority 1 (Urgent) attended appointments on the same day or within one day of being on the waiting list. Seventeen per cent ($n = 281$) of the Priority 1 category patients attended appointments within two to three days of being put on the waiting list, and 8.8% ($n = 146$) within four to five days (see Figure 4.18).

FIGURE 4.18

Patients Triaged Priority 1 (Urgent) Waiting List by Number of Days on Waiting List



Note. For attended appointments only.

The median days on the waiting list differed by clinic speciality. For Priority 1 (Urgent), the median days on the waiting list were 0 or 1 for more than half (6 out of 11) of clinic specialities. Table 4.6 shows that for Priority 2 (Semi-Urgent), most clinic specialities (10 out of 11) had eight or less median days on the waiting lists.

TABLE 4.6
Median Days on Waiting List by Clinic Speciality and Priority

Clinic speciality	Priority				
	1 Urgent	2 Semi-urgent	3 Non-urgent	4 Routine	5 Follow-up
	Median days on waiting list				
Aboriginal health	7.0	6.0	21.0	38.0	35.0
Adult ambulatory mental health	3.0	3.0	10.0	12.0	13.0
Adult court liaison service	0.0	0.0	0.0	5.0	0.0
Allied health	1.0	8.0	36.5	17.0	21.0
Drug and alcohol	1.0	1.0	16.0	14.0	14.0
Intellectual disability and mental health	0.0	0.0	0.0	0.0	0.0
Palliative care team	0.0	0.0	0.0	141.0	0.0
Population health	2.0	7.0	12.0	10.0	13.0
Primary health	2.0	4.0	4.0	2.0	9.0
Specialised mental health services for older persons	2.0	0.0	0.0	0.0	0.0
Women's health	0.0	22.0	60.0	68.0	21.0
Total	1.0	3.0	7.0	6.0	14.0

Note. For attended appointments only.

4.4 Inpatient Admissions

In 2020, there were 1824 inpatient admissions for 1092 patients admitted to Justice Health NSW-operated hospital wards and specialised units within correctional centres. These include the Bathurst Detoxification Ward, Drug Court Unit, Grafton Detoxification Unit, Long Bay Hospital (LBH) Aged Care Rehabilitation Unit, LBH Mental Health Unit (MHU) E ward, LBH MHU F Ward, LBH MHU G Ward, Metropolitan Remand and Reception Centre (MRRC) High Dependency Unit, MRRC Sub Acute Unit 1, MRRC Sub Acute Unit 2, Silverwater Women's Annex and Silverwater Women's MHU.

Figure 4.19 shows the proportion of inpatient admissions in 2020 according to Aboriginal identity and sex. Just over half (52.0%, $n = 948$) of all inpatient admissions were for non-Aboriginal men. The lowest proportion of inpatient admissions was for Aboriginal women (7.9%, $n = 145$).

FIGURE 4.19

Inpatient Admissions by Aboriginal Identity and Sex

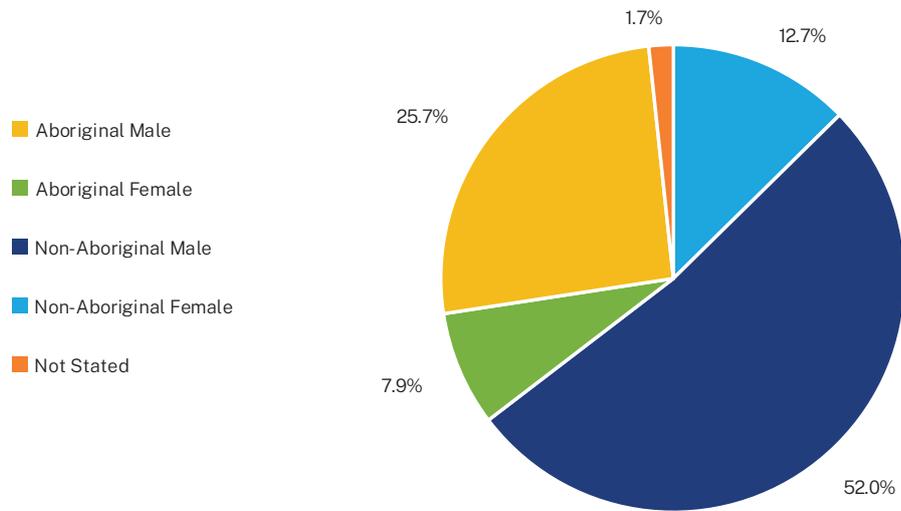
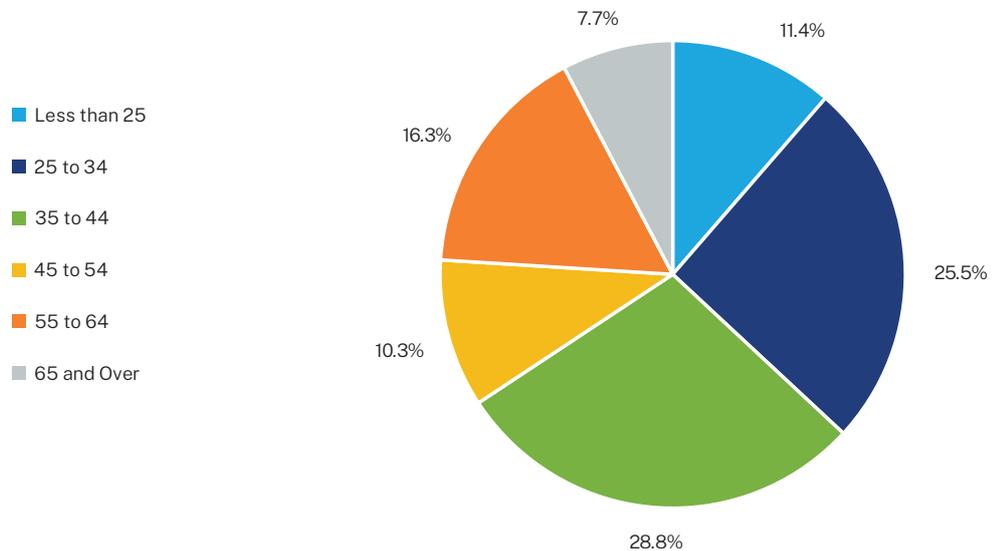


Figure 4.20 provides an overview of inpatient admissions by age group. A higher proportion of patients younger than 45 years had inpatient admissions in 2020 (65.7%, $n = 1199$) than patients aged 45 years or over (34.3%, $n = 625$). Patients aged 34–44 years accounted for more than one-quarter (28.8%, $n = 526$) of all inpatient admissions in 2020.

FIGURE 4.20

Inpatient Admissions by Age Group (Years)



The LBH Medical–Surgical Unit had the highest proportions of admissions in 2020, more than one-third (35.5%, $n = 647$) of all admissions. The majority of the admissions to the LBH MHU wards were for men (89.6%, $n = 69$). Almost two-thirds (62.1%, $n = 402$) of admissions to the LBH Medical–Surgical Unit were for non-Aboriginal men. For women, over half of all inpatient admissions were to the Silverwater Women’s Annex, representing 55.8% of all admissions for non-Aboriginal women ($n = 129$) and 52.4% ($n = 76$) for Aboriginal women.

The median inpatient stay was five days, ranging from 7.7 days for people aged 65 years or over to 28.8 days for people aged 35 to 44 years. Generally, non-Aboriginal patients had a longer median stay than Aboriginal patients (7 and 6 days for non-Aboriginal men and women, respectively v. 1 and 5 days for Aboriginal men and women, respectively).

4.5 Alerts

Alerts provide time-sensitive information that requires a clinician’s immediate action or attention and convey the highest level of importance (79). Alerts can be clinical or non-clinical (see Chapter 2 Method for the definition of the active alert). There were 20,717 patients with at least one active clinical or non-clinical alert in 2020. Of these, 82.5% ($n = 17,092$) were patients with at least one active clinical alert. Gastrointestinal condition alerts were the most prevalent (18.3%, $n = 3121$) among patients with at least one active clinical alert, followed by alerts for people on methadone ($n = 1900$) and people enrolled in the pharmacy-led Self-Medication Program ($n = 1790$) (see Figure 4.21).

FIGURE 4.21

Top 20 Clinical Alerts

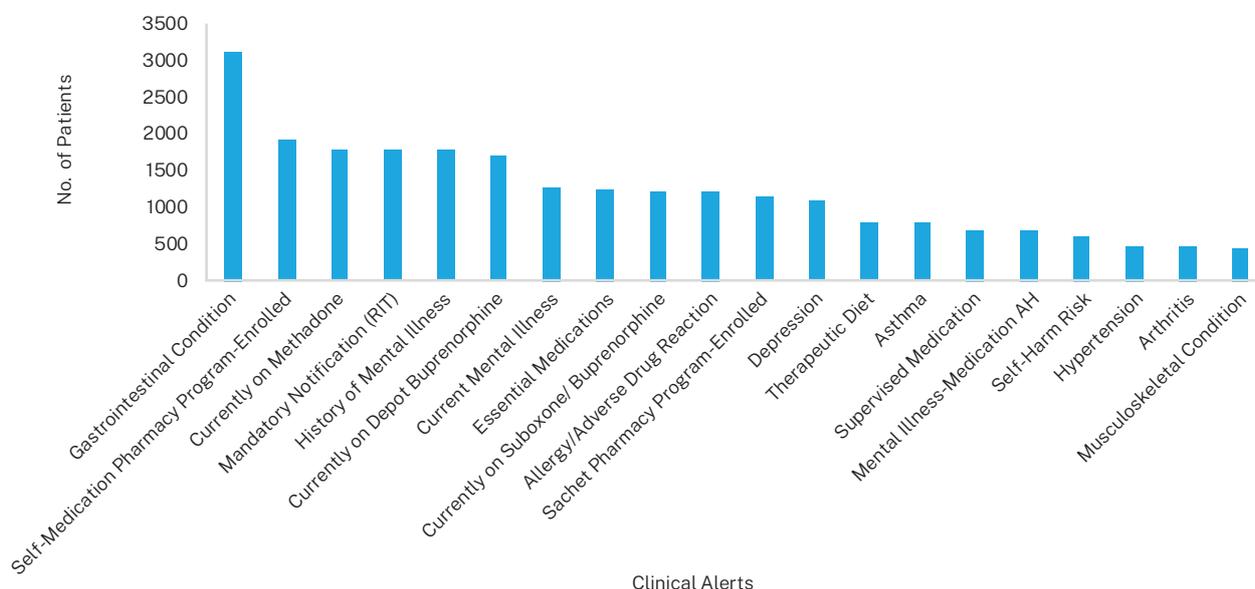
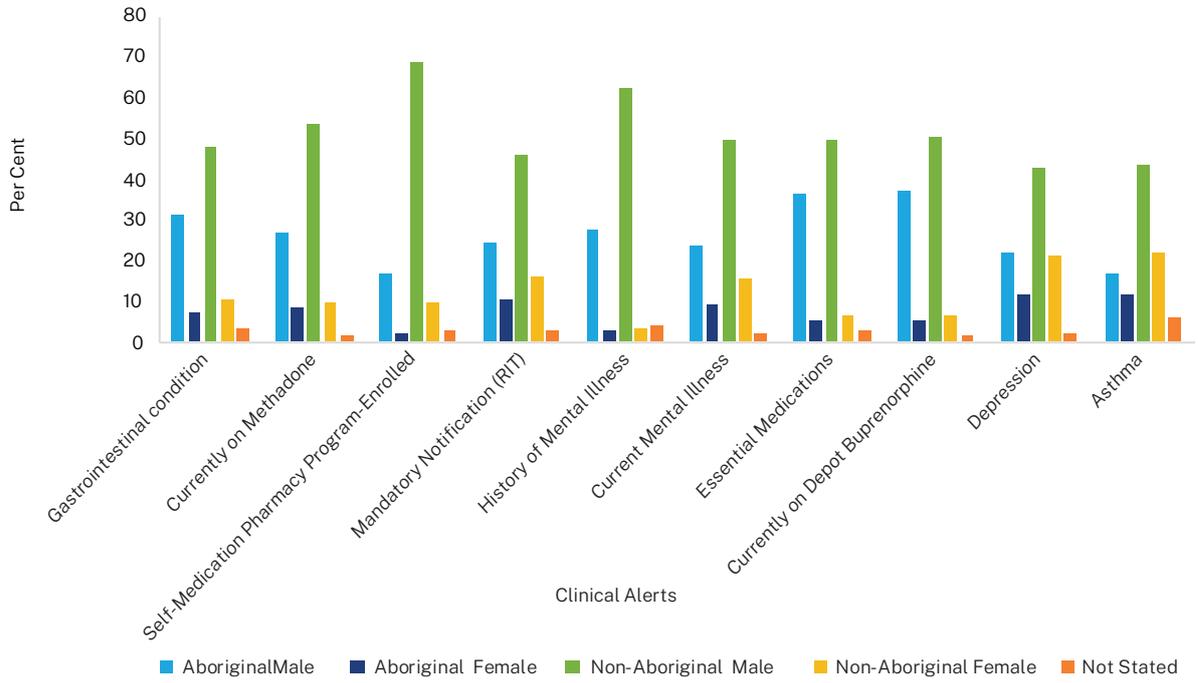


Figure 4.22 shows the top 10 active clinical alerts by Aboriginal identity and sex. The highest proportion of active clinical alerts among Aboriginal patients (41.9%, $n = 518$) was for those on depot buprenorphine (5.1% Aboriginal women and 36.8% Aboriginal men). The highest proportion of active clinical alerts among non-Aboriginal patients (78.2%, $n = 1400$) was for those enrolled in the pharmacy-led Self-Medication Program (9.7% non-Aboriginal women and 68.5% non-Aboriginal men). Although women represented 18.0% ($n = 3070$) of patients with at least one active clinical alert, they accounted for 35.6% ($n = 432$) and 34.0% ($n = 413$) of patients who had an active alert for asthma and depression, respectively. Men represented the majority (93.1%, $n = 1648$) of patients with an active alert for a history of mental illness and accounted for 75.5% ($n = 1277$) of patients with an alert for current mental health illness (see Figure 4.22).

FIGURE 4.22

Top 10 Active Clinical Alerts by Aboriginal Identity and Sex





5. Discussion

This report is the first in a series that utilises real-world data collected by Justice Health NSW to describe the health and service utilisation of people in NSW public prisons. Using routinely collected data provides effective and timely evidence, which enables Justice Health NSW to provide clinical care based on contemporary findings. Additionally, the information included in this report will contribute to the body of national and international literature on the health and service utilisation of people in prison.

5.1 Key findings

5.1.1 Health Status of Specific Population Groups

5.1.1.1 Women's Health

The results of this study highlighted the physical and mental health disparities between women and men. Several factors have contributed to the complex health needs of women in prison, including low education, out-of-home care, sexual violence, and early childhood abuse and poverty (80–83). Women in prison have a higher risk of physical abuse, emotional abuse and intimate partner violence; 87% of women in prison have been victims of abuse either in their childhood or adulthood (80, 84, 85). Additionally, the risk of dying from violence is 16 times higher among women released from prison than women in the general population (85).

A higher proportion of women than men had active asthma and drug allergy (16.7% v. 28.8% and 7.9 v. 16.3%, respectively). Additionally, 5.2% of women who entered prison in 2020 were underweight compared to 2.6% of men.

More than one-third (36.4%) of women who entered prison in 2020 and completed the K10 questionnaire were in moderate or severe distress at reception, and more than half of Aboriginal women (53.5%) and non-Aboriginal women (51.8%) reported having treatment for a mental health issue at some stage of their life. A higher proportion of women than men also reported self-harm and suicide attempts. The study results are consistent with previously published literature on women's health in prison (4, 86).

In addition to their physical and mental health differences, our data shows that substance use was different for women than men. The *People in NSW Public Prisons* study showed that smoking rates were higher for women entering prison than men. These results are consistent with findings from the AIHW's *Health of Australian Prisoners 2018* study, which found that 86% of Australian women and 74% of Australian men entering prison reported smoking (7). A higher proportion of women than men reported daily alcohol consumption (31.6% v. 25.0%) and methamphetamine use (38.0% v. 27.7%).

These gender-based trends in substance use have implications for women in custody. For example, disparities have been found in outcomes of methamphetamine use according to sex, with females experiencing greater anxiety symptoms during withdrawal, higher severity of psychiatric problems, and higher levels of major depressive disorder and post-traumatic stress disorder (87). Therefore, the high rates of stimulant use by women who entered prison may have implications for the health of women in custody and their support needs. Women in prison have a high prevalence of lifetime trauma and related substance use disorder (88–90). Given the higher prevalence of stimulant, opioid use, and daily alcohol consumption for women, gender-specific drug and alcohol treatment programs may provide an opportunity for women to address this in custody (89, 91). These findings also support trauma-informed health care for women in custody (88, 89, 92).

Sixty-one women (4.0%) were pregnant at the time of reception. Due to the health comorbidities of women in the justice system, pregnant women in prison have complex needs, including healthcare, education, counselling, physical and nutrition and substance use management needs (93). Among our cohort of pregnant women, more than two-thirds (67.2%) reported smoking and more than half (54.1%) reported drug use before incarceration. Substance use during pregnancy is a preventable risk factor for adverse prenatal outcomes worldwide (94). Previous research shows that multiple interventions are needed to improve perinatal outcomes for mothers and babies born to women with substance use disorders (94, 95).

5.1.1.2 Aboriginal Health

Several factors have affected Aboriginal people's health, substance use and rates of incarceration. These include historical factors such as European colonisation, settlement, and the stolen generation (96–99), the ongoing impact of which has led to Aboriginal people experiencing intergenerational trauma, and having lower formal education, lower average income, poorer housing conditions and higher unemployment compared to other non-Aboriginal Australians (100).

Aboriginal women were more likely to report treatment for mental health issues and previous self-harm attempts than Aboriginal men and non-Aboriginal men and women; they also had a higher prevalence of depression than Aboriginal men. Self-reported substance use preceding entry to custody, including smoking, alcohol and drug use, was more prevalent among Aboriginal people than non-Aboriginal people. These results are consistent with those published in the 2015 *Network Patient Health Survey – Aboriginal People's Health Report* (101). Chronic health conditions such as diabetes, respiratory, and cardiovascular conditions are more prevalent among Aboriginal people than the general Australian population. Additionally, Aboriginal Australians have 1.3 times the rate of mental health problems than non-Aboriginal people (100).

Substance use patterns differed between Aboriginal and non-Aboriginal people. The prevalence of smoking was higher among Aboriginal people and was highest for Aboriginal women aged 45 and over. This finding has implications for the health outcomes of Aboriginal populations in prison. In a study of participants of the *45 and Up Study*, Thurber et al. (2021) estimated that half of the deaths among Aboriginal and Torres Strait Islander adults aged 45 years and over were attributable to smoking, and mortality risk was significantly lower for ex-smokers (61). The trends in smoking found in this study may reflect a disadvantage among those cohorts, as the prevalence of smoking is higher among community groups that experience greater levels of disadvantage (102, 103). Smoking also leads to poorer health outcomes for this cohort. Tobacco smoking is linked to mortality and diseases such as cancer, COPD and cardiovascular diseases (62). The effect of disease associated with tobacco use is higher for people from some marginalised populations, including those from the lowest socioeconomic groups and people with mental health conditions, Aboriginal and Torres Strait Islander people, people in prison and those in remote and very remote areas (103).

Aboriginal men and women also reported higher proportions of cannabis use than non-Aboriginal men and women. In addition to its physical health effect, cannabis use has an adverse effect on social and emotional wellbeing and mental health, such as depression, anxiety and increased risk of suicide (98). Our results also show that intravenous injection was the most common route of stimulant administration among Aboriginal people. This result is consistent with the literature on injecting drug use among Aboriginal people, which shows that Aboriginal people are more likely to administer drugs through intravenous injection, especially if they have a history of imprisonment (104–106).

5.1.1.3 People with CALD Background

Health outcomes of CALD people in the general Australian population and prisons can be affected by structural factors, such as difficulty in navigating and accessing the health system, and personal factors, such as cultural beliefs and language barriers (107). The results of our study show that CALD people have different health and substance use profiles than non-CALD people. Analysis of data on physical health shows that CALD people had higher proportions of cardiovascular diseases, diabetes and obesity than non-CALD people. These findings are consistent with the published research on the physical health of CALD people in the community (108, 109). However, the proportions of asthma and hepatitis C were lower among CALD than non-CALD people.

A lower proportion of CALD people who entered prison in 2020 were in moderate to severe distress than non-CALD people (12.5% v. 32.2%). Similarly, the reported proportion of treatment for mental health issues was lower among CALD people than non-CALD people (33.9% v. 49.1%). However, similar proportions of response to treatment were reported by CALD and non-CALD people. There is limited literature on the mental health of CALD people in prison. A study conducted by Rose et al. (2020) among cross-cultural groups in maximum security prisons in Victoria, Australia, did not find a difference in

the mental health profile of CALD and non-CALD people (11). The authors suggested that involvement with the justice system is an independent factor associated with the mental health of people in prison, regardless of their cultural difference (11).

Although some CALD people are more vulnerable to drug and alcohol use due to a history of trauma, torture, grief and family stressors (110), our results show that CALD people reported lower proportions of smoking, alcohol consumption and drug use. Our results are consistent with the results published by AIHW in the *Alcohol, Tobacco and Other Drugs in Australia* report (111), which showed that CALD people are less likely to report smoking, consuming alcohol and using drugs (111).

5.1.1.4 Older Population

The proportion of people aged 45 and over in the NSW prison population has increased from 19.7% in 2011 to 25.4% in 2021 (5, 112). Of people who entered prison in 2020, 17.2% were aged 45 years and older. People in prison experience age-related health problems earlier than people in the general population due to their social and lifestyle characteristics (113). Previous literature suggests that older people in prison have a higher rate of depression and suicidal ideation (57, 58). While suicidal thoughts are higher among the older population, a recent study by Stoliker et al. (2020) found that suicide attempts are higher among young people in prison than their older counterparts (114). Our results similarly show that the proportion of reported suicide attempts among our population generally decreased with age.

One-quarter of older people who entered prison in 2020 were in moderate or severe distress at reception. Although there was no difference in the proportion of depression reported by young (< 45 years) and older (≥ 45 years) people with a history of mental health treatment, people aged 65 and over who have had treatment for mental health issues reported the highest proportion of depression (61.1%) of all age groups.

We found different substance use profiles for people aged 45 years and over and those aged less than 45 years. While young people are more likely to report drug use, people aged 45 years and older are more likely to report alcohol consumption. Additionally, people aged 45 years and older reported daily use of alcohol at a higher prevalence than those under 45 who reported daily alcohol consumption. The age cohort with the highest prevalence of daily alcohol consumption was people aged between 55 and 64 years of age. Almost half (43.0%) of those who reported alcohol consumption in the four weeks before entering custody reported consuming alcohol daily. This result supports the findings of the systematic review conducted by Haesen et al. (2019), which found that alcohol was the most commonly used substance by older people in prison, and they were more likely to use alcohol than illicit substances in contrast to younger prisoners.

Older people in prison have been found to use alcohol at higher rates than younger people (58, 113) and age-based peers in the community (58). Among the general Australian population, people aged in their 70s, followed by people aged in their 60s, are the cohorts with the highest and second highest prevalence of daily alcohol consumption (115).

Alcohol consumption has implications for the health of older prisoners (116). Gates et al. (2017) found that ageing offenders with a history of alcohol, cannabis or injecting drug use were more likely to have a diagnosis of a cardiovascular disorder (117). In the general Australian population, alcohol use was the second highest risk factor contributing to the burden of disease in 2018. Alcohol use is related to various health problems and is responsible for 40% of the disease burden from liver cancer, 25% from road traffic injuries and 19% from chronic liver disease (111).

5.1.2 Total Study Cohort's Health Status

5.1.2.1 Physical Condition

More than one-third of people who entered prisons in 2020 reported a history of at least one health condition, and 12.4% reported a history of two or more conditions. The most commonly reported health condition was asthma, with 12.3% of the study cohort reporting a history of asthma. This proportion was lower than that among prison entrants who participated in the 2018 NPHDC conducted by AIHW, where 22.0% of prison entrants reported having asthma (7).

When using the active health condition records from JHeHS, the prevalence of asthma among our population increased to 18.9%. This proportion was higher than the 10.7% reported in the 2020–2021 *National Health Survey* (118). Although the prevalence of asthma among our population is higher than in the general Australian population, it is lower than the self-reported prevalence of asthma reported by prison entrants who participated in the 2018 NPHDC (7). This finding may indicate the under-diagnosis of asthma among our population. Like asthma, the proportion of hepatitis C increased from 2.9% reported at reception to 11.1% of active cases recorded in JHeHS. Diabetes also increased in prevalence, from 2.6% to 3.9%, which was lower than the 6% reported by NPHDC participants (7). It is also lower than the estimated proportion of people with diabetes among the general Australian population (5.0%) (119).

The difference between self-reported health conditions and active health conditions from JHeHS can be partly explained by the under-reporting of self-reported health conditions. Previously, published research showed that the accuracy of self-reported health condition data is associated with the type and severity of the health condition (120–122). For example, people with mild asthma are less likely to report their asthma (122). Additionally, due to the asymptomatic presentation of certain health conditions and limited access to health services, people in prison may be unaware of their condition (120).

Being in prison presents an opportunity to identify physical and mental health conditions to allow intervention in prisons and the community after release to improve patients' outcomes (28, 96). In prison, the detection of chronic conditions such as asthma can be associated with reducing asthma-related mortality after release. Compared to the general population, people released from prison are three times more likely to die from asthma and two and a half times more likely to die from drug-related causes (111).

5.1.2.2 Mental Health

The mental health of people in prison is a major global public health challenge (123). Although people in prison have high rates of mental health problems, these problems are usually underdiagnosed and poorly treated (10). Just over half (55.7%, $n = 4,788$) of people who entered prison in 2020 completed the Kessler 10 questionnaire, of whom 30.3% were in moderate to severe psychological distress. This result is higher than that published by AIHW in the *Health of Australia's Prisoners 2018* report (26%) (7). However, the AIHW used a slightly different scoring procedure in the NPHDC, where a score of 22–29 was classified as high distress (7). In our study, scores between 25 and 29 were classified as moderate distress. In the AIHW survey and our study, a score of 30–50 indicated severe or very high distress. By comparison, the prevalence of high to very high psychological distress among the general Australian population was 13% in 2017–2018 (124).

Almost half of the study cohort reported having treatment for a mental health condition at some stage. Depression and anxiety were the two most common mental health conditions reported by people who had mental health treatment, representing 23.7% and 18.1% of people who entered prison in 2020, respectively. Results from *The National Study of Mental Health and Wellbeing* of adults aged 16 to 85 years show that in 2020–2021, 16.8% of the Australian population aged 16 to 85 had anxiety, and 7.5% had depressive episodes (124). Although our results show a higher proportion of depression and anxiety among our population compared to the general Australian population, we expect that these are underestimated as the RSA's mental health condition question was asked only for people who reported treatment for a mental health condition. This omission excludes mental health conditions among people who have not had treatment for mental health problems.

Self-harm and previous suicide attempts were reported by 12.8% and 11.8% of the study cohort, respectively. These proportions were 8.8% and 4.8% among the general Australian population (125). Of our cohort, 4.0% were hospitalised due to self-harm compared to 0.11% among the general Australian population (126). Self-harm is significantly associated with suicidal ideation, with 40% of people who reported suicidal ideation also reporting a history of self-harm (127).

Suicide attempts were reported by one-third of people who entered prison in 2020 and had a family history of suicide attempts and/or self-harm; this proportion was 9.7% among people with no family history of suicide attempts or self-harm. A systematic review conducted by Favril et al. (2020), which identified risk factors for self-harm in prison, found that recent suicide ideation and lifetime history of suicide ideation were strongly associated with self-harm in prison (128). Mental health conditions such as

major depression and borderline personality disorder were also strongly associated with self-harm, while criminogenic factors and sociodemographic factors, such as a family history of suicide or self-harm, were modestly associated with self-harm (128).

5.1.2.3 Substance Use

A high proportion of people who entered prison in 2020 reported tobacco smoking, daily alcohol use and drug use, consistent with the findings of previous studies of substance use by the prison population (4, 7). People who use drugs are over-represented in the prison population. People in prison have been identified as engaging in greater risk-taking behaviour in relation to their substance use, including injecting drug use (7, 47); they have a higher prevalence of smoking and alcohol consumption at high-risk levels (7, 129, 130). The *People in NSW Public Prison* study highlights that people in prison continue to smoke tobacco at a higher rate than the general population, that methamphetamines are used at high rates, and that opioids continue to be the most injected substance among people who entered prison.

Methamphetamine was the most prevalent illicit substance used by prisoners in the four weeks before entering custody, representing over half of all reported illicit substance use within that timeframe. Almost a third (29.6%) of the total population entering prison in 2020 had used methamphetamine in the previous four weeks. Previous studies have highlighted the high prevalence of methamphetamine use in prisoner cohorts (7, 59). There is also evidence that the prevalence of methamphetamine use is increasing among prisoner populations. In the most recent *Drug Use Monitoring in Australia (DUMA)* study, the Australian Institute of Criminology found that between 2013 and 2019, the proportion of prison detainees who tested positive for methamphetamine increased from 32% to 50%; those reporting methamphetamine use in the 30 days before prison entry increased from 36% to 48% (131).

Methamphetamine use has been associated with negative health and social outcomes (132, 133). For example, Cumming et al. (2020) found positive associations between methamphetamine use and the cost of crime, and methamphetamine use and recidivism (132). The literature also suggests that psychosis is one of the main health concerns for methamphetamine users (132, 133), as well as other adverse mental health outcomes, including depression, suicidality and violence (133). McKetin et al. (2018) found that methamphetamine use may lead to increased utilisation of acute care services, including emergency departments and psychiatric inpatient facilities, and a decrease in utilisation of non-acute community services, such as general practitioners (134).

People who entered prison in 2020 reported intravenous administration of opioids, including heroin and non-prescribed opioids, at a higher prevalence than other substances. A total of 69.7% of all prison entrants who reported heroin use in the four weeks before entering custody reported using intravenously. More than half (54.5%) of people who reported using non-prescribed opioids also reported using intravenously. Intravenous drug use is associated with higher risks of fatal and non-fatal overdose (135–137). Intravenous drug use is also associated with the transmission of communicable diseases (48, 138–140). As such, OAT is an important part of treatment for opioid use disorder (71) and has been found to reduce the risk of mortality for intravenous opioid users (141). This current study showed that 9.3% of people who entered prison in 2020 reported that they were on prescribed OAT, which was higher than that in the community. On a snapshot day in 2021, there were 23 pharmacotherapy clients per 10,000 people in Australia (142).

In 2020, methadone was the most commonly prescribed OAT reported by people entering prison. This prevalence was highest for Aboriginal women; 66.7% of Aboriginal women prescribed OAT were on methadone. A long-acting, depot formulation of the OAT buprenorphine that eliminates the need for daily OAT dosing has been released (142, 143). In 2018–2019, Buvidal® was introduced into NSW public prisons as part of a clinical research trial (143).

Given recent changes in OAT formulations available to people in NSW, we expect that the proportion of people in prison on a daily versus long-acting OAT formulation may have changed since 2020. The experiences of people at prison entry, in custody and on release on the depot versus daily dose formulations is an area for further study. An area for future research may be exploring re-incarceration rates for people prescribed long-acting depot OAT.

5.1.3 Service Utilisation

The previous section highlights the complex needs of people in prison, comorbidity of chronic diseases, mental health issues and substance use. These complex needs require high-quality health care for people in prison, particularly primary health care (144). This study showed 659,125 attended appointments in 2020. Men attended 83.2% of their booked appointments, while women attended 76.0%. There was no difference between Aboriginal and non-Aboriginal people for appointment attendance. Likewise, people aged under 45 years attended appointments in similar proportions to people aged 45 years and over.

More than three-quarters of booked appointments were primary health appointments, and 87.6% were with nurses. This result is higher than the 68% clinic visits conducted by a nurse reported by the AIHW in the *Health of Australia's Prisoners 2018* report (7). A study conducted in the United Kingdom showed that people in prison consult primary health workers 80 times more frequently than in the community (145). This study also reported that men and women consult healthcare workers 23 and 59 times per person-year, respectively (145). Of the primary health appointments conducted by Justice Health NSW primary care staff, non-Aboriginal men attended 60.8%, Aboriginal men attended 25.9%, non-Aboriginal women attended 6.8% and Aboriginal women attended only 4.5%.

The second highest proportion of attended appointments was for the drug and alcohol clinic. Around 67,000 attended appointments were for drug and alcohol appointments, representing 10.2% of all attended appointments. Nine per cent of clinical visits for people in prison who participated in the NPHDC were related to alcohol and other drug use (7). Ninety per cent of the attended appointments were conducted face-to-face. However, the COVID-19 pandemic has influenced the appointment mode of delivery. This change started to appear in June 2020 when the proportion of face-to-face appointments dropped to 90.1% from 93.3% in January 2020. Conversely, there was an increase in both 'no client' appointments and appointments by telehealth. This change in healthcare delivery reflects the effect of COVID-19 on the mode of delivery at Justice Health NSW, and is consistent with the changes in NSW more broadly and worldwide (146–148). It also shows how healthcare workers adapted to provide health care to our patients.

The Royal College of General Practitioners considers access to care as the first standard of health services in Australian prisons (149). People in prison vary in their needs, and the health system needs to be flexible to accommodate these needs (149). Justice Health NSW has classified waiting list priorities into five categories (see Table 4.4). The protocol stated that for Priority 1 (Urgent), patients should be seen within one to three working days. Waiting list data for attended appointments showed that the median waiting time for Priority 1 patients was one day; 70% of people in the Priority 1 category were seen within 0 to 3 days of joining the waiting list.

5.2 Limitations

Due to the self-reported nature of the RSA data, the reported health conditions and substance use may be underestimated. The inability to use some information from the RSA form due to the data's quality was a study limitation. For instance, we could not use the physical observations due to the high proportion of missing data. Additionally, there was a high proportion of missing data for the Kessler 10 scale, which limited the analysis to only 55.7% of people who entered prison in 2020.

Another limitation relates to the study population. The RSA system started in 2015, which allowed us to extract RSA and PAS records for people entering prison from 2015 onwards. As a result, we used data from this cohort for service utilisation and not from all people under Justice Health NSW care in 2020. Consequently, the number of appointments that occurred in 2020 and their related information was underestimated. However, the number of appointments in the service utilisation chapter represents 85.8% of all appointments in 2020.

The RSA and PAS data lack information on people in prison with disability. Previous research shows that approximately 50.0% of people in prison live with a disability (15). Further investigation is needed into the health of people with disability. In addition, data on transgender is not available within Justice Health NSW routinely collected data which limited our reporting by sex to male and female only. Changes in the

method of routine data collection to provide a more diverse range of options when identifying gender should be considered.

5.3 Impact on Policy and Recommendations

The *People in NSW Public Prisons* study provides evidence-based information that can inform Justice Health NSW policies and practices. These results provide further evidence of the need to improve the data routinely collected by Justice Health NSW. The study findings will inform models of care, planning and clinical redesign. Understanding the health status of specific population groups and how they utilise health services will enable the planning and design of tailored health care that is gender-specific, culturally responsive and trauma-informed. To enhance the ability of Justice Health NSW to do this, we recommend the following:

- 1. Evaluate and improve detection and recording of physical and mental health conditions:** Detecting and recording physical, mental health and substance use issues is the first step in a patient's healthcare journey. Some health conditions, such as asthma and diabetes, may be under-reported. We recommend further research to evaluate the identification and recording of health conditions.
- 2. Perform a second RSA:** Approximately one-third of people who entered prison experienced moderate to high distress. Additionally, one in 10 people were intoxicated or showed signs of withdrawal, affecting the accuracy of self-reported health conditions. Therefore, it is recommended that a multidisciplinary team conduct a second screening assessment within a few weeks of reception. The purpose of the second screening assessment would be to gather information about the health status of people who recently entered prison once their acute health care needs have been met. A second assessment would provide another opportunity to identify physical and mental health conditions and for early referral to specialist health care for people who had recently entered prison. The multidisciplinary team should include medical, allied health and Aboriginal health workers to facilitate a holistic assessment of health and wellbeing. A mixed modality incorporating virtual modes of care delivery could be considered to facilitate a second health screen post-reception. Virtual care modalities are effective, cost-efficient alternatives to face-to-face care with high patient satisfaction rates (77). Justice Health NSW could take the opportunity to expand virtual care modalities.
- 3. Expansion of RSA data collected to include social determinants of health:** It is well known that social determinants of health such as education, employment, housing and out-of-home care are important factors associated with health inequities (150). We recommend expanding the RSA process to include questions on the social determinants of health. This data could enable Justice Health NSW staff to identify and address the health care needs of people in prison, and also inform future research.

5.4 Conclusion

People in prison have complex physical and mental health needs. Certain populations, such as women, Aboriginal people and older people are more vulnerable than the general prison population. These groups require special attention from healthcare providers to address their vulnerabilities. Healthcare in prison settings provides the opportunity for services that are gender-specific, trauma-informed and needs-focused. Services tailored to meet the healthcare needs of all people in prison are an essential step towards the Justice Health NSW vision of *Together for Healthier Tomorrows*.



References

1. Corrections Health Service. Inmate Health Survey 1997. Sydney: Corrections Health Service; 1997.
2. Butler T, Milner L. The 2001 New South Wales Inmate Health Survey. Sydney: Corrections Health Service; 2003.
3. Indig D, Topp L, Ross B, Mamoon H, Border B, Kumar S, et al. 2009 NSW Inmate Health Survey: Key Findings Report. Sydney: Justice Health; 2010.
4. Justice Health and Forensic Mental Health Network. 2015 Network Patient Health Survey Report. Sydney: Justice Health and Forensic Mental Health Network; 2017.
5. Australian Bureau of Statistics (ABS). Prisoners in Australia. ABS; 2021. Accessed 25 August, 2022. <https://www.abs.gov.au/statistics/people/crime-and-justice/prisoners-australia/latest-release>.
6. Australian Bureau of Statistics (ABS). National, state and territory population. ABS; 2021. Accessed 30 June, 2022. <https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/dec-2021>
7. Australian Institute of Health and Welfare (AIHW). The Health of Australia's Prisoners 2018. Canberra: AIHW; 2019. Report No.: Cat. no. PHE 246.
8. Justice Health and Forensic Mental Health Network. Our network 2020. 2020. Accessed 20 June, 2022. <https://www.justicehealth.nsw.gov.au/publications/our-network-2020.pdf>
9. Fazel S, Baillargeon J. The health of prisoners. *Lancet*. 2011;377(9769):956–65. doi: 10.1016/S0140-6736(10)61053-7
10. Fazel S, Hayes AJ, Bartellas K, Clerici M, Trestman R. Mental health of prisoners: Prevalence, adverse outcomes, and interventions. *Lancet Psychiatry*. 2016;3(9):871–81. doi:10.1016/S2215-0366(16)30142-0
11. Rose A, Trounson JS, Louise S, Shepherd S, Ogloff JRP. Mental health, psychological distress, and coping in Australian cross-cultural prison populations. *J Trauma Stress*. 2020;33(5):794–803. doi: 10.1002/jts.22515
12. Binswanger IA, Stern MF, Deyo RA, Heagerty PJ, Cheadle A, Elmore JG, et al. Release from prison — a high risk of death for former inmates. *N Engl J Med*. 2007;356(2):157–65. doi: 10.1056/NEJMsa064115
13. Community Restorative Centre. Locked Out: The implementation of the NDIS for people in prison in NSW: 2016-2019. Sydney: Community Restorative Centre; 2020.
14. Human Rights Watch. 'I Needed Help, Instead I Was Punished' Abuse and Neglect of Prisoners with Disabilities in Australia. Australia: Human Rights Watch; 2018.
15. Law Council of Australia. People with Disability. Canberra: Law Council of Australia; 2018.
16. Kariminia A, Law MG, Butler TG, Corben SP, Levy MH, Kaldor JM, et al. Factors associated with mortality in a cohort of Australian prisoners. *Eur J Epidemiol*. 2007;22(7):417–28. <https://doi.org/10.1007/s10654-007-9134-1>
17. Jorm L. Routinely collected data as a strategic resource for research: priorities for methods and workforce. *Public Health Res Pract*. 2015;25(4):e2541540. doi: 10.17061/phrp2541540
18. Chodankar D. Introduction to real-world evidence studies. *Perspect Clin Res*. 2021;12(3):171–4. doi: 10.4103/picr.picr_62_21
19. Justice Health and Forensic Mental Health Network. Reception Screening Assessment Training Handbook (Adults). Justice Health NSW; 2018.
20. NSW Bureau of Crime Statistics and Research (BOCSAR). NSW Custody Statistics: Quarterly Update June 2022. New South Wales: BOCSAR; 2022. Accessed 18 August, 2022. https://www.bocsar.nsw.gov.au/Pages/bocsar_publication/Pub_Summary/custody/NSW-Custody-Statistics-Quarterly-update-Jun2022.aspx.
21. NSW Health. Communicating Positively: A Guide to Appropriate Aboriginal Terminology. Sydney: NSW Ministry of Health; 2019.

22. Australian Institute of Health and Welfare (AIHW). National Best Practice Guidelines for Collecting Indigenous Status in Health Data Sets. Canberra: AIHW; 2010. Report No.: Cat. no. IHW 29.
23. Australian Commission on Safety and Quality in Health Care. Action 5.8: Identifying people of Aboriginal and/or Torres Strait Islander origin. 2022. Accessed 3 November, 2022. <https://www.safetyandquality.gov.au/topic/user-guide-aboriginal-and-torres-strait-islander-health/action-58-identifying-people-aboriginal-and-or-torres-strait-islander-origin>.
24. Pham TTL, Berecki-Gisolf J, Clapperton A, O'Brien KS, Liu S, Gibson K. Definitions of Culturally and Linguistically Diverse (CALD): A Literature review of epidemiological research in Australia. *Int J Environ Res Public Health*. 2021;18(2). doi: 10.3390/ijerph18020737
25. NSW Parliamentary Research Service. NSW Public Health Restrictions to Deal With the COVID-19 Pandemic: A Chronology. Sydney: NSW Parliament; 2020.
26. Payne JL, Hanley N. COVID-19 and Corrections in Australia: A summary review of the available data and literature. *Victims & Offenders*. 2020;15(7–8):1367–84. <https://doi.org/10.1080/15564886.2020.1829226>
27. Binswanger IA, Krueger PM, Steiner JF. Prevalence of chronic medical conditions among jail and prison inmates in the USA compared with the general population. *J Epidemiol Community Health*. 2009;63(11):912–9. doi: 10.1136/jech.2009.090662
28. Forsyth S, Alati R, Kinner SA. Asthma-related mortality after release from prison: A retrospective data linkage study. *J Asthma*. 2022;1–7. doi: 10.1080/02770903.2022.2039936
29. Mills LS. Diabetes management within the prison setting. *J Diabetes Nurs*. 2014;18(10):408–13.
30. Booles K. Break down these walls: Diabetes care and management in a prison environment. *Diabetes Manag*. 2014;4(1):19–27. doi: 10.2217/dmt.13.63
31. Booles K. Management of diabetes within a secure environment. *Practical Diabetes*. 2014;31(2):62–6. <https://doi.org/10.1002/pdi.1834>
32. Australasian Society of Clinical Immunology and Allergy (ASCIA). Allergy in Australia 2014. ASCIA; 2014. Accessed 25 July, 2022. https://www.allergy.org.au/images/stories/reports/ASCIA_Allergy_in_Australia_2014_NHPA__Submission.pdf
33. Liew WK, Williamson E, Tang MLK. Anaphylaxis fatalities and admissions in Australia. *J Allergy Clin Immun*. 2009;123(2):434–42. <https://doi.org/10.1016/j.jaci.2008.10.049>
34. Centers for Disease Control and Prevention (CDC). Defining Adult Overweight & Obesity. CDC; 2022. Accessed 28 June, 2022. <https://www.cdc.gov/obesity/basics/adult-defining.html#:~:text=If%20your%20BMI%20is%20less, falls%20within%20the%20obesity%20range.>
35. Australian Bureau of Statistics (ABS). Overweight and Obesity 2018. Accessed 28 June, 2022. <https://www.abs.gov.au/statistics/health/health-conditions-and-risks/overweight-and-obesity/latest-release>.
36. Justice Health and Forensic Mental Health Network. Management of Pregnant Women in Custody (Policy Number 1.430). Sydney: Justice Health NSW; 2017.
37. Avşar TS, McLeod H, Jackson L. Health outcomes of smoking during pregnancy and the postpartum period: an umbrella review. *BMC Pregnancy Childbirth*. 2021;21(1):254. doi: 10.1186/s12884-021-03729-1
38. Gould GS, Havard A, Lim LL, The Psanz Smoking In Pregnancy Expert Group, Kumar R. Exposure to tobacco, environmental tobacco smoke and nicotine in pregnancy: A pragmatic overview of reviews of maternal and child outcomes, effectiveness of interventions and barriers and facilitators to quitting. *Int J Environ Res Public Health*. 2020;17(6). doi:10.3390/ijerph17062034
39. Centre for Epidemiology and Evidence. New South Wales Mothers and Babies 2020. Sydney: NSW Ministry of Health; 2021.
40. Oei JL. Alcohol use in pregnancy and its impact on the mother and child. *Addiction*. 2020;115(11):2148–63. doi: 10.1111/add.15036

41. Hellemans KG, Verma P, Yoon E, Yu W, Weinberg J. Prenatal alcohol exposure increases vulnerability to stress and anxiety-like disorders in adulthood. *Ann N Y Acad Sci.* 2008;1144:154–75. doi: 10.1196/annals.1418.016
42. Premchit S, Orungrote N, Prommas S, Smachat B, Bhamarapratana K, Suwannarurk K. Maternal and neonatal complications of methamphetamine use during pregnancy. *Obstet Gynecol Int.* 2021;2021:8814168. doi: 10.1155/2021/8814168
43. Admon LK, Bart G, Kozhimannil KB, Richardson CR, Dalton VK, Winkelman TNA. Amphetamine- and opioid-affected births: Incidence, outcomes, and costs, United States, 2004–2015. *Am J Public Health.* 2019;109(1):148–54. doi: 10.2105/AJPH.2018.304771
44. Ross EJ, Graham DL, Money KM, Stanwood GD. Developmental consequences of fetal exposure to drugs: what we know and what we still must learn. *Neuropsychopharmacology.* 2015;40(1):61–87. doi: 10.1038/npp.2014.147
45. World Health Organization. Global Health Sector Strategies On, Respectively, HIV, Viral Hepatitis and Sexually Transmitted Infections for the Period 2022–2030. World Health Organization; 2022. Accessed 26 July, 2022. <https://www.who.int/publications/i/item/9789240053779>
46. Heard S, Iversen J, Maher, L. Australian Needle Syringe Program Survey National Data Report 2017–2021: Prevalence of HIV, HCV and Injecting and Sexual Behaviour Among NSP Attendees. Sydney: Kirby Institute (UNSW Sydney); 2022.
47. Butler T, Simpson M. National Prison Entrants' Blood-borne Virus Survey Report 2004, 2007, 2010, 2013 and 2016. Sydney: Kirby Institute (UNSW Sydney); 2017.
48. Kirby Institute. HIV, Viral Hepatitis and Sexually Transmissible Infections in Australia: Annual Surveillance Report 2021. Sydney: Kirby Institute (UNSW Sydney); 2021.
49. Justice Health and Forensic Mental Health Network. Early Detection Program for Blood Borne Viruses and Sexually Transmissible Infections (Policy Number 1.363). Justice Health NSW; 2019.
50. Justice Health and Forensic Mental Health Network. Keeping Safe in Custody. Justice Health NSW; nd.
51. Harm Reduction International. What is Harm Reduction? Harm Reduction International; 2022. Accessed 10 November, 2022. <https://www.hri.global/what-is-harm-reduction>.
52. Silano JA, Treloar C, Wright T, Brown T, McGrath C, Snoyman P. Commentary on the harm reduction reference group of Justice Health and Forensic Mental Health Network and Corrective Services NSW, Australia. *Int J Prison Health.* 2021; ahead-of-print. doi: 10.1108/IJPH-06-2021-0050. PMID: 34871474
53. Andrews G, Slade T. Interpreting scores on the Kessler Psychological Distress Scale (K10). *Aust N Z J Public Health.* 2001;25(6):494–7. doi: 10.1111/j.1467-842x.2001.tb00310.x
54. Merson F, Newby J, Shires A, Millard M, Mahoney A. The temporal stability of the Kessler Psychological Distress Scale. *Aust Psychol.* 2021;56(1):38–45. <https://doi.org/10.1080/00050067.2021.1893603>
55. Kessler RC, Andrews G, Colpe LJ, et al. Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychol Med.* 2002;32(6):959–76. doi: 10.1017/s0033291702006074
56. Australian Bureau of Statistics (ABS). Information Paper: Use of the Kessler Psychological Distress Scale in ABS Health Surveys, Australia, 2007–08. ABS; 2012. Accessed 26 July, 2022. <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4817.0.55.001Chapter92007-08#>.
57. Barry LC, Coman E, Wakefield D, Trestman RL, Conwell Y, Steffens DC. Functional disability, depression, and suicidal ideation in older prisoners. *J Affect Disord.* 2020;266:366–73. doi: 10.1016/j.jad.2020.01.156
58. Haesen S, Merkt H, Imber A, Elger B, Wangmo T. Substance use and other mental health disorders among older prisoners. *Int J Law Psychiatry.* 2019;62:20–31. <https://doi.org/10.1016/j.ijlp.2018.10.004>
59. Kirwan A, Curtis M, Dietze P, Aitken C, Woods E, Walker S, et al. The Prison and Transition Health

(PATH) Cohort Study: Study protocol and baseline characteristics of a cohort of men with a history of injecting drug use leaving prison in Australia. *J Urban Health*. 2019;96(3):400–10. doi: 10.1007/s11524-019-00353-560. Justice Health and Forensic Mental Health Network. Health Problem Notification Form (Adults). Justice Health NSW; 2019.

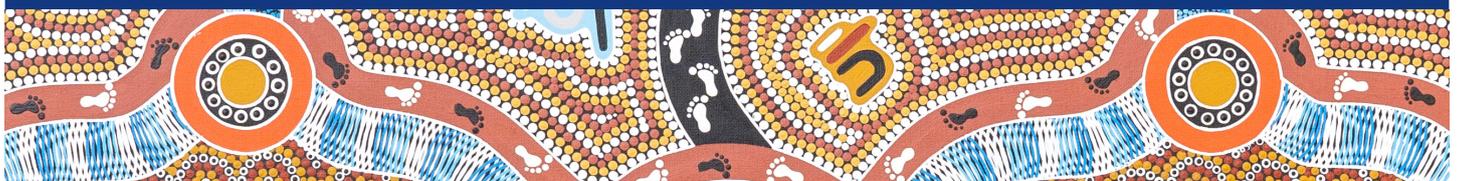
61. Thurber KA, Banks E, Joshy G, Soga K, Marmor A, Benton G, et al. Tobacco smoking and mortality among Aboriginal and Torres Strait Islander adults in Australia. *Int J Epidemiol*. 2021;50(3):942–54. <https://doi.org/10.1093/ije/dyaa274>
62. Australian Institute of Health and Welfare (AIHW). Burden of Tobacco Use in Australia: Australian Burden of Disease Study 2015. Canberra: AIHW; 2019.
63. World Health Organization. WHO Global Report on Trends in Prevalence of Tobacco Smoking 2015. Geneva Switzerland: World Health Organization; 2015. Report No.: 9789241564922.
64. Spaulding AC, Eldridge GD, Chico CE, Morisseau N, Drobeniuc A, Fils-Aime R, et al. Smoking in correctional settings worldwide: Prevalence, bans, and interventions. *Epidemiol Rev*. 2018;40(1):82–95.
65. Australian Institute of Health and Welfare (AIHW). National Drug Strategy Household Survey 2019. Canberra: AIHW; 2020.
66. Bello JK, Hearing C, Salas J, Weinstock J, Linhorst D. Trends in substance use by gender among participants in a jail-based substance use disorder treatment program: 1998–2016. *J Forensic Sci*. 2020;65(1):97–102.
67. National Drug and Alcohol Research Centre (NDARC). Methamphetamine. Sydney: NDARC; 2016. Accessed 25 July, 2022. <https://ndarc.med.unsw.edu.au/sites/default/files/ndarc/resources/NDA073%20Fact%20Sheet%20Methamphetamine.pdf>
68. Mathers B M, Degenhardt L, Bucello C, Lemon J, Wiessing L, Hickman M. Mortality among people who inject drugs: A systematic review and meta-analysis. *Bulletin of the World Health Organization*. 2013;91(2):102–23.
69. United Nations. World Drug Report 2021. Geneva Switzerland: United Nations; 2021.
70. Justice Health and Forensic Mental Health Network. Management of Opioid Withdrawal (Procedure Number 6.028). Sydney: Justice Health NSW; 2018.
71. NSW Centre for Alcohol and Other Drugs. NSW Clinical Guidelines Opioid Dependence. Sydney: NSW Ministry of Health; 2018.
72. Australian Bureau of Statistics (ABS). Opioid-Induced Deaths in Australia. Causes of Death, Australia, 2018. Canberra: ABS; 2019. Accessed 9 November, 2022. <https://www.abs.gov.au/articles/opioid-induced-deaths-australia>.
73. Roberts J, White B, Attalla D, Ward S, Dunlop AJ. Rapid upscale of depot buprenorphine (CAM2038) in custodial settings during the early COVID-19 pandemic in New South Wales, Australia. *Addiction*. 2021;116(2):426–7. doi: 10.1111/add.15244
74. Therapeutic Goods Administration (TGA). Product and Consumer Medicine Information. Canberra: TGA; 2022. Accessed 7 November 2022. <https://www.ebs.tga.gov.au/ebs/picmi/picmirepository.nsf/PICMI?OpenForm&t=&q=buprenorphine>.
75. Justice Health and Forensic Mental Health Network. PAS Waiting List Priority Level Protocol. Sydney: Justice Health NSW; 2021.
76. Andrews E, Berghofer K, Long J, Prescott A, Caboral-Stevens M. Satisfaction with the use of telehealth during COVID-19: An integrative review. *Int J Nurs Stud*. 2020;2:100008. doi: 10.1016/j.ijnnsa.2020.100008
77. Kruse C, Heinemann K. Facilitators and barriers to the adoption of telemedicine during the first year of COVID-19: Systematic review. *J Med Internet Res*. 2022;24(1):e31752. doi:10.2196/31752
78. Leach R, Carreiro S, Shaffer PM, Gaba A, Smelson D. Digital health interventions for mental health, substance use, and co-occurring disorders in the criminal justice population: A scoping review. *Front Psychiatry*. 2022;12. doi: 10.3389/fpsy.2021.794785
79. Justice Health and Forensic Mental Health Network. Clinical Application Systems – Alerts,

- Health Conditions, Allergies or Adverse Drug Reactions. Justice Health NSW; 2022. Policy No.: 4.014.
80. Breuer E, Remond M, Lighton S, et al. The needs and experiences of mothers while in prison and post-release: A rapid review and thematic synthesis. *Health & Justice*. 2021;9:31. <https://doi.org/10.1186/s40352-021-00153-7>
 81. Bartels L, Easteal P, Westgate R. Understanding women's imprisonment in Australia. *Women & Criminal Justice*. 2020;30(3):204–19. <https://doi.org/10.1080/08974454.2019.1657550>
 82. Walker T, Shaw J, Gibb J, Turpin C, Reid C, Guttridge K, et al. Lessons learnt from the narratives of women who self-harm in prison. *Crisis*. 2021;42(4):255–62. <https://doi.org/10.1027/0227-5910/a000714>
 83. Alirezaei S, Roudsari RL. Promoting health care for pregnant women in prison: A review of international guidelines. *Iran J Nurs Midwifery Res*. 2020;25(2):91–101. doi: 10.4103/ijnmr.IJNMR_169_19
 84. Johnson H. *Drugs and Crime: A Study of Incarcerated Female Offenders*. Canberra: Australian Institute of Criminology; 2004.
 85. Australia's National Research Organisation for Women's Safety Limited (ANROWS). *Women's Imprisonment and Domestic, Family, and Sexual Violence: Research Synthesis (ANROWS Insights)*. Sydney: ANROWS; 2020.
 86. Australian Institute of Health and Welfare (AIHW). *The Health and Welfare of Women in Australia's Prisons*. Canberra: AIHW; 2020.
 87. Daiwile AP, Jayanthi S, Cadet JL. Sex differences in methamphetamine use disorder perused from pre-clinical and clinical studies: Potential therapeutic impacts. *Neurosci Biobehav Rev*. 2022;137:104674. doi: 10.1016/j.neubiorev.2022.104674
 88. Hayes MO. The life pattern of incarcerated women: The complex and interwoven lives of trauma, mental illness, and substance abuse. *J Forensic Nurs*. 2015;11(4):214–22. doi: 10.1097/JFN.0000000000000092
 89. McKee SA, Hilton NZ. Co-occurring substance use, PTSD, and IPV victimization: Implications for female offender services. *Trauma Violence Abuse*. 2019;20(3):303–14. <https://doi.org/10.1177/1524838017708782>
 90. Van Den Bergh B, Gatherer A, Atabay T, Hariga F. *Women's Health in Prison*. 2011. Copenhagen, Denmark: World Health Organization Regional Office for Europe, United Nations Office on Drugs and Crime; 2019.
 91. Augsburger A, Neri C, Bodenmann P, Gravier B, Jaquier V, Clair C. Assessing incarcerated women's physical and mental health status and needs in a Swiss prison: A cross-sectional study. *Health Justice*. 2022;10(1):8. <https://doi.org/10.1186/s40352-022-00171-z>
 92. Norris WK, Allison MK, Fradley MF, Zielinski MJ. 'You're setting a lot of people up for failure': What formerly incarcerated women would tell healthcare decision makers. *Health Justice*. 2022;10(1):4. <https://doi.org/10.1186/s40352-022-00166-w>
 93. Alirezaei S, Latifnejad Roudsari R. The needs of incarcerated pregnant women: A systematic review of literature. *Int J Community Based Nurs Midwifery*. 2022;10(1):2–17. doi: 10.30476/IJCBNM.2021.89508.1613
 94. Oei JL, Azim SI, Lee E, Blythe S, Black K, Eapen V, et al. *Substance Use During Pregnancy, Birth and the Postnatal Period*. Sydney: Sax Institute, NSW Ministry of Health; 2021.
 95. Forray A. Substance use during pregnancy. *F1000Res*. Faculty Rev-887. 2016;5. doi:10.12688/f1000research.7645.1
 96. Grace J, Krom I, Maling C, Butler T, Midford R, Simpson P. Review of Indigenous offender health. *Australian Indigenous HealthInfoNet*. 2013;No 12. June.
 97. Menzies K. Understanding the Australian Aboriginal experience of collective, historical and intergenerational trauma. *Int Soc Work*. 2019;62(6):1522–34. <https://doi.org/10.1177/0020872819870585>

98. Butt J, Wilson M, Jones J, Lenton S. Review of cannabis use among Aboriginal and Torres Strait Islander people. *Journal of the Australian Indigenous HealthInfoNet*. 2022;3(3). doi: 10.14221/aihjournal.v3n3.1
99. Dudgeon P, Wright, M, Paradies, Y, Garvey, D, Walker, I. Aboriginal social, cultural and historical contexts. In: Dudgeon P, Milroy H, Walker R, eds. *Working Together: Aboriginal and Torres Strait Islander Mental Health and Wellbeing Principles and Practice*. 2nd ed. Canberra: Department of Prime Minister and Cabinet, Australian Government; 2014. p. 3–24.
100. Australian Institute of Health and Welfare. *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples 2015*. Canberra: AIHW; 2015.
101. Justice Health and Forensic Mental Health Network. *Network Patient Health Survey – Aboriginal People's Health Report*. Sydney: Justice Health and Forensic Mental Health Network; 2017.
102. Twyman L, Bonevski B, Paul C, Bryant J. Perceived barriers to smoking cessation in selected vulnerable groups: A systematic review of the qualitative and quantitative literature. *BMJ Open*. 2014;4(12):e006414. doi: 10.1136/bmjopen-2014-006414
103. Intergovernmental Committee on Drugs. *National Tobacco Strategy 2012–2018*. Canberra: Intergovernmental Committee on Drugs; 2012.
104. McEwan M, Paquette D, Bryant J. *Injecting Drug Use Among Aboriginal People in New South Wales*. Sydney: Aboriginal Health & Medical Research Council of NSW & National Centre in HIV Social Research, The University of New South Wales; 2012.
105. Day C, Ross J, Dolan K. Characteristics of Aboriginal injecting drug users in Sydney, Australia: Prison history, hepatitis C status and drug treatment experiences. *J Ethn Subst Abuse*. 2004;2(3):51–8. https://doi.org/10.1300/J233v02n03_03
106. Bryant J, Ward J, Wand H, Byron K, Bamblett A, Waples-Crowe P, et al. Illicit and injecting drug use among Indigenous young people in urban, regional and remote Australia. *Drug Alcohol Rev*. 2016;35(4):447–55. doi: 10.1111/dar.12320.
107. Khatri RB, Assefa Y. Access to health services among culturally and linguistically diverse populations in the Australian universal health care system: Issues and challenges. *BMC Public Health*. 2022;22(1):880. <https://doi.org/10.1186/s12889-022-13256-z>
108. Australian Institute of Health and Welfare (AIHW), Thow AM, Waters A-M. *Diabetes in Culturally and Linguistically Diverse Australians: Identification of Communities at high risk*. Canberra: AIHW; 2005. Report No.: Cat. No. CVD 30
109. Cordato D, Blair C, Thomas P, Firtko A, Miller M, Edwards LS, et al. Cerebrovascular disease profiles of culturally and linguistically diverse communities in South Western Sydney and New South Wales. *Cerebrovasc Dis*. 2022:1–11. doi:10.1159/000524242110. Department of Health (DOH). *National Drug Strategy 2017–2026*. Canberra: DOH; 2017.
111. Australian Institute of Health and Welfare (AIHW). *Alcohol, Tobacco & Other Drugs in Australia*. Canberra: AIHW; 2022. Report No.: Cat. no: PHE 221
112. Australian Bureau of Statistics (ABS). *Prisoners in Australia*. Canberra: ABS; 2011. Accessed 9 September, 2022. <https://www.abs.gov.au/ausstats/abs@.nsf/lookup/4517.0Media%20Release12011#:~:text=4517.0%20%2D%20Prisoners%20in%20Australia%2C%202011&text=There%20were%2029%2C106%20adults%20in,adult%20prisoner%20numbers%20since%202001>.
113. Australian Institute of Health and Welfare (AIHW). *Health and Ageing of Australia's Prisoners 2018*. Canberra: AIHW; 2020. Report No.: Cat. no: PHE 269
114. Stoliker BE, Verdun-Jones SN, Vaughan AD. The relationship between age and suicidal thoughts and attempted suicide among prisoners. *Health Justice*. 2020;8(1):14. <https://doi.org/10.1186/s40352-020-00117-3>
115. Australian Institute of Health and Welfare (AIHW). *Older Australians* [Internet]. Canberra: AIHW; 2021. [cited 2022, August 1]. Available from: <https://www.aihw.gov.au/getmedia/a49cf1b5-0a25-46a1-804b-ef38fa805af4/Older-Australians.pdf.aspx?inline=true>
116. Australian Institute of Health and Welfare (AIHW). *Australian Burden of Disease Study 2018*:

- Interactive Data on Risk Factor Burden Among Aboriginal and Torres Strait Islander People. Canberra: AIHW; 2022. Report No.: Cat. no: BOD 31
117. Gates ML, Staples-Horne M, Walker V, Turney A. Substance use disorders and related health problems in an aging offender population. *J Health Care Poor Underserved*. 2017;28(2s):132–54. doi: 10.1353/hpu.2017.0057
 118. Australian Bureau of Statistics (ABS). Asthma. ABS; 2020–21. Accessed 24 October, 2022. <https://www.abs.gov.au/statistics/health/health-conditions-and-risks/asthma/latest-release>.
 119. Australian Institute of Health and Welfare (AIHW). Diabetes. Canberra: AIHW; 2020. Report No.: Cat. no: CVD 82
 120. Butler TG, Gullotta M, Greenberg D. Reliability of prisoners' survey responses: Comparison of self-reported health and biomedical data from an Australian prisoner cohort. *BMC Public Health*. 2022;22(1):64. <https://doi.org/10.1186/s12889-021-12460-7>
 121. Bai JR, Mukherjee DV, Befus M, Apa Z, Lowy FD, Larson EL. Concordance between medical records and interview data in correctional facilities. *BMC Medical Res Methodol*. 2014;14(1):50. <https://doi.org/10.1186/1471-2288-14-50>
 122. Torén K, Palmqvist M, Löwhagen O, Balder B, Tunsäter A. Self-reported asthma was biased in relation to disease severity while reported year of asthma onset was accurate. *J Clin Epidemiol*. 2006;59(1):90–3. doi: 10.1016/j.jclinepi.2005.03.019
 123. Stürup-Toft S, O'Moore EJ, Plugge EH. Looking behind the bars: Emerging health issues for people in prison. *Brit Med Bull*. 2018;125(1):15–23. doi: 10.1093/bmb/ldx052
 124. Australian Institute of Health and Welfare. Mental Health Services in Australia. Canberra: AIHW; 2022. Accessed 11 November, 2022. <https://www.aihw.gov.au/reports/mental-health-services/mental-health-services-in-australia/report-contents/summary-of-mental-health-services-in-australia>
 125. Australian Bureau of Statistics (ABS). National Study of Mental Health and Wellbeing. Canberra: ABS; 2022. Accessed 29 July, 2022. <https://www.abs.gov.au/statistics/health/mental-health/national-study-mental-health-and-wellbeing/latest-release>
 126. Australian Institute of Health and Welfare (AIHW). Suicide & Self-Harm Monitoring: Intentional Self-Harm Hospitalisations [Internet]. Canberra: AIHW; 2022. [cited 2022, August 12]. Available from: <https://www.aihw.gov.au/suicide-self-harm-monitoring/data/intentional-self-harm-hospitalisations>
 127. Butler A, Young JT, Kinner SA, Borschmann R. Self-harm and suicidal behaviour among incarcerated adults in the Australian Capital Territory. *Health Justice*. 2018;6(1):13. <https://doi.org/10.1186/s40352-018-0071-8>
 128. Favril L, Yu R, Hawton K, Fazel S. Risk factors for self-harm in prison: A systematic review and meta-analysis. *Lancet Psychiatry*. 2020;7(8):682–91. doi: 10.1016/S2215-0366(20)30190-5
 129. Doyle MF, Butler TG, Shakeshaft A, Guthrie J, Reekie J, Schofield PW. Alcohol and other drug use among Aboriginal and Torres Strait Islander and non-Aboriginal and Torres Strait Islander men entering prison in New South Wales. *Health Justice*. 2015;3(1):15. <https://doi.org/10.1186/s40352-015-0027-1>
 130. Kinner SA, Dietze PM, Gouillou M, Alati R. Prevalence and correlates of alcohol dependence in adult prisoners vary according to Indigenous status. *Aust N Z J Public Health*. 2012;36(4):329–34. <https://doi.org/10.1111/j.1753-6405.2012.00884.x>
 131. Voce I, Voce A, Morgan A, Sullivan T. The DUMA Drug Market Indicator Framework: Methamphetamine [Internet]: Canberra: Australian Institute of Criminology; 2021[cited 2022, November 14]. Report no. 33: Available from: <https://doi.org/10.52922/sr04879>.
 132. Cumming C, Kinner SA, McKetin R, Li I, Preen D. Methamphetamine use, health and criminal justice system outcomes: A systematic review. *Drug Alcohol Rev*. 2020;39(5):505–18. doi: 10.1111/dar.13062
 133. McKetin R, Leung J, Stockings E, Huo Y, Foulds J, Lappin JM, et al. Mental health outcomes associated with of the use of amphetamines: A systematic review and meta-analysis. *EClinicalMedicine*. 2019;16:81–97. doi: 10.1016/j.eclinm.2019.09.014

134. McKetin R, Degenhardt L, Shanahan M, Baker AL, Lee NK, Lubman DI. Health service utilisation attributable to methamphetamine use in Australia: Patterns, predictors and national impact. *Drug Alcohol Rev.* 2018;37(2):196–204. doi: 10.1111/dar.12518
135. Mathers BM, Degenhardt L, Bucello C, Lemon J, Wiessing L, Hickman M. Mortality among people who inject drugs: A systematic review and meta-analysis. *Bull World Health Organ.* 2013;91(2):102–23. doi: 10.2471/BLT.12.108282
136. Nambiar D, Agius PA, Stoope M, Hickman M, Dietze P. Mortality in the Melbourne injecting drug user cohort study (MIX). *Harm Reduct J.* 2015;12: 55 <https://doi.org/10.1186/s12954-015-0089-3>
137. Lake S, Kennedy MC. Health outcomes associated with illicit prescription opioid injection: A systematic review. *J Addict Dis.* 2016;35(2):73–91. doi: 10.1080/10550887.2015.1127712
138. Thomas DL. Global elimination of chronic hepatitis. *N Engl J Med.* 2019;380(21):2041–50. doi: 10.1056/NEJMra1810477
139. The Kirby Institute. National Update on HIV, Viral Hepatitis and Sexually Transmissible Infections in Australia: 2009–2018. Sydney: The Kirby Institute (UNSW Sydney); 2020.
140. Bahji A, Cheng B, Gray S, Stuart H. Mortality among people with opioid use disorder: A systematic review and meta-analysis. *J Addict Med.* 2020;14(4):118–32. doi: 10.1097/ADM.0000000000000606
141. Degenhardt L, Bucello C, Mathers B, et al. Mortality among regular or dependent users of heroin and other opioids: A systematic review and meta-analysis of cohort studies. *Addiction.* 2011;106(1):32–51. doi: 10.1111/j.1360-0443.2010.03140.x
142. Australian Institute of Health and Welfare (AIHW). National Opioid Pharmacotherapy Statistics Annual Data Collection [Internet]. Canberra: AIHW; 2022. [cited 2022, July 15]. Available from: <https://www.aihw.gov.au/reports/alcohol-other-drug-treatment-services/national-opioid-pharmacotherapy-statistics/contents/introduction>
143. Dunlop AJ, White B, Roberts J, Cretikos M, Howard MV, Haber PS, et al. Depot buprenorphine as an opioid agonist therapy in New South Wales correctional centres: a costing model. *BMC Health Serv Res* 2022; 22(1): 1326. doi:10.1186/s12913-022-08687-8 144. Condon L, Gill H, Harris F. A review of prison health and its implications for primary care nursing in England and Wales: The research evidence. *J Clin Nurs.* 2007;16(7):1201–9. doi: 10.1111/j.1365-2702.2007.01799.x
145. Marshall T, Simpson S, Stevens A. Use of health services by prison inmates: Comparisons with the community. *J Epidemiol Community Health.* 2001;55(5): 364–65. doi: 10.1136/jech.55.5.364
146. Sutherland K, Chessman J, Zhao J, Sara G, Shetty A, Smith S, et al. Impact of COVID-19 on healthcare activity in NSW, Australia. *Public Health Res Pract.* 2020;30(4):e3042030. doi:10.17061/phrp3042030
147. Werner RM, Glied SA. Covid-induced changes in health care delivery – Can they last? *N Engl J Med.* 2021;385(10):868–70. doi: 10.1056/NEJMp2110679
148. Taylor A, Caffery LJ, Gesesew HA, et al. How Australian health care services adapted to telehealth during the COVID-19 pandemic: A survey of telehealth professionals. *Front Public Health.* 2021;9:648009. doi:10.3389/fpubh.2021.648009
149. The Royal Australian College of General Practitioners (RACGP). Standards for Health Services in Australian Prisons. 1st ed. Melbourne, VIC, RACGP; 2011.
150. Public Health Association of Australia (PHAA). PHAA Background Paper on Prisoner Health. Canberra: PHAA; 2017.



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