# WNSW PHN Health Needs Assessment

2024/25 to 2026/27

phn
WESTERN NSW

An Australian Government Initiative

# Acknowledgements

This report was developed and written by the Western NSW Primary Health Network (WNSW PHN) with the support of external consultants. The WNSW PHN Health Needs Assessment report (HNA) was based on the Health of the Population Report, developed by the Western NSW Health Intelligence Unit (WNSW HIU) on behalf of Far West Local Health District (FWLHD), Western NSW Local Health District (WNSW LHD) and the WNSW PHN.

## Disclaimer

# Contents

## Abbreviations

| Abbreviation | Description |
|---|---|
| ABS | Australian Bureau of Statistics |
| AEDC | Australian Early Development Census |
| AFF | Atrial fibrillation and flutter |
| AIHW | Australian Institute of Health & Welfare |
| ARIA | Accessibility/remoteness index of Australia |
| ASR | Age-standardised or age-specific rate |
| BBV | Blood borne virus |
| cf | Compared to |
| CHD | Coronary heart disease |
| CI | Confidence interval |
| CKD | Chronic kidney disease |
| COPD | Chronic obstructive pulmonary disease |
| COVID-19 | Coronavirus disease of 2019 |
| CR | Crude rate |
| CVD | Cardiovascular disease |
| DPE | NSW Department of Planning and Environment |
| ED | Emergency department |
| ERP | Estimated residential population |
| FWLHD | Far West Local Health District |
| HealthStats | Health Statistics NSW |
| HF | Heart failure |
| Hosp | Hospitalisation |
| HPV | Human papillomavirus |
| IPTAAS | Isolated Patients Travel and Accommodation Assistance Scheme |
| IRSD | Index of relative social disadvantage |
| K10 | Kessler 10 scale |
| LBW | Low birth weight |
| LGA | Local government area |
| LHD | Local Health District |
| LL | Lower limit (of confidence interval) |
| N (or n) | Number |
| NA | Not applicable or not available |

| | |
|---|---|
| NCIMS | Notifiable Conditions Information Management System |
| NCRES | Notifiable Conditions Records for Epidemiology & Surveillance |
| NDIS | National Disability Insurance Scheme |
| NSW | New South Wales |
| PA | Physical activity |
| PDC | Perinatal Data Collection |
| PHIDU | Public Health Information Development Unit |
| PHN | Primary Health Network |
| Pop | Population |
| PPH | Potentially preventable hospitalisation |
| PVD | Peripheral vascular disease |
| PYLL | Potential years of life lost |
| RR | Relative risk/rate ratio |
| SEIFA | Socio-economic indexes for areas |
| SIDS | Sudden infant death syndrome |
| SMR | Standardised mortality ratio |
| STI | Sexually transmitted infection |
| TFR | Total fertility rate |
| UL | Upper limit (of confidence interval) |
| WHO | World Health Organization |
| WNSWLHD | Western NSW Local Health District |
| WNSW PHN | Western NSW Primary Health Network |
| Yr(s) | Year(s) |

## Abbreviations of local government areas

| Local Government Areas (LGAs) of Western NSW Primary Health Network (WNSW PHN) | |
|---|---|
| LGAs of Far West Local Health District (FWLHD) | |
| BAL | Balranald |
| BRO | Broken Hill |
| CEN | Central Darling |
| UNI | Unincorporated Far West |
| WEN | Wentworth |
| LGAs of Western NSW Local Health District (WNSWLHD) | |
| BAT | Bathurst Regional |
| BLY | Blayney |
| BOG | Bogan |
| BOU | Bourke |
| BRE | Brewarrina |
| CAB | Cabonne |
| COB | Cobar |
| CNB | Coonamble |
| COW | Cowra |
| DUB | Dubbo Regional |
| FOR | Forbes |
| GIL | Gilgandra |
| LAC | Lachlan |
| MID | Mid-Western Regional |
| NRM | Narromine |
| OBN | Oberon |
| ORA | Orange |
| PAR | Parkes |
| WAL | Walgett |
| WAR | Warren |
| WMB | Warrumbungle Shire |
| WED | Weddin |

## Glossary of Terms

| Term | Definition |
|---|---|
| Age- specific rate | The crude rate of an event* for a specific age group. |
| Age- standardised rate (ASR) | The number of events per population of interest (see Crude rate) where the age structure of the population has been adjusted to that of a standard population (i.e. to the Australian Census population, 2001). Populations with more elderly people have more deaths and hospitalisations than younger populations. Age-standardisation allows valid comparisons to be made between populations with different age structures as well as between years. |
| Confidence Interval | The range of values between which the real value of a parameter lies, with a certain probability or degree of assurance. |
| Crude rate | The number of events divided by the population of interest and multiplied by 100,000 (or 1,000). The result is expressed as 'x' events per 100,000 (1,000) population. |
| Incidence | The rate of occurrence of new events/diseases/cases in a population; i.e. the number of new cases divided by the population at risk expressed per 100,000. |
| Morbidity | Condition of being ill. |
| Mortality | Death. |
| Mortality rate | The number of deaths divided by the population of interest and expressed per 100,000. A 'standardised mortality rate' is a rate that has been age-adjusted. |
| Per cent ratio (%R) | A per cent ratio compares the percentage of events for the population of interest to that of a comparator population such as NSW. A %R > 1 indicates that the percentage of events for the population of interest is greater than that of the comparator population. |
| Potentially avoidable deaths | "Potentially avoidable deaths are those that occur before age 75 years and are caused by conditions that are potentially preventable through individualised care and/or treatable through existing primary or hospital care." *HealthStats* |
| Potentially preventable hospitalisations | "Hospitalisations for certain conditions for which hospitalisation is considered potentially avoidable or preventable if earlier preventive care and disease management was provided 'upstream' of the hospitalisation." *HealthStats* |
| Prevalence | The rate of existing cases in a population; i.e. the number of existing cases divided by the population of interest and expressed per 100,000. |
| Rate ratio (RR) | A rate ratio is used to compare the crude rate or ASR of a population of interest to that of a comparator population such as NSW. An RR > 1 indicates that the rate for the population of interest is greater than that |

| | |
|---|---|
| | of the comparator population. |
| Smoothed rate | A rate produced after data smoothing. Smoothing involves the removal of noise in data to allow important patterns to emerge. |
| Spatially adjusted | Calculating rates at the LGA level can produce unreliable results due to small numbers that could simply be random variation. Spatial adjustment borrows information from neighbouring LGAs to adjust an LGA's rate thereby minimising random variation and improving reliability. |
| Statistical significance | The likelihood that an event of relationship has occurred due to chance. A statistically significant result indicates that the result is unlikely to have occurred due to chance. |

*Where an 'event' = death, hospitalisation, emergency department presentation, diagnosis etc.

# Executive Summary

## Priorities for WNSW PHN

The health needs assessment (HNA) identified several key areas that require the focus of the WNSW PHN and other key health organisations in order to improve the health and wellbeing of the population.

Aboriginal people and communities require advocacy and support from the PHN to improve many aspects of health service delivery for their communities. This includes consideration of the Aboriginal population in all activities the PHN undertakes, support for locally designed and delivered services, improvements in the cultural safety of services in the region and greater understanding of the unique needs of Aboriginal patients.

Prevention and reduction in rates of chronic conditions is critical to the health and wellbeing of the region. A number of health and service needs were identified to support people with or at risk of developing chronic conditions across the region. This includes more prevention and disease management services, improving access for patients who are geographically isolated or socio-economically disadvantaged, and improving health literacy, care coordination and integration of services.

Many of the priority needs identified in the HNA rely on addressing underlying determinants of health including housing affordability and accessibility, social isolation, employment, justice, education, transport and financial stability. To address the needs of the population and make meaningful change in health outcomes in the region, the PHN and other system partners are required to work collaboratively to address these social and environmental determinants. Without improvements to the underlying determinants, many of the critical health issues across the region will remain unchanged.

Alcohol and other drug misuse is a significant concern across the region. Gambling addiction was also raised as an interrelated issue for many communities experiencing drug and alcohol misuse. To address these needs, it was identified that more locally delivered alcohol and other drug interventions were essential, particularly for individuals in rural and isolated communities. Additionally, efforts to reduce stigma around seeking help and to build greater trust in these services were identified as priorities.

Support for the rural and remote health workforce is critical to addressing the needs across the region. This requires connecting workers to support available within communities, providing adequate training and workplace support, reducing workloads for overworked staff, providing flexibility and consideration to the needs of family members including childcare and employment.

Mental health and wellbeing has been identified as a priority across the WNSW PHN region and encompasses all age groups. The following unique needs were identified including greater access to early intervention and diagnosis for children, outreach and in-setting services for children and young people. Support to combat social and geographic isolation for older people, services and support for young men, and culturally appropriate programs for Aboriginal people were identified as a priority. There was significant need for timely access to services for mild-moderate mental illness and greater

support for people experiencing acute mental illness and suicidal ideation for whom inpatient services are not appropriate.

Timely and affordable access to care was raised as a significant driver of many health needs across the region. Workforce, transport, dispersed populations, funding and service integration were all identified as factors contributing to long wait times. Improving timely access to services is crucial to providing high quality care and maintaining trust in the services across the region. Innovation, collaboration and integration with system partners are all required to improve access for people across the WNSW PHN region.

## Recommendations

Recommendations from this HNA include those from the WNSW HIU quantitative analysis and the WNSW PHN health needs analysis. These recommendations focus on the highest priority needs identified through quantitative analysis, consultation and the prioritisation process.

These include:

- Greater focus on Aboriginal involvement in service design and delivery
- Improvements in culturally safe and inclusive care for Aboriginal people
- Continue to address health workforce shortages across the region
- Increased alcohol and other drug services that are locally delivered
- Greater access to preventative and early intervention services for chronic disease, including cancer
- Greater access to diagnosis and intervention for early childhood development
- Increased access to mental health and wellbeing service for mild-moderate illness
- Greater support for suicide prevention, particularly in young men
- Support people to address health risk behaviours such as excessive alcohol consumption, smoking, including smoking during pregnancy, and promoting healthy eating and exercise
- Provision of place-based service design, including involvement of local services in codesign activities

## Narrative

The purpose of the Health Needs Assessment Report, hereafter referred to as the Report or HNA, is to provide insight into both the priority needs and population health information to support the planning, commissioning and delivery of health services in WNSW PHN region. WNSW PHN region is located west of the Great Dividing Range, consists of 27 local government areas (LGA) and comprises almost 55% of the geographical area of NSW (Figure i). The estimated residential population (ERP) based on the 2021 Census was approximately 314,000 of which around 13% identified as Aboriginal.

Health care for Western NSW is serviced by the Far West Local Health District (FWLHD), Western NSW Local Health District (WNSWLHD) and Western NSW Primary Health Network (WNSW PHN), all of which are supported by the NSW and Australian Governments.

The HNA describes the overall health of the population using the most recently available data (where available). The Report also describes the risk factors and health behaviours that influence health outcomes. Data presented in the Report were correct at the time of development but are subject to change as data sources are updated.

The report was developed in two stages. The first stage was undertaken by the WNSW HIU on behalf of the WNSW PHN, to gather and analyse PHN and LHD health data.

The WNSW PHN then furthered the analysis, including quantitative and qualitative data collection and analysis, in order to gain a comprehensive understanding of the priority needs of the WNSW population.

Further quantitative data analysis was conducted on mental health, alcohol and other drug, primary care data, services utilisation and service location. Extensive consultation was conducted including a primary care survey and online and face to face interviews and focus groups with internal stakeholders and clinical and community representatives.

Through the synthesis and triangulation of this data, a comprehensive list of needs was developed which was prioritised to produce the priority needs for WNSW NSW PHN for 2025-2028.

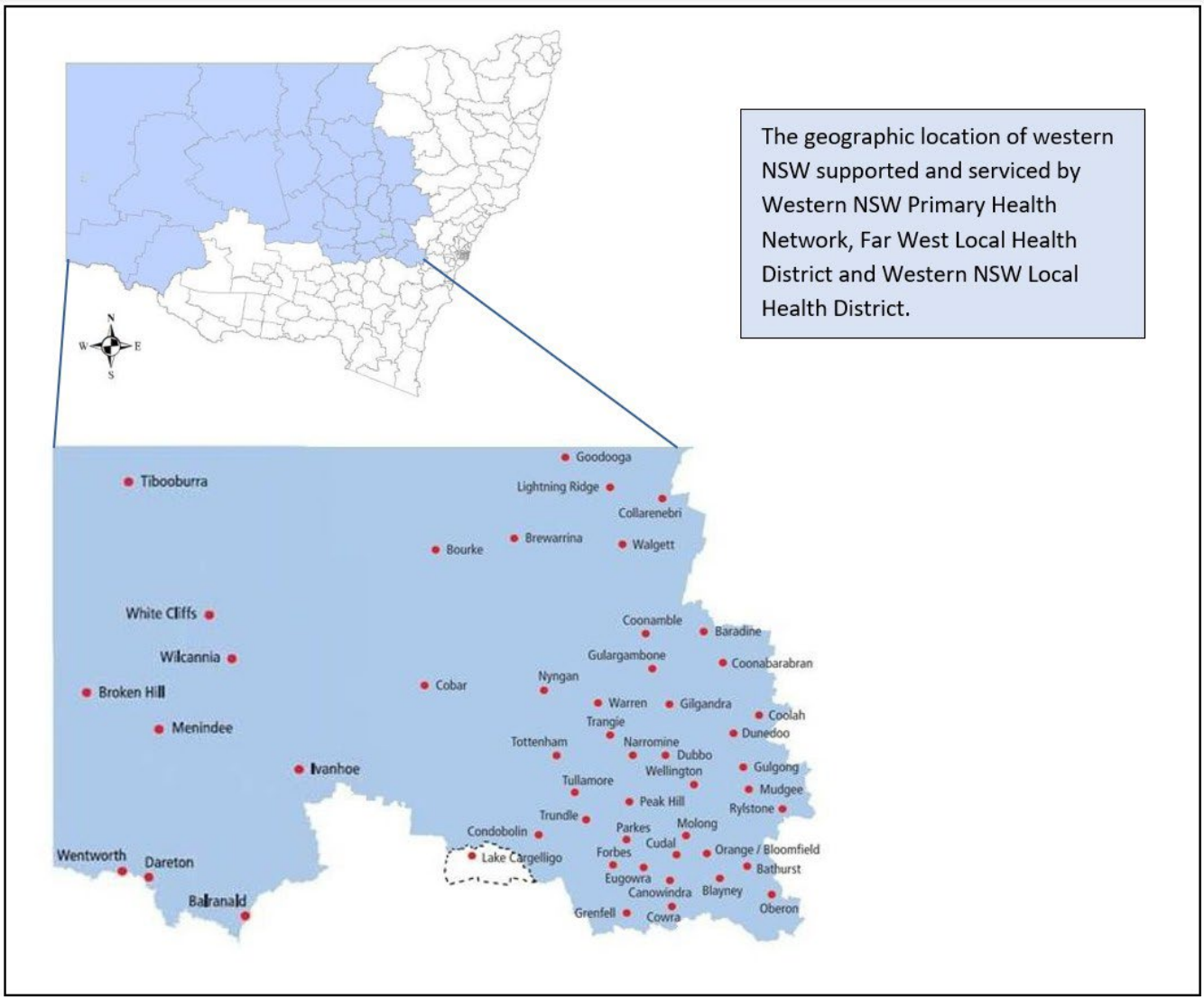



***Figure i. Western NSW and townships serviced by WNSW PHN, FWLHD and WNSWLHD.***

Source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

# Methods

This needs assessment used a mixed-methods approach to comprehensively understand health needs and service gaps across the WNSW PHN region. The report was drafted in two phases, combining analysis conducted first by the WNSW Health Intelligence Unit (HIU) and secondly by the WNSW PHN.

## WNSW HIU Methods

The information presented in this document is derived from quantitative data from data readily available to the public. Data have been analysed at the WNSW PHN, FWLHD, WNSWLHD and local government area (LGA) level, where available. Note that the terms 'Western NSW' and 'Western NSW jurisdictions' refer to the geographical locations associated with WNSW PHN, WNSWLHD and FWLHD. Where possible, NSW comparative data have been provided.

The 2021 ERPs are the most current population estimates that enable comparisons between jurisdictions by gender and 5-year age groups. Unless otherwise specified, populations refer to the 'estimated residential population' from 2021.

Information about hospitalisations reported in this document was based only on data for those patients that resided in WNSW PHN. Non-residents (i.e. patients from interstate or from local health districts other than FW and WNSW) hospitalised in facilities located in WNSW PHN over the reporting period are not included in this report. Note that for some indicators in the more remote LGAs, especially those in Far West, residents often use interstate (e.g. Victorian, South Australian) health services, the data for which are not available to use in this Report. Note also that data specific to Lachlan LGA are relevant only to that part of the LGA that is serviced by WNSWLHD, unless otherwise specified.

Note that Unincorporated Far West (FW) is a sub-portion of Unincorporated NSW. The best method for estimating count data for Unincorporated FW is to subtract Lord Howe Island counts from that of Unincorporated NSW. Where possible, data supplied for Unincorporated FW have been estimated using this method.

Where possible, at least five years of health data have been provided to indicate trends. At the time of the Report's development, the most current data available for a large number of indicators was that for 2020 and 2021. It should be noted that further data updates will have occurred since the publication of this Report. Readers requiring more recent publicly available data are referred to *HealthStats* on the NSW Ministry of Health website (*Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.* http://www.healthstats.nsw.gov.au/).

Also where possible, data have been presented as crude rates, age-standardised rates (ASR), smoothed rates, age-specific rates and/or spatially adjusted rates to allow valid comparisons to be made between jurisdictions. Although ASR usually provides the most accurate result when comparing between populations and time periods, ASR is not always provided. If the age structure of a population is not known for a particular time period, it may not be possible to calculate an ASR. In addition, the Australian Institute of Health and Welfare (AIHW) recommends that ASR not be used for a given population if the denominator for any one age group is <30 or the total number of events

is <20.[1] Furthermore, in most instances, data have been provided as rates and percentages to maintain patient and resident anonymity.

[1]*Australian Institute of Health and Welfare 2011. Principles on the use of direct age-standardisation in administrative data collections: for measuring the gap between Indigenous and non-Indigenous Australians. Cat. no. CSI 12. Canberra: AIHW*.

## WNSW PHN Methods

The analysis methods by the WNSW PHN are described below. WNSW PHN was supported by external consultants to conduct the HNA. The approach combined quantitative and qualitative data analysis with triangulation and synthesis methods to develop a prioritised list of health and service needs.

## Data Collection

1. Quantitative Data

The quantitative data analysis presented in the Health of the Population report by the WNSW HIU was reviewed and complemented by additional sources as appropriate and relevant to the WNSW PHN.

2. Qualitative Data

Qualitative data was collected through interviews, focus groups and an online survey. The stakeholder groups involved in consultations are described below.

**WNSW PHN internal subject matter experts (SMEs)**

Semi-structured interviews were conducted with program managers and SMEs internal to the WNSW PHN in order to provide expert content knowledge and guide further investigation throughout the HNA. The following SMEs were interviewed:

- Aboriginal Health and Wellbeing
- Mental Health
- Suicide Prevention
- Aged Care
- Commissioned services
- Education Programs
- General Practice Support

**Service providers (including General Practice)**

**Online survey** - All general practice and commissioned service providers were invited to respond. A total of 80 respondents provided feedback from a range of services and locations across the region including Aboriginal medical services.

**Online interviews and focus groups** – online interviews and focus groups were conducted with clinicians, and service providers across the region as recommended by internal SMEs or who expressed interest in participating in the HNA consultation.

**Advisory councils and community representative groups**

**Interviews and focus groups** – interviews and focus groups (online and in person) were conducted with advisory councils and expert representative groups across the region to provide insight into community and service needs. The following groups were involved in consultations:

- Aboriginal Medical Service and community stakeholder representatives
- WNSW PHN Aboriginal Health Council
- WNSW PHN Far West Community Advisory Council
- WNSW PHN Western Community Advisory Council
- WNSW PHN Far West Clinical Advisory Council
- WNSW PHN Western Clinical Advisory Council
- Integrated Team Care Forum
- Central West Joint Organisation

## Data Analysis

1. Quantitative Analysis
   Descriptive and inferential statistics were employed to analyse quantitative data, identifying key health indicators, service utilisation patterns, and accessibility gaps. Spatial analyses were conducted to identify geographic disparities in health service access across the PHN region.

2. Qualitative Analysis
   Thematic analysis was used to interpret qualitative data, with transcripts and meeting notes coded to identify recurrent themes related to health priorities, community needs, and barriers to service access.

## Triangulation and Synthesis

A triangulation and synthesis process was undertaken to integrate insights from multiple data sources, creating a comprehensive and validated list of prioritised health needs. This approach allowed for cross-validation of findings, combining quantitative data insights with qualitative data from stakeholder perspectives.

1. Triangulation
   Data from quantitative and qualitative sources were systematically compared and cross-referenced to identify convergent, complementary, or conflicting findings:

   - Convergent data: Issues that appeared consistently across quantitative indicators and qualitative feedback were considered strongly supported needs, as both data types corroborated the significance of these issues.
   - Complementary insights: Data elements that provided unique yet complementary insights (e.g., quantitative data indicating high prevalence rates, while qualitative data highlighted accessibility issues) were combined to create a more nuanced understanding of specific health challenges.
   - Conflicting findings: When discrepancies emerged (e.g., quantitative data showing low utilisation despite high demand expressed in community consultations), further inquiry was conducted with stakeholders to determine potential explanations, such as hidden barriers to access or underreporting.

2. Synthesis of Findings
   Following triangulation, a synthesis workshop was held with representatives from the PHN to collectively interpret the triangulated data, ensuring alignment between evidence and local expertise. Using the insights gained from triangulation and synthesis, a final list of health needs was developed to be sent to prioritisation.

## Prioritisation

The triangulated list of needs was prioritised to produce a final prioritised list of needs (see appendix A.15 for the prioritisation scoring criteria and rubric). Health needs were scored by representatives from community, clinical roles and the PHN. Needs were scored using a modified Hanlon Method, with scoring based on criteria for:

- Variation from benchmark
- Magnitude of the problem/need
- Inequity
- Clinical severity
- Community seriousness
- Feasibility

The prioritised list was presented in three tiers of ranked needs to inform recommendations and strategic planning for PHN region over the next 3 year period.

## Ethical Considerations

Aggregated and deidentified data were used to conduct all analysis contained in the HNA. Ethical approval was not required for any data collection or stakeholder interviews conducted. Confidentiality and anonymity were maintained throughout data collection and reporting processes.

## Limitations

Small populations in some LGAs within WNSW resulted in data suppression for some health needs. Further consultation and data collection within small communities is required to understand local needs.

Aboriginal breakdown was not available for many health needs. This was identified during consultation as a priority for the PHN to further investigate through targeted data collection and consultation.

Data quality was identified from service provider reporting and public data sources. Further data collection and validation should be undertaken when planning and designing services and activities.

## Data Sources

| Abbreviation /Name | Full Name & Reference |
|---|---|
| **ABS** | Australian Bureau of Statistics, Commonwealth of Australia http://www.abs.gov.au/ |
| **AEDC** | Australian Early Development Census, Commonwealth of Australia https://www.aedc.gov.au/ |
| **AIHW** | Australian Institute of Health and Welfare https://www.aihw.gov.au/ |
| **AODTS N/MDS** | Alcohol and Other Drug Treatment Services National Minimum Data Set |
| **ChilliDB** | WNSW PHN Client Management System |
| **DPE** | Department of Planning and Environment, NSW Government https://www.planning.nsw.gov.au/data-and-insights/population-projections/explore-the-data |
| **FW** | Far West |
| **HeaDS UPP** | Health Demand and Supply Utilisation Patterns Planning https://hwd.health.gov.au/headsupp/ |
| **HealthStats** | Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health. http://www.healthstats.nsw.gov.au/ |
| **Hugo Centre** | Hugo Centre for Population & Housing, University of Adelaide https://able.adelaide.edu.au/housing-research/ |
| **NSW Cancer Institute** | NSW Cancer Institute, NSW Government https://www.cancer.nsw.gov.au/ |
| **PAT CAT** | Practice Aggregation Tool for the Clinical Audit Tool |
| **PDC** | Perinatal Data Collection, Centre for Epidemiology and Evidence, NSW Ministry of Health, SAPHaRI |
| **PHIDU** | Public Health Information Development Unit, Torrens University Australia http://phidu.torrens.edu.au/about-phidu |
| **PMHC MDS** | Primary Mental Health Care Minimum Data Set https://pmhc-mds.net/#/ |

# Chapter 1. Population Characteristics

## Western NSW compared to NSW

| Ch. 1. Summary | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| Estimated resident population | 2021 | 29,694 | 284,359 | 314,053 | 8,097,062 |
| 10-yr age group with highest population | 2021 | 55-64 yrs | 5-14 yrs | 5-14 yrs | 30-39 yrs |
| Population projections | 2041 cf. 2021 | 27% lower | 10% higher | 7% higher | 21% higher |
| Population projections for 70+ age group | 2041 cf. 2021 | 14% higher | 44% higher | 41% higher | 69% higher |
| Aboriginal population (% of total pop) | 2021 | 4,081 (13.7%) | 41,339 (14.5%) | 45,420 (14.5%) | 339,710 (4.2%) |

*Yr=year, Cf=compared to*

Estimated resident population, 2021

The total estimated resident population (ERP) of the Western NSW Primary Health Network (WNSW PHN) in 2021 was approximately 314,000, with 90.5% living in Western NSW Local Health District (WNSWLHD) and 9.5% living in Far West Local Health District (FWLHD) (Table 1.1 - see below; Table A.1.1 – see Appendix A).

The population of WNSW PHN is geographically dispersed. The WNSW PHN population represented 3.9% of the total NSW population living occupying 55% of the geographic area of the State (Figure i).

Although the WNSW PHN population is dispersed over a large geographic area covered by 27 LGA's, 45.5% of the WNSW PHN population occupy only three LGA's (Bathurst, Dubbo Regional or Orange) creating greater disparity in services and infrastructure between the larger, more densely populated regional LGAs and smaller, less populated rural and remote LGAs across the region.

FWLHD is covered by five LGAs. 59.5% of the FWLHD population live in the Broken Hill LGA.

This variance in distribution of population across the region has significant implications for the distribution of health and social services, workforce, economic opportunities, public transport, public infrastructure, education, telecommunication infrastructure, urban development and accounts for much of the disparity in health and wellbeing outcomes observed across the region.

The presence of many Aboriginal people and communities within the WNSW PHN contributes to the unique cultural character of the WNSW PHN population. Many people within the Aboriginal population are connected to many communities across the region and travel and live in these communities. Services across the region need to consider cultural safety when providing care to these communities and improve the connection, communication and continuity of care to support the health and wellbeing of people moving between communities.

WNSW PHN is home to important farming and pastoral communities. These communities are uniquely affected by issues including geographical isolation, socioeconomic challenges, mental health issues, and limited access to healthcare services.

Improving equity for people and communities outside of the major regional areas of the WNSW PHN is essential to planning and activities of the WNSW PHN.

*Table 1.1 Estimated Resident Population by jurisdiction, 2021.*

| JURISDICTION | ESTIMATED RESIDENT POPULATION | |
|---|---|---|
| (LGA/LHD/PHN) | N | % of LHD/PHN/NSW |
| Balranald | 2,207 | 7.4% |
| Broken Hill | 17,661 | 59.5% |
| Central Darling | 1,760 | 5.9% |
| Unincorporated FW^ | 576 | 1.9% |
| Wentworth | 7,487 | 25.2% |
| **FWLHD^** | **29,691** | **9.5% of PHN** |
| Bathurst Regional | 43,653 | 15.4% |
| Blayney | 7,508 | 2.6% |
| Bogan | 2,481 | 0.9% |
| Bourke | 2,417 | 0.9% |
| Brewarrina | 1,488 | 0.5% |
| Cabonne | 13,760 | 4.8% |
| Cobar | 4,098 | 1.4% |
| Coonamble | 3,834 | 1.3% |
| Cowra | 12,753 | 4.5% |
| Dubbo Regional | 55,518 | 19.5% |
| Forbes | 9,383 | 3.3% |
| Gilgandra | 4,319 | 1.5% |
| Lachlan* | 6,149 | 2.2% |
| Mid-Western Regional | 25,704 | 9.0% |
| Narromine | 6,448 | 2.3% |
| Oberon | 5,564 | 2.0% |
| Orange | 43,736 | 15.4% |
| Parkes | 14,453 | 5.1% |
| Walgett | 5,590 | 2.0% |
| Warren | 2,586 | 0.9% |
| Warrumbungle Shire | 9,254 | 3.3% |
| Weddin | 3,589 | 1.3% |
| **WNSWLHD** | **284,285** | **90.5% of PHN** |
| **WNSW PHN^** | **313,976** | **3.9% of NSW** |
| **NSW** | **8,093,815** | **NA** |

LGA=local government area, LHD=local health district, PHN=primary health network, FW=Far West, WNSW=Western NSW, NA=Not applicable.

^Best estimate based upon Unincorporated FW population = (Unincorporated NSW - Lord Howe Island) = (1020-444)

*Includes all Lachlan LGA

Data sources: Estimated Residential Population: ABS Census 2021

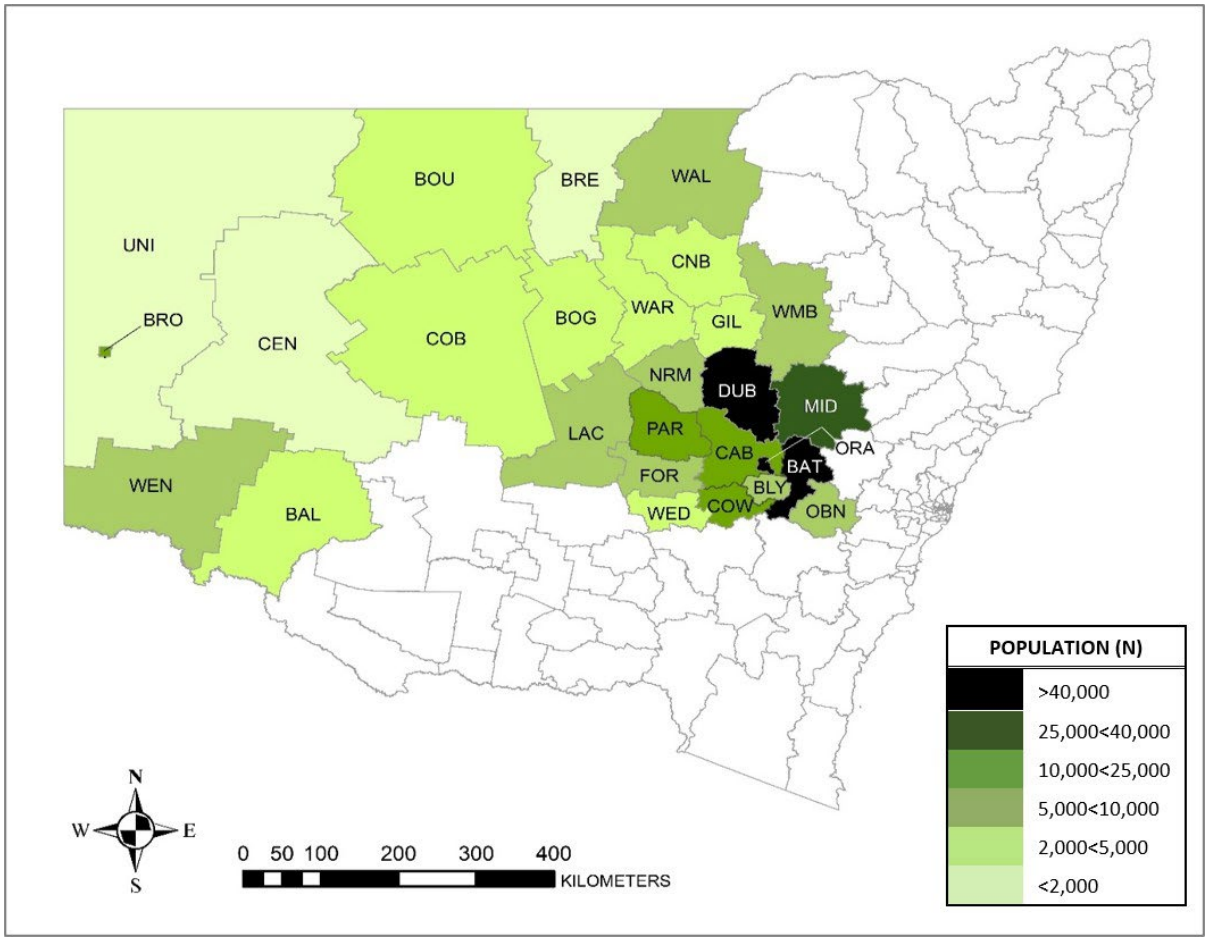



***Figure 1.1 Estimated resident population by local government area, 2021.***

N=number

See LGA Abbreviations.

Data source: ABS, 2022 (Estimated Resident Population, 2021)

### Aboriginal population, 2021

In 2021, the Aboriginal ERP for WNSW PHN was approximately 45,420 or 14.5% of the total population for WNSW PHN (Table 1.5, Table A.1.2 – see Appendix A). This proportion was much greater than that for NSW where the Aboriginal population made up only 4.2% of the State's population.

In WNSW PHN, Local Government Areas with the highest numbers of Aboriginal residents included Dubbo (n=11,508), Orange (n=4,066), Bathurst (n=3, 782), Parkes (n=2,327), Broken Hill (n=2,204) and Mid-Western Regional (n=2,179) (Table 1.5, Table A.1.2 – see Appendix A). However, Local Government Areas with the highest proportions of Aboriginal people included Brewarrina (63%), Central Darling (48%), Coonamble (44%), Bourke (41%), and Walgett (32%) (Figure 1.5, Table 1.5, Table A.1.2).

The WNSW PHN encompasses significant history and culture represented by the many Aboriginal communities and people across the region. It is critical that the WNSW PHN consider and prioritise the perspective and input of Aboriginal people, communities and peak bodies across the region in all activities that the PHN undertakes. This will ensure greater equity, cultural safety and health and wellbeing outcomes for the entire WNSW population.

### *Table 1.5 Aboriginal Estimated Resident Population by jurisdiction, 2021*

| LOCAL GOVERNMENT AREA | ABORIGINAL ERP, 2021 (N) | TOTAL POPULATION (N) | ABORIGINAL RESIDENTS AS % OF TOTAL POPULATION |
|---|---|---|---|
| Balranald | 185 | 2,208 | 8.4% |
| Broken Hill | 2,204 | 17,662 | 12.5% |
| Central Darling | 836 | 1,758 | 47.6% |
| Unincorporated FW^ | 35 | 576 | 6.1% |
| Wentworth | 821 | 7,490 | 11.0% |
| **FWLHD** | **4,081** | **29,694** | **13.7%** |
| Bathurst Regional | 3,782 | 43,674 | 8.7% |
| Blayney | 519 | 7,511 | 6.9% |
| Bogan | 525 | 2,480 | 21.2% |
| Bourke | 1,000 | 2,416 | 41.4% |
| Brewarrina | 932 | 1,487 | 62.7% |
| Cabonne | 859 | 13,767 | 6.2% |
| Cobar | 797 | 4,098 | 19.4% |
| Coonamble | 1,694 | 3,833 | 44.2% |
| Cowra | 1,389 | 12,759 | 10.9% |
| Dubbo Regional | 11,508 | 55,528 | 20.7% |
| Forbes | 1,572 | 9,385 | 16.8% |
| Gilgandra | 813 | 4,318 | 18.8% |
| Lachlan* | 1,465 | 6,153 | 23.8% |
| Mid-Western Regional | 2,179 | 25,714 | 8.5% |
| Narromine | 1,743 | 6,448 | 27.0% |
| Oberon | 329 | 5,567 | 5.9% |
| Orange | 4,066 | 43,750 | 9.3% |
| Parkes | 2,327 | 14,451 | 16.1% |
| Walgett | 1,810 | 5,588 | 32.4% |
| Warren | 509 | 2,584 | 19.7% |
| Warrumbungle Shire | 1,322 | 9,256 | 14.3% |
| Weddin | 199 | 3,592 | 5.5% |
| **WNSWLHD** | **41,339** | **284,359** | **14.5%** |
| **WNSW PHN** | **45,420** | **314,053** | **14.5%** |
| **NSW** | **339,710** | **8,097,062** | **4.2%** |

ERP=Estimated Resident Population, N=number, FWLHD=Far West Local Health District, WNSWLHD=Western NSW Local Health District, WNSW PHN=Western NSW Primary Health Network,

^Best estimate based upon Unincorporated FW population = (Unincorporated NSW) – (Lord Howe Island)

*Includes WNSWLHD and Murrumbidgee LHD portions.

Data source: ABS Estimated Resident Aboriginal and Torres Strait Islander Populations by LGA at 30 June 2021

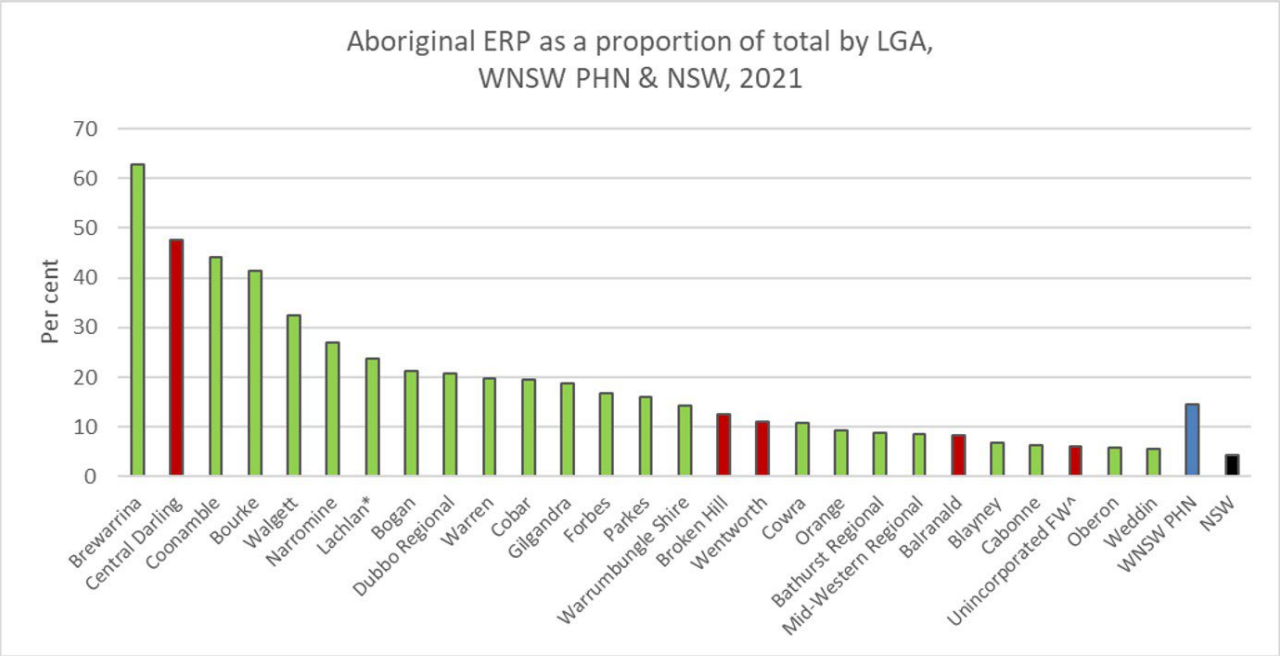



***Figure 1.5 Aboriginal estimated resident population by Local Government Area, WNSW PHN & NSW, 2021.***

ERP=estimated resident population, LGA=local government area, FW=Far West

*Includes Western NSW LHD and Murrumbidgee LHD portions

^Estimated based on Unincorporated FW population=(Unincorporated NSW)-(Lord Howe Island) Data source: ABS, 2021

### Age-sex structure, 2021

The 2021 ERPs indicate that males in Western NSW jurisdictions outnumbered females while NSW females outnumbered males (Table 1.2).

In NSW in 2021, for each age group up to 40 years, males outnumbered females, while for each age group after 50 years, females outnumbered males (Figure 1.2, Table 1.2). By contrast, in both WNSWLHD and WNSW PHN, females outnumbered males only for the 85+ year age group. For FWLHD, however, females outnumbered males across several age groups, that is for 25-29, 30-34, 35-39, 80-84 and 85+ years. The 10-year age group with the highest proportion of the population for each jurisdiction was 30-39 years for NSW, 5-14 years for WNSW PHN and WNSWLHD, and 55-64 years for FWLHD.

***Table 1.2 Number and proportion of males and females by jurisdiction, Estimated Resident Populations based on ABS 2021 Census.***

| JURISDICTION | Estimated Resident Population, 2021 N (%) | | |
|---|---|---|---|
| | MALES | FEMALES | TOTAL PERSONS* |
| FWLHD | 14,982 **(50.5)** | 14,709 **(49.5)** | 29,691 |
| WNSWLHD | 142,825 **(50.2)** | 141,460 **(49.8)** | 284,285 |
| WNSW PHN | 157,807 **(50.3)** | 156,169 **(49.7)** | 313,976 |
| NSW | 4,023,278 **(49.7)** | 4,070,537 **(50.3)** | 8,093,815 |

*Includes binary sex only.

FW=Far West, WNSW=Western NSW, LHD=local health district, PHN=primary health network. Data Source: 2021 Estimated Resident Populations, ABS 2022


***Figure 1.2 Estimated Resident Populations by age, sex and jurisdiction, 2021.***

FW=Far West, WNSW=Western NSW, LHD=local health district, PHN=primary health network.

Data source: ABS, 2022 (Estimated Resident Population, 2021)

## Age structure by local government area

According to the 2021 ERPs, the median age of residents in each LGA of FWLHD was 42-43 years, higher than that of NSW by 4-5 years (Table 1.3). In WNSWLHD, more than three-quarters of LGAs recorded a median age higher than that of NSW. Weddin and Warrumbungle Shire recorded the highest median ages of 51 and 50 years, respectively. Those LGAs recording the next highest median age of 47 years included Cowra, Oberon and Warren. The youngest median age of 36 years (2 years younger than that of NSW) was recorded in both Bourke and Dubbo Regional LGAs.

The age group in which the highest population proportion occurred was 60-64 years for FWLHD, 10-14 years for both WNSWLHD and WNSW PHN, and 30-34 years for NSW (Table 1.3). In FWLHD, except for Unincorporated FW, all LGAs recorded the greatest proportion of their populations in the 55-69 year age groups. For Unincorporated FW, the greatest population proportion fell in the 45-49 year age group. In WNSWLHD, 50% of LGAs recorded their highest population proportions in the 0-14 year age groups and 36% in the 55-74 year age groups.

The proportion of the population aged 0-14 years was 18% for FWLHD, 19% for NSW, and 20% for both WNSWLHD and WNSW PHN (Table 1.3). In WNSWLHD, LGAs with the highest proportion of residents aged 0-14 years included Bourke (24%), Coonamble (22%) and Orange (22%), while that for FWLHD was Balranald (20%). The proportion of the population aged 70+ years was approximately 14% for all Western jurisdictions compared to 12% for NSW. In FWLHD, Broken Hill recorded the highest proportion of residents aged 70+ years (16%), while in WNSWLHD it was Weddin (21%), Warrumbungle Shire (21%) and Cowra (19%).

## *Table 1.3 Population proportion by age-group and local government area, Estimated Resident Population, 2021.*

| JURISDICTION | LGA/LHD | MEDIAN AGE (years) | PER CENT OF POPULATION BY AGE GROUP, 2021 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 00-04 | 05-09 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70-74 | 75-79 | 80-84 | 85+ |
| FWLHD^ | Balranald | 43 | 5.0 | 7.7 | 7.7 | 5.3 | 4.3 | 5.6 | 6.9 | 4.6 | 5.8 | 5.9 | 6.7 | 7.2 | 7.9 | 8.2 | 4.9 | 2.4 | 2.8 | 1.1 |
| | Broken Hill | 43 | 5.6 | 5.8 | 6.0 | 5.6 | 5.2 | 6.4 | 6.3 | 5.6 | 5.0 | 5.4 | 6.0 | 6.9 | 7.6 | 6.6 | 5.7 | 4.0 | 2.9 | 3.3 |
| | Central Darling | 42 | 4.9 | 7.0 | 5.5 | 6.1 | 5.9 | 7.0 | 6.1 | 4.9 | 5.2 | 6.3 | 6.0 | 8.0 | 7.6 | 6.8 | 6.3 | 4.4 | 1.4 | 0.7 |
| | Unincorporated FW^ | 42 | 5.4 | 6.8 | 7.3 | 3.5 | 3.1 | 4.3 | 4.2 | 7.5 | 8.3 | 11.3 | 9.9 | 4.7 | 4.5 | 8.0 | 6.3 | 1.9 | 2.4 | 0.7 |
| | Wentworth | 43 | 6.7 | 6.4 | 6.1 | 5.6 | 4.9 | 5.3 | 5.7 | 6.1 | 5.0 | 6.5 | 6.3 | 7.6 | 7.0 | 6.5 | 6.1 | 3.8 | 2.3 | 2.0 |
| | **FWLHD^** | **NA** | 5.8 | 6.2 | 6.2 | 5.6 | 5.1 | 6.0 | 6.2 | 5.7 | 5.1 | 5.9 | 6.2 | 7.1 | 7.4 | 6.7 | 5.8 | 3.8 | 2.6 | 2.6 |
| WNSWLHD | Bathurst | 38 | 5.8 | 6.4 | 6.9 | 6.7 | 6.7 | 6.5 | 6.8 | 6.1 | 5.6 | 6.2 | 6.1 | 6.0 | 6.1 | 5.3 | 4.7 | 3.4 | 2.3 | 2.3 |
| | Blayney | 43 | 6.1 | 7.1 | 7.5 | 6.2 | 4.2 | 4.8 | 6.0 | 5.3 | 5.1 | 6.3 | 7.2 | 7.2 | 7.4 | 6.2 | 5.2 | 3.7 | 2.5 | 2.1 |
| | Bogan | 40 | 6.8 | 6.6 | 6.1 | 5.9 | 5.8 | 6.6 | 7.1 | 5.2 | 5.3 | 6.6 | 6.4 | 7.4 | 5.2 | 3.6 | 4.4 | 5.2 | 3.9 | 2.0 |
| | Bourke | 36 | 8.3 | 7.8 | 8.2 | 6.1 | 6.2 | 6.1 | 5.5 | 6.1 | 5.1 | 5.0 | 7.0 | 7.2 | 7.6 | 3.6 | 5.2 | 3.1 | 1.5 | 0.4 |
| | Brewarrina | 39 | 6.0 | 5.4 | 5.0 | 4.8 | 5.0 | 6.6 | 11.4 | 6.8 | 4.0 | 5.8 | 8.1 | 7.7 | 6.0 | 8.5 | 2.7 | 1.8 | 1.3 | 3.1 |
| | Cabonne | 44 | 5.6 | 7.2 | 7.9 | 6.2 | 4.3 | 3.9 | 4.8 | 5.5 | 5.7 | 6.9 | 6.3 | 7.5 | 7.2 | 5.7 | 5.8 | 4.2 | 2.9 | 2.3 |
| | Cobar | 37 | 7.1 | 7.2 | 6.9 | 5.6 | 5.4 | 6.8 | 7.8 | 6.9 | 5.2 | 5.5 | 5.6 | 6.8 | 6.7 | 5.3 | 4.2 | 3.1 | 2.2 | 1.6 |
| | Cooonamble | 39 | 8.6 | 6.6 | 6.8 | 5.8 | 4.9 | 7.1 | 5.4 | 6.4 | 4.6 | 5.4 | 6.7 | 7.1 | 6.1 | 5.6 | 4.8 | 3.4 | 2.7 | 2.1 |
| | Cowra | 47 | 5.5 | 5.8 | 6.0 | 5.8 | 5.3 | 5.3 | 4.7 | 4.6 | 4.9 | 5.9 | 6.6 | 6.8 | 6.7 | 7.1 | 7.4 | 4.8 | 3.6 | 3.1 |
| | Dubbo Regional | 36 | 7.2 | 7.0 | 7.1 | 5.8 | 5.8 | 7.9 | 7.5 | 6.5 | 5.5 | 5.6 | 5.8 | 5.7 | 5.8 | 4.9 | 4.3 | 3.2 | 2.3 | 2.0 |
| | Forbes | 42 | 6.0 | 7.2 | 7.3 | 5.7 | 5.4 | 5.5 | 5.4 | 5.6 | 5.2 | 5.3 | 6.3 | 6.6 | 5.9 | 5.6 | 6.0 | 4.7 | 3.3 | 3.0 |
| | Gilgandra | 46 | 6.1 | 6.4 | 6.9 | 4.9 | 3.8 | 5.0 | 5.3 | 4.9 | 5.3 | 5.7 | 7.1 | 7.3 | 7.7 | 6.8 | 6.0 | 4.2 | 3.8 | 2.6 |
| | Lachlan* | 41 | 6.3 | 7.7 | 7.2 | 5.3 | 4.6 | 5.8 | 5.9 | 6.2 | 5.1 | 5.7 | 5.6 | 6.1 | 7.4 | 6.0 | 5.0 | 3.8 | 2.8 | 3.3 |
| | Mid-Western Regiona | 42 | 6.1 | 7.3 | 7.0 | 5.6 | 4.4 | 5.6 | 6.2 | 6.0 | 5.6 | 6.1 | 6.9 | 6.9 | 6.7 | 5.6 | 5.4 | 4.0 | 2.6 | 2.2 |
| | Narromine | 40 | 6.4 | 7.4 | 7.9 | 6.0 | 4.8 | 5.4 | 6.0 | 5.7 | 5.0 | 5.8 | 5.4 | 6.7 | 6.6 | 5.8 | 5.6 | 4.5 | 2.7 | 2.4 |
| | Oberon | 47 | 5.0 | 5.9 | 6.6 | 4.7 | 4.6 | 4.9 | 5.1 | 5.8 | 5.7 | 5.8 | 7.2 | 7.3 | 7.2 | 7.4 | 7.5 | 4.5 | 2.8 | 1.9 |
| | Orange | 37 | 7.2 | 7.3 | 7.5 | 6.2 | 5.7 | 6.8 | 7.0 | 6.8 | 5.7 | 6.0 | 5.7 | 5.5 | 5.4 | 4.8 | 4.7 | 3.3 | 2.2 | 2.3 |
| | Parkes | 40 | 6.6 | 6.8 | 7.4 | 6.1 | 5.5 | 5.9 | 5.7 | 5.6 | 5.4 | 5.6 | 6.1 | 6.7 | 6.6 | 5.7 | 4.8 | 3.8 | 2.9 | 2.8 |
| | Walgett | 44 | 6.5 | 6.8 | 5.8 | 5.5 | 4.5 | 6.0 | 6.3 | 4.4 | 5.1 | 5.4 | 7.3 | 7.2 | 8.6 | 6.8 | 6.2 | 4.1 | 2.3 | 1.3 |
| | Warren | 47 | 6.3 | 7.5 | 6.7 | 5.2 | 4.7 | 3.7 | 6.5 | 4.4 | 3.7 | 4.5 | 7.2 | 7.5 | 8.5 | 5.7 | 6.6 | 4.0 | 3.1 | 4.4 |
| | Warrumbungle Shire | 50 | 5.2 | 5.3 | 6.6 | 5.8 | 3.5 | 4.6 | 4.9 | 4.6 | 4.3 | 5.3 | 6.4 | 7.5 | 7.2 | 7.9 | 7.7 | 5.8 | 3.6 | 3.7 |
| | Weddin | 51 | 4.7 | 5.3 | 6.0 | 5.4 | 3.5 | 3.9 | 4.3 | 4.1 | 5.4 | 5.7 | 6.4 | 8.1 | 8.0 | 7.8 | 8.0 | 6.1 | 3.6 | 3.7 |
| | **WNSWLHD** | **NA** | 6.4 | 6.8 | 7.1 | 6.0 | 5.4 | 6.2 | 6.4 | 6.0 | 5.4 | 5.8 | 6.2 | 6.4 | 6.3 | 5.6 | 5.2 | 3.8 | 2.6 | 2.4 |
| **WNSWPHN^** | | **NA** | 6.4 | 6.8 | 7.0 | 5.9 | 5.3 | 6.2 | 6.4 | 5.9 | 5.4 | 5.8 | 6.2 | 6.4 | 6.4 | 5.7 | 5.3 | 3.8 | 2.6 | 2.4 |
| **NSW** | | **38** | **5.9** | **6.3** | **6.3** | **5.7** | **6.3** | **7.0** | **7.4** | **7.2** | **6.4** | **6.4** | **6.1** | **6.0** | **5.8** | **5.0** | **4.5** | **3.2** | **2.2** | **2.2** |

LGA=local government area, LHD=local health district, FW=Far West, WNSW=Western NSW, NA=not available, PHN=primary health network.

^Population estimate due to Unincorporated Far West calculated by: (Unincorporated NSW) – (Lord Howe Island).

*Includes both WNSW PHN and non-WNSW PHN portions.

Age group with the highest population proportion for the jurisdiction.

Data source: ABS, 2022 (Estimated Resident Population, 2021)

## Aboriginal population age structure

In 2021, the median age of Aboriginal people in WNSW PHN was approximately 24 years compared to approximately 44 years for non-Aboriginal people. The proportion of Aboriginal people occupying the 0-4 age group was around double that of non-Aboriginal people, while the proportion occupying the 35+ years age group was only around half (Figure 1.6). In addition, less than 7% of Aboriginal people were aged 65+ years compared to nearly 22% for non-Aboriginal people.

For all age groups combined, Aboriginal males outnumbered Aboriginal females in WNSW PHN (101M:100F), WNSWLHD (101.2M:100F) and NSW (100.7 M:100F) but not for FWLHD (98.5M:100F). However, for the 35+ year age group, NSW, WNSW PHN and WNSWLHD Aboriginal females outnumbered Aboriginal males (i.e. 91.8M:100F, 93.6M:100F and 93.9M:100F, respectively).

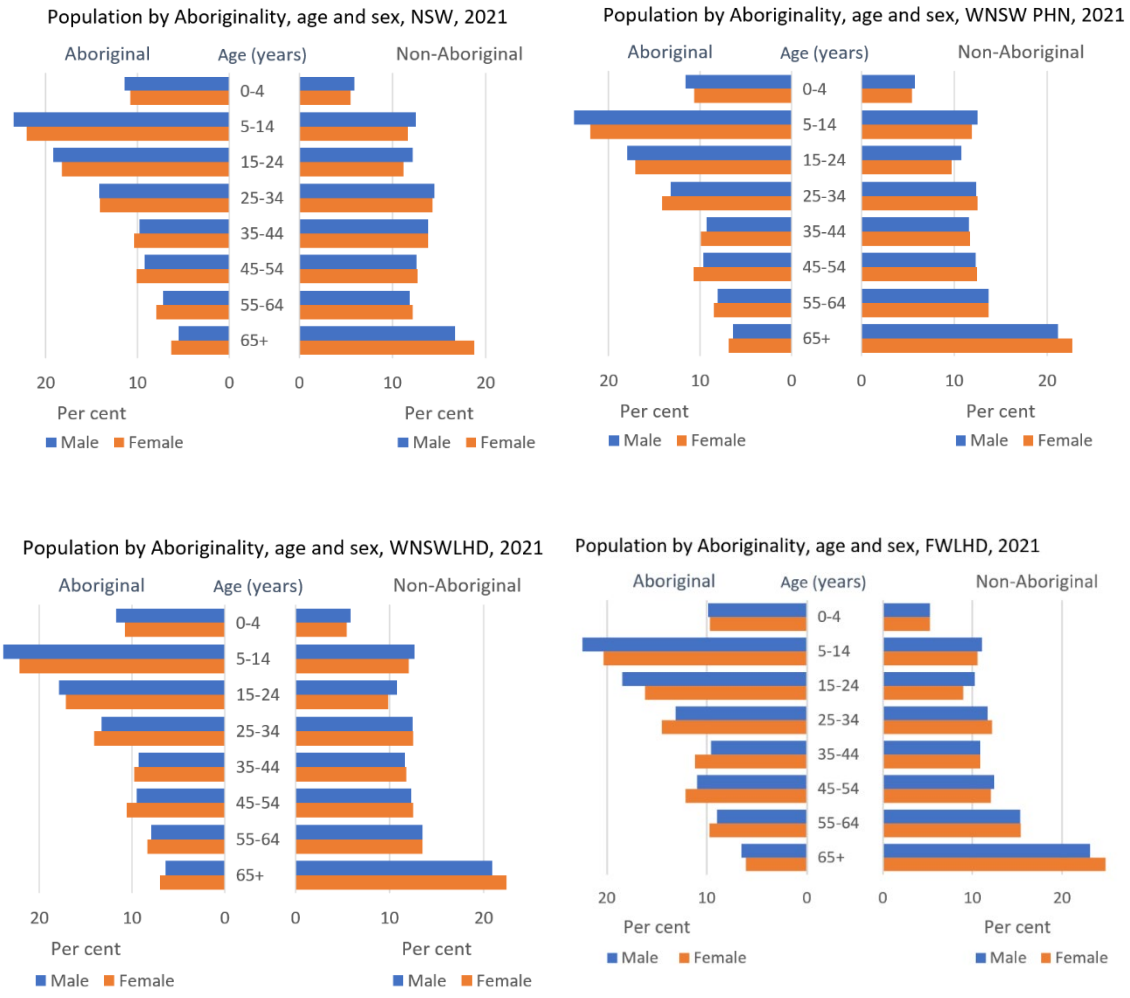



***Figure 1.6 Population by Aboriginality, age and jurisdiction, 2021.***

Aboriginal population percentages for each age group were calculated using the total Aboriginal population as the denominator (and similarly for non- Aboriginal population percentages).
Based on 2021 estimated residential population.
FW=Far West, WNSW=Western NSW, LHD=local health district, PHN=primary health network.
Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Population projections, 2021 to 2041

From 2021 to 2041, the NSW population is expected to increase by 21%, while that of WNSWLHD is expected to increase by only 10% (Table 1.4, Table A.1.1 – see Appendix). In contrast, the population of FWLHD is expected to decrease by 27% over the same twenty-year period with Broken Hill and Central Darling expected to show the greatest population decline of 38% and 28%, respectively. In WNSWLHD, LGAs expected to show the greatest population increases include Forbes (+32%), Bathurst (+29%) and Orange (+19%). LGAs expected to show the greatest population declines include Cobar (-41%), Bourke (-40%) and Brewarrina (-39%).

***Table 1.4 Projected populations by jurisdiction, 2021 & 2041.***

| JURISDICTION | PROJECTED POPULATION | | |
|---|---|---|---|
| (LGA/LHD/PHN) | 2021 | 2041 | % change |
| Balranald | 2,269 | 1,817 | -19.9% |
| Broken Hill | 16,946 | 10,596 | -37.5% |
| Central Darling | 1,812 | 1,311 | -27.6% |
| Unincorporated FW^ | 534 | 386 | -27.7% |
| Wentworth | 7,074 | 6,831 | -3.4% |
| **FWLHD^** | **28,635** | **20,941** | **-26.9%** |
| Bathurst Regional | 44,370 | 57,060 | 28.6% |
| Blayney | 7,327 | 7,861 | 7.3% |
| Bogan | 2,500 | 1,581 | -36.7% |
| Bourke | 2,578 | 1,556 | -39.6% |
| Brewarrina | 1,522 | 931 | -38.8% |
| Cabonne | 13,783 | 15,657 | 13.6% |
| Cobar | 4,329 | 2,555 | -41.0% |
| Coonamble | 3,888 | 2,965 | -23.7% |
| Cowra | 12,838 | 14,265 | 11.1% |
| Dubbo Regional | 54,411 | 63,599 | 16.9% |
| Forbes | 10,023 | 13,231 | 32.0% |
| Gilgandra | 4,187 | 3,353 | -19.9% |
| Lachlan* | 6,041 | 4,769 | -21.1% |
| Mid-Western Regional | 25,445 | 29,649 | 16.5% |
| Narromine | 6,304 | 4,695 | -25.5% |
| Oberon | 5,421 | 5,432 | 0.2% |
| Orange | 42,976 | 51,161 | 19.0% |
| Parkes | 14,683 | 15,847 | 7.9% |
| Walgett | 5,747 | 3,732 | -35.1% |
| Warren | 2,667 | 1,755 | -34.2% |
| Warrumbungle Shire | 9,092 | 7,598 | -16.4% |
| Weddin | 3,640 | 3,292 | -9.6% |
| **WNSWLHD** | **283,772** | **312,544** | **10.1%** |
| **WNSW PHN^** | **312,407** | **333,485** | **6.7%** |
| **NSW** | **8,166,757** | **9,872,934** | **20.9%** |

LGA=local government area, LHD=local health district, PHN=primary health network, FW=Far West, WNSW=Western NSW, NA=Not applicable.

^Best estimate based upon Unincorporated FW population = (Unincorporated NSW - Lord Howe Island)

*Includes all Lachlan LGA

Data source: Department of Planning & Environment, 2022

### Projected population change by age group, 2021 to 2041

From 2021 to 2041 and across all Western NSW jurisdictions, the greatest population increase is expected to occur for the 70+ age group, that is by 44% for WNSWLHD, 41% for WNSW PHN and 14% for FWLHD (Figures 1.3 and 1.4). For all other age groups, populations are expected to decline in FWLHD by at least 32% or increase only marginally in WNSWLHD by no more than 10%. By contrast, populations of all age groups in NSW are expected to increase.

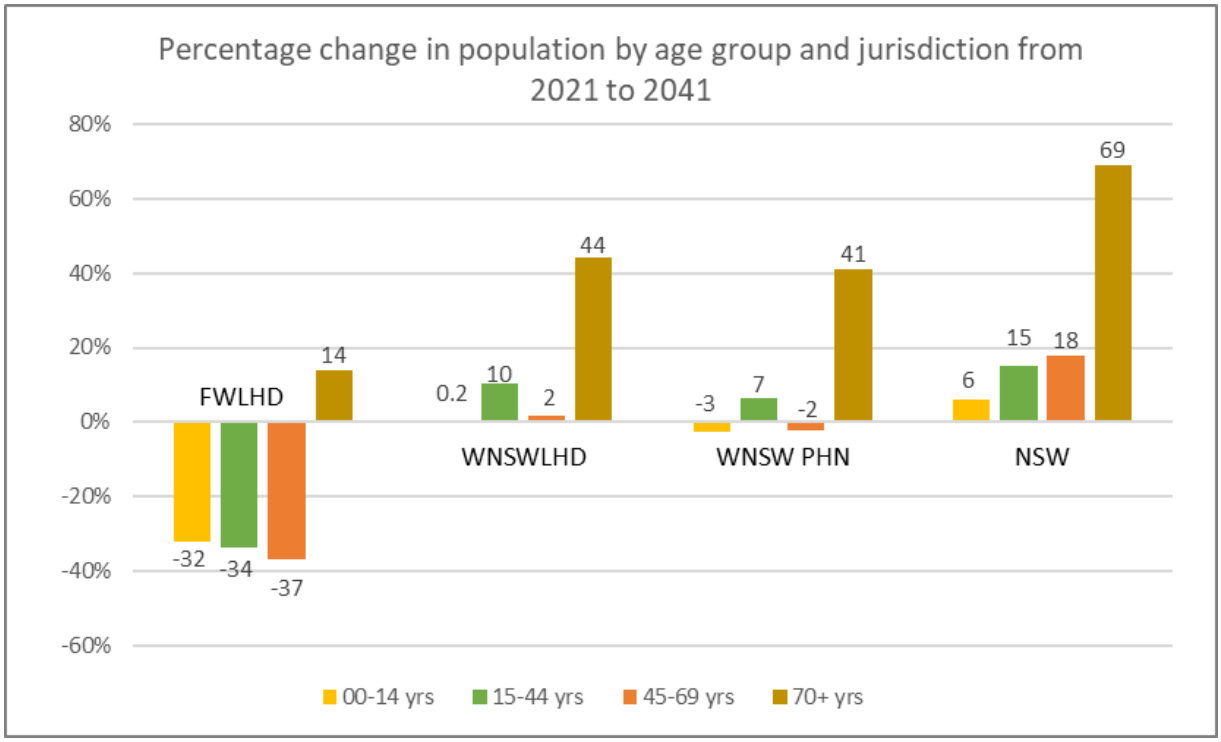



***Figure 1.3 Percentage change in population by age group and jurisdiction in 2041 compared to 2021.***

Data source: DPE, 2022

The population for the 70+ age group is expected to increase for nearly all (81%) LGAs of WNSW PHN over the next 20 years. Indeed, for Brewarrina, Orange and Bathurst the population for the 70+ age group is expected to increase by 91%, 72% and 69%, respectively (Figure 1.4). Only Balranald, Bogan, Gilgandra, Narromine and Warren are expected to show a decline in populations aged 70+ years.

By contrast, in the next 20 years, nearly 70% of all LGAs are expected to show a decline in those aged 0-14 years, with Bourke, Brewarrina, Broken Hill and Walgett expected to at least halve their 0-14 year old populations (Figure 1.4). Those LGAs expected to show an increase in 0-14 year old populations include Bathurst (25%), Forbes (18%), Dubbo Regional (8%), Cabonne (7%), Blayney (6%), Mid-Western Regional (5%), Wentworth (4%) and Orange (3%).

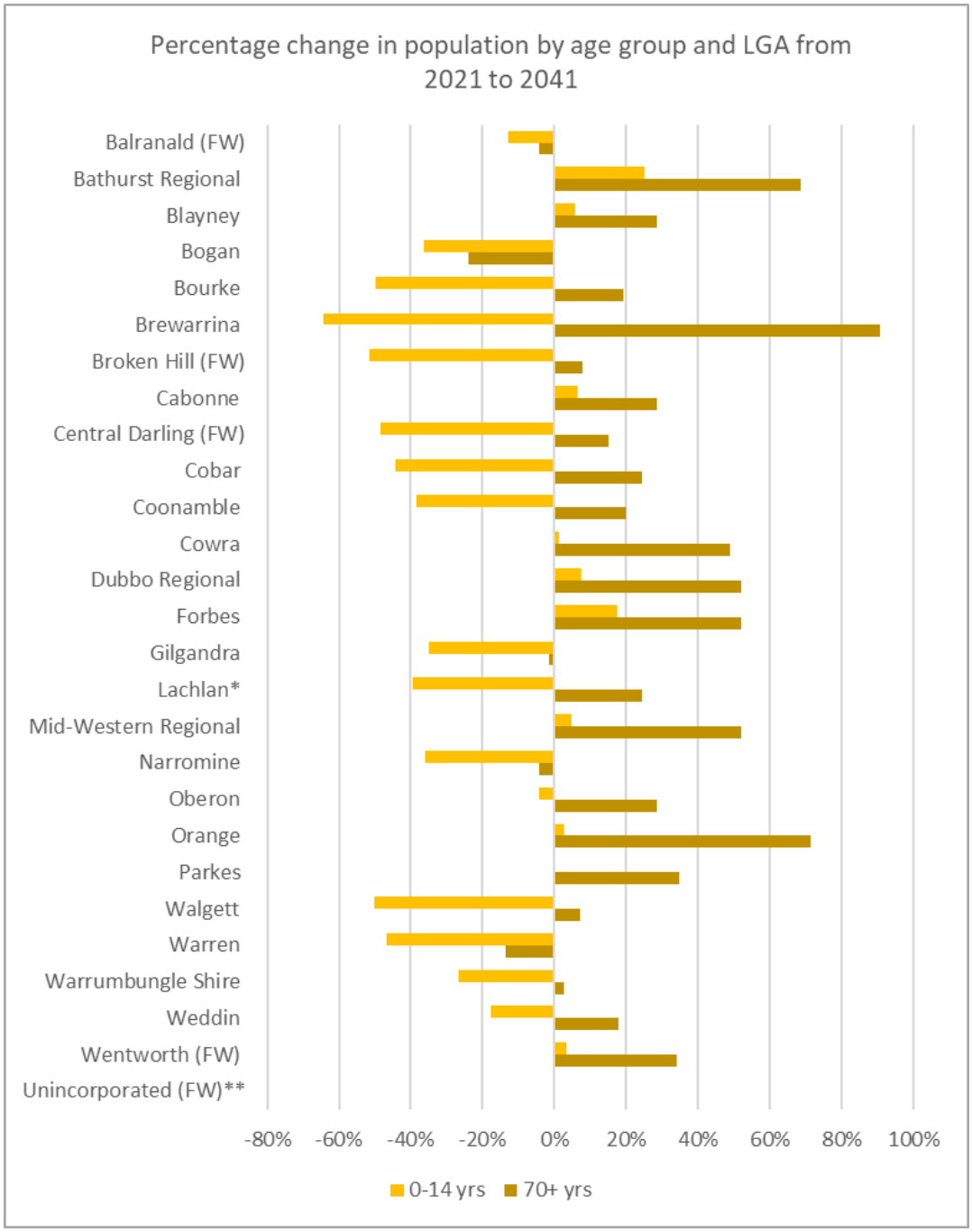



***Figure 1.4 Projected change in population for age groups 0-14 years and 70+ years by LGA in 2041 compared to 2021.***

FW=Far West, LGA=local government area, LHD=local health district.

*Includes both WNSWLHD and non-WNSWLHD portions.

**Projected population data not available for Unincorporated FW.

Data source: DPE, 2022

# Chapter 2. Determinants of Health

## Summary

| Chapter 2. Health Determinants | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| **Disadvantage & Remoteness** | | | | | |
| Disadvantage (% LGAs in 5 lowest deciles*) | 2021 | 100%+ | 77% | 81%+ | Not applicable |
| Remoteness (% LGAs = remote or very remote) | 2021 | 40% | 32% | 33% | Not applicable |
| **Housing & Access** | | | | | |
| Social housing | 2021 | 3.9% | 4.5% | 4.5% | 4.2% |
| Vehicle access | 2021 | 8.6% | 5.5% | 5.9% | 9.0% |
| Financial support to access health care | 2021 | 10.9% | 7.8% | 8.0% | 6.7% |
| **Risk factors to health** | | | | | |
| Disability support pension | 2021 | 10.1% | 7.2% | 7.4% | 4.6% |
| NDIS participant (ASR/100) | 2021 | NA | NA | 2.4 | 2.0 |
| Overweight and obesity (cf. NSW) | 2017-2021 | 35% | 17% | 18% | Not applicable |

NA=Not available LGA=local government area

*Where decile 1=most disadvantaged and decile 10=least disadvantaged Excludes Unincorporated FW

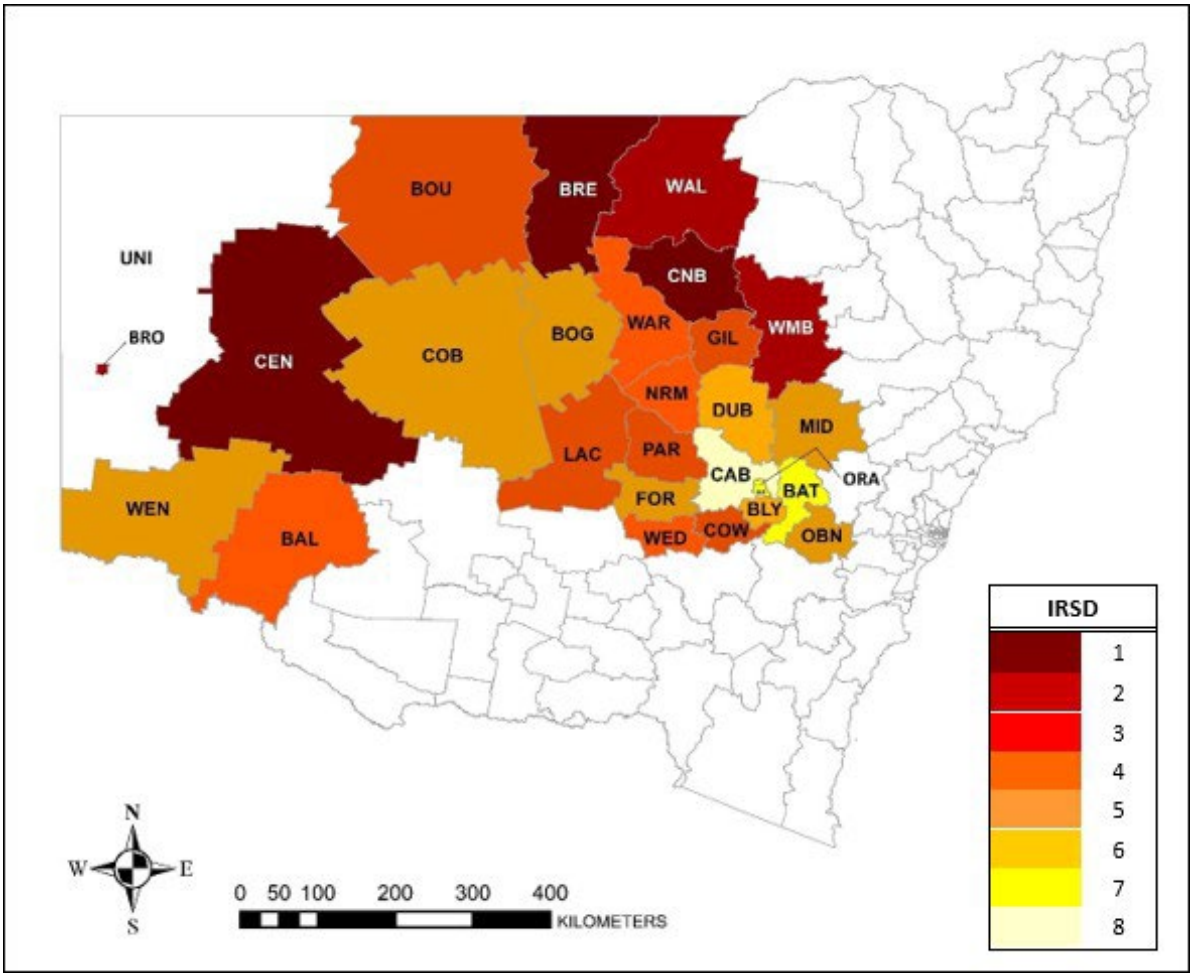



*Figure 2.1 Index of Relative Socioeconomic Disadvantage (IRSD) by local government area, 2021.*

IRSD = index of relative socioeconomic disadvantage (where 1=most disadvantaged and 9=least disadvantaged).

See LGA Abbreviations.

Data source: ABS

### *Table 2.1 Measures of socioeconomic disadvantage and remoteness by jurisdiction, 2021.*

| | 2021 | | | | | |
|---|---|---|---|---|---|---|
| **LGA** | **IRSD[1]** | **ARIA +[2]** | **Education (≤ Year 10)[3]** | **Poor English & born OS[3]** | **Low Income[3#]** | **Unemployed[1]** |
| | (Decile[4]) | (Remoteness) | (ASR/100) | (%) | (%) | (%) |
| Balranald[+] (FW) | 4 | Outer Regional | 34.1 | 2.1 | 50.5 | 3.1 |
| Bathurst Regional | 7 | Inner Regional | 34.1 | 0.4 | 44.3 | 4.1 |
| Blayney | 6 | Inner Regional | 38.4 | 0.1 | 46.2 | 4.4 |
| Bogan[+] | 5 | Remote | 40.8 | 0.2 | 48.5 | 3.2 |
| Bourke[+] | 3 | Very Remote | 35.8 | 0.1 | 43.5 | 2.7 |
| Brewarrina[+] | 1 | Very Remote | 43.5 | 0.6 | 65.6 | 7.1 |
| Broken Hill[+] (FW) | 2 | Outer Regional | 45.7 | 0.2 | 56.1 | 5.5 |
| Cabonne[+] | 8 | Inner Regional | 35.5 | 0.2 | 46.2 | 2.6 |
| Central Darling[+] (FW) | 1 | Very Remote | 44.3 | 0.0 | 64.6 | 7.4 |
| Cobar | 5 | Remote | 40.4 | 0.3 | 41.0 | 3.2 |
| Coonamble | 1 | Remote | 39.9 | 0.0 | 57.1 | 6.7 |
| Cowra | 3 | Inner Regional | 41.6 | 0.3 | 60.5 | 5.1 |
| Dubbo Regional | 6 | Inner Regional | 37.0 | 0.4 | 44.5 | 3.6 |
| Forbes | 5 | Outer Regional | 38.6 | 0.2 | 54.0 | 3.8 |
| Gilgandra | 3 | Outer Regional | 40.3 | 0.0 | 59.7 | 4.8 |
| Lachlan* | 3 | Remote | 38.7 | 0.3 | 57.8 | 5.4 |
| Mid-Western Regional | 5 | Inner Regional | 39.5 | 0.2 | 48.4 | 4.0 |
| Narromine | 4 | Outer Regional | 37.8 | 0.0 | 54.1 | 4.4 |
| Oberon | 5 | Inner Regional | 37.0 | 0.5 | 47.8 | 3.5 |
| Orange | 7 | Inner Regional | 36.1 | 0.6 | 42.4 | 3.5 |
| Parkes | 3 | Outer Regional | 41.2 | 0.3 | 52.7 | 5.2 |
| Unincorp[+] (FW) | NA | Very Remote | 30.4 | 0.0 | 42.2 | 3.1 |
| Walgett | 2 | Remote | 32.6 | 0.6 | 62.0 | 6.7 |
| Warren[+] | 4 | Outer Regional | 34.7 | 0.0 | 52.6 | 4.5 |
| Warrumbungle | 2 | Outer Regional | 35.4 | 0.1 | 63.0 | 6.1 |
| Weddin | 4 | Outer Regional | 38.0 | 0.0 | 62.9 | 4.7 |
| Wentworth (FW) | 5 | Outer Regional | 32.4 | 0.4 | 51.5 | 4.3 |
| **WNSW PHN** | **NA** | **NA** | **37.7** | **0.4** | **49.0** | **4.1** |
| **NSW** | **NA** | **NA** | **27.9** | **4.0** | **40.8** | **4.9** |

LGA=local government area, IRSD=index of relative socio-economic disadvantage, ARIA+=accessibility/remoteness index of Australia +, ASR=age- standardised rate, FW=Far West Local Health District,
NA=Data not available, WNSW PHN=Western NSW Primary Health Network.
[1]ABS Census, 2021
[2]Hugo Centre for Population and Migration Studies, University of Adelaide [3]Public Health Information Development Unit, Torrens University Australia [4]Where 1=most disadvantaged and 10=least disadvantaged.
*WNSW PHN portion only for PHIDU data; all Lachlan LGA for ABS & Hugo Centre data
[+]Quality of Education data rated as 'Poor' by PHIDU
[#]Defined as the proportion of households in the bottom 40% of income distribution. Data source: [1]ABS, [2]Hugo Centre & [3]PHIDU

*Table 2.2 Measures of housing stress by jurisdiction, 2021.*

| LGA | 2021 | | | | |
|---|---|---|---|---|---|
| | Social housing[a] | Mortgage or rent stress[b] | Crowded[c] or severely crowded[d] dwellings | | Housing suitability[e] |
| | (% persons) | (% households) | (% all persons) | (% Aboriginal persons) | (% persons) |
| Balranald (FW) | 5.6 | 17.1 | 6.7 | 6.6 | 3.1 |
| Bathurst Regional | 3.9 | 25.8 | 4.2 | 9.5 | 2.0 |
| Blayney | 2.6 | 18.4 | 3.6 | 6.8 | 1.8 |
| Bogan | 5.9 | 12.2 | 3.4 | 6.2 | 1.4 |
| Bourke | 10.9 | 12.6 | 6.3 | 11.0 | 2.6 |
| Brewarrina | 33.2 | 22.8 | 13.1 | 19.4 | 5.3 |
| Broken Hill (FW) | 2.6 | 16.6 | 4.7 | 10.6 | 2.1 |
| Cabonne | 1.0 | 14.3 | 3.9 | 9.2 | 2.0 |
| Central Darling (FW) | 21.8 | 16.2 | 14.9 | 25.7 | 6.4 |
| Cobar | 6.5 | 10.7 | 4.5 | 10.9 | 2.2 |
| Coonamble | 9.7 | 13.8 | 7.2 | 13.4 | 3.5 |
| Cowra | 4.1 | 17.3 | 4.5 | 11.4 | 2.1 |
| Dubbo Regional | 4.5 | 24.9 | 6.0 | 13.4 | 2.9 |
| Forbes | 4.3 | 18.5 | 4.3 | 8.2 | 2.0 |
| Gilgandra | 4.4 | 15.8 | 4.5 | 11.7 | 2.4 |
| Lachlan* | 8.3 | 12.0 | 5.1 | 13.8 | 2.3 |
| Mid-Western Regional | 2.9 | 22.9 | 4.3 | 8.8 | 2.0 |
| Narromine | 4.4 | 19.5 | 5.2 | 11.6 | 2.2 |
| Oberon | 1.7 | 18.9 | 4.8 | 11.9 | 2.4 |
| Orange | 5.6 | 27.7 | 4.2 | 14.6 | 2.0 |
| Parkes | 4.8 | 17.8 | 5.4 | 11.2 | 2.5 |
| Unincorp (FW) | 2.0 | 21.7 | 6.2 | 28.6[f] | 3.7 |
| Walgett | 11.1 | 12.4 | 11.4 | 24.3 | 5.1 |
| Warren | 5.1 | 11.6 | 5.0 | 9.4 | 1.8 |
| Warrumbungle Shire | 2.6 | 11.7 | 5.4 | 11.1 | 2.4 |
| Weddin | 3.1 | 10.7 | 3.3 | 6.4 | 1.7 |
| Wentworth (FW) | 3.1 | 16.8 | 6.2 | 19.3 | 3.0 |
| **FWLHD** | **3.9** | **16.0** | **5.8** | **15.3** | **2.6** |
| **WNSWLHD** | **4.5** | **21.1** | **4.8** | **12.4** | **2.3** |
| **WNSW PHN** | **4.5** | **20.6** | **5.0** | **12.7** | **2.3** |
| **NSW** | **4.2** | **31.9** | **8.4** | **11.9** | **4.5** |

LGA=Local Government Area; FW=Far West

[a] Private dwellings rented from the government housing authority, a housing co-operative, community or a church group.

[b] Households in the bottom 40% of income distribution spending more than 30% of income on mortgage repayments or rent.

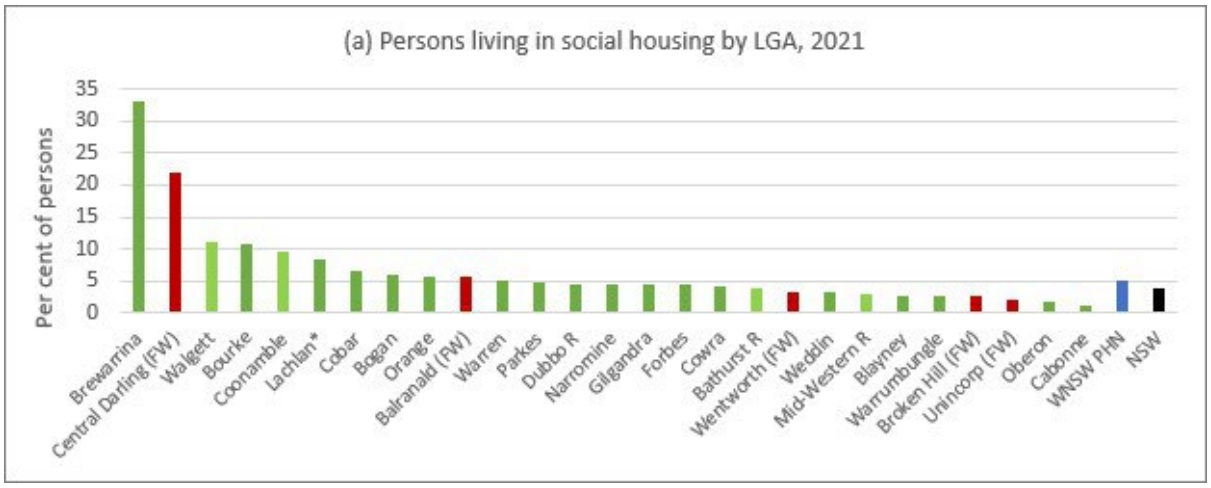
[c] Where >2 persons under 18 years of age share a bedroom or >1 single person over 18 years shares a bedroom or bed-sitter.

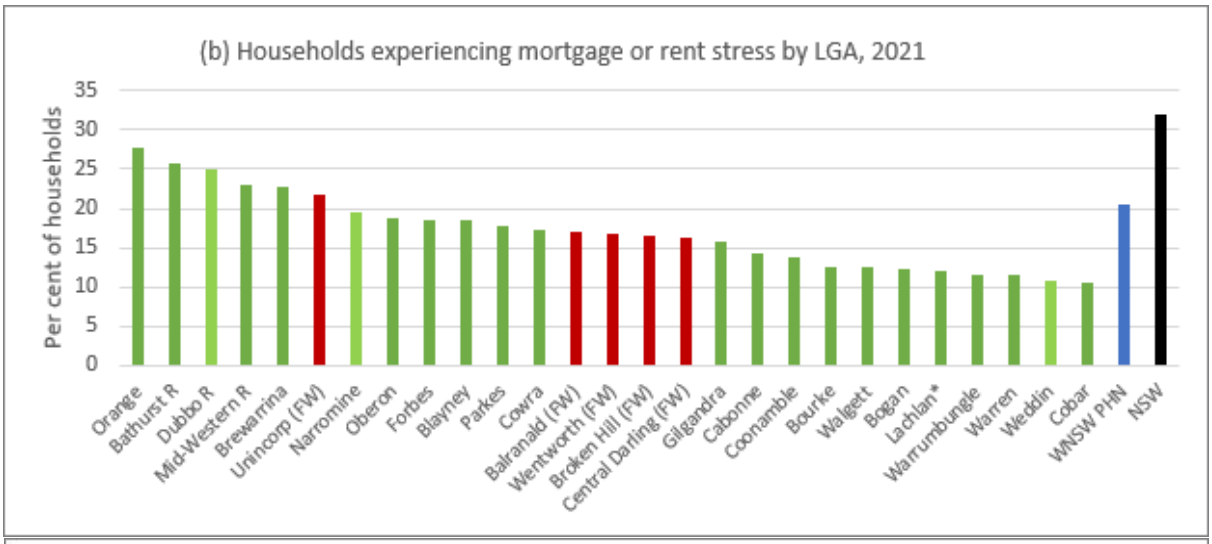
[d] Where private dwellings require 4 additional bedrooms to accommodate occupants.

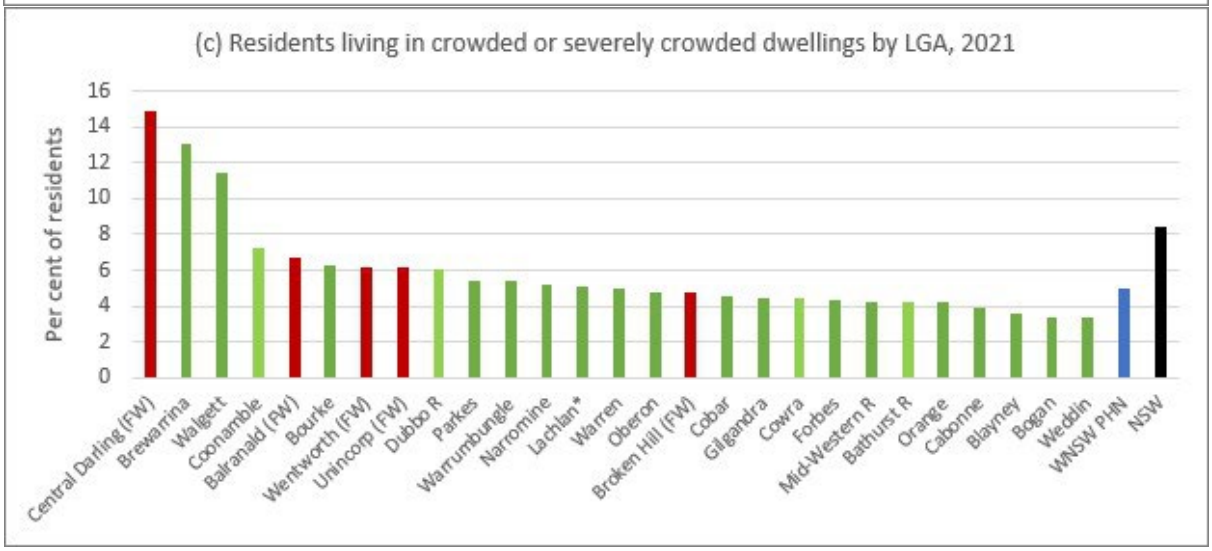
[e] Dwellings with households requiring extra bedrooms.

*WNSW PHN portion only.

Data source: PHIDU


(a) Persons living in social housing by LGA, 2021
Per cent of persons
35
30
25
20
15
10
5
0
Brewarrina
Central Darling (FW)
Walgett
Bourke
Coonamble
Lachlan*
Cobar
Bogan
Orange
Balranald (FW)
Warren
Parkes
Dubbo R
Narromine
Gilgandra
Forbes
Cowra
Bathurst R
Wentworth (FW)
Weddin
Mid-Western R
Blayney
Warrumbungle
Broken Hill (FW)
Unincorp (FW)
Oberon
Cabonne
WNSW PHN
NSW


(b) Households experiencing mortgage or rent stress by LGA, 2021
Per cent of households
35
30
25
20
15
10
5
0
Orange
Bathurst R
Dubbo R
Mid-Western R
Brewarrina
Unincorp (FW)
Narromine
Oberon
Forbes
Blayney
Parkes
Cowra
Balranald (FW)
Wentworth (FW)
Broken Hill (FW)
Central Darling (FW)
Gilgandra
Cabonne
Coonamble
Bourke
Walgett
Bogan
Lachlan*
Warrumbungle
Warren
Weddin
Cobar
WNSW PHN
NSW


(c) Residents living in crowded or severely crowded dwellings by LGA, 2021
Per cent of residents
16
14
12
10
8
6
4
2
0
Central Darling (FW)
Brewarrina
Walgett
Coonamble
Balranald (FW)
Bourke
Wentworth (FW)
Unincorp (FW)
Dubbo R
Parkes
Warrumbungle
Narromine
Lachlan*
Warren
Oberon
Broken Hill (FW)
Cobar
Gilgandra
Cowra
Forbes
Mid-Western R
Bathurst R
Orange
Cabonne
Blayney
Bogan
Weddin
WNSW PHN
NSW

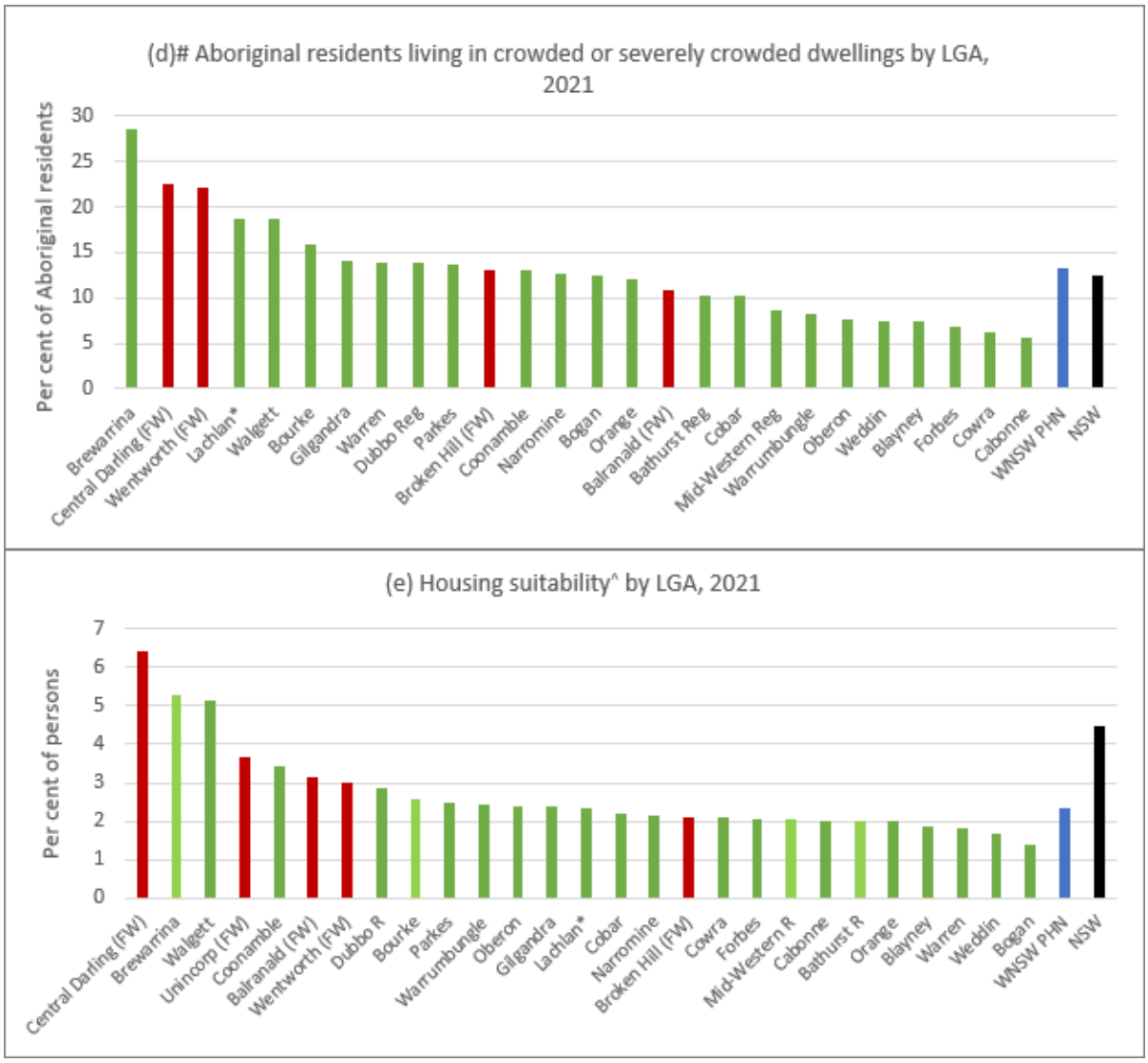



***Figure 2.2(a-e) Measures of housing stress by jurisdiction, 2021.***

LGA=local government area, FW=Far West, R=Regional

*Includes WNSW PHN portion only.

# Unincorporated (FW) omitted due to small numbers potentially producing artificially high results.

^Dwellings with households requiring extra bedrooms.

Data source: PHIDU, 2023

### Access to internet & transport

In 2021, access to home internet connections was not collected in the Census. In 2016, LGAs of WNSW PHN with lower levels of home internet connection and less access to transport tended to be more socioeconomically disadvantaged and geographically remote (Tables 2.1 & 2.3). The proportion of dwellings with no internet connection was higher than that for NSW in all LGAs of WNSW PHN. Central Darling, Brewarrina and Walgett reported the highest proportion of dwellings without internet connection, that is 42%, 41% and 38%, respectively.

In 2021, on average, a greater proportion of NSW dwellings were without a motor vehicle compared to WNSW PHN (i.e. 9% vs. 6%) (Table 2.3). Nonetheless, 19% of WNSW PHN LGAs had a larger proportion of dwellings with no motor vehicle compared to NSW. LGAs with the highest proportion of dwellings with no motor vehicle included Brewarrina (19%), Central Darling (18%), Unincorporated Far West (11%) and Bourke (10%). In 2014, the overall rate of inadequate transport access for WNSW PHN residents was equal to that of NSW. However, 50% of all WNSW PHN LGAs had rates higher than that of NSW. Broken Hill, Central Darling and Parkes had the highest rates of inadequate transport access, while Bathurst, Blayney, Cabonne and Weddin had the lowest rates of inadequate transport access.

*Table 2.3 Internet connection and transport access by jurisdiction, 2014, 2016 and 2021.*

| LGA | 2016 | 2021 | 2014 |
|---|---|---|---|
| | No internet (% dwellings) | No motor vehicle (% dwellings) | Poor transport access (ASR/100) |
| Balranald (FW) | 29.5 | 5.7 | 4.5 |
| Bathurst Regional | 18.6 | 5.8 | 3.7 |
| Blayney | 21.4 | 2.8 | 3.7 |
| Bogan | 30.1 | 5.2 | 4.6 |
| Bourke | 33.7 | 9.6 | NA |
| Brewarrina | 41.4 | 18.6 | NA |
| Broken Hill (FW) | 28.0 | 9.6 | 5.5 |
| Cabonne | 22.1 | 2.4 | 3.6 |
| Central Darling (FW) | 41.7 | 14.9 | 5.5 |
| Cobar | 26.7 | 6.6 | 4.6 |
| Coonamble | 36.1 | 8.1 | 4.6 |
| Cowra | 27.0 | 6.1 | 4.2 |
| Dubbo Regional | 21.1 | 5.4 | 4.4 |
| Forbes | 27.5 | 5.1 | 4.3 |
| Gilgandra | 33.1 | 6.2 | 4.3 |
| Lachlan | 33.7 | 6.0 | 4.3 |
| Mid-Western Regional | 23.0 | 4.3 | 3.9 |
| Narromine | 28.7 | 5.2 | 4.3 |
| Oberon | 25.4 | 2.9 | 3.9 |
| Orange | 20.3 | 6.1 | 4.4 |
| Parkes | 26.7 | 6.4 | 5.0 |
| Unincorp (FW) | 35.7 | 11.3 | NA |
| Walgett | 38.2 | 7.7 | NA |
| Warren | 33.1 | 6.1 | 4.6 |
| Warrumbungle | 30.6 | 4.9 | 4.3 |
| Weddin | 26.6 | 5.5 | 3.7 |
| Wentworth (FW) | 24.7 | 4.8 | 4.5 |
| **WNSW PHN** | **25.2** | **5.9** | **4.3** |
| **NSW** | **14.7** | **9.0** | **4.3** |

LGA = local government area; ASR = age-standardised rate; FW = Far West Local Health District; NA = Data not available;
#People aged 18+ years who regularly have difficulty accessing transport, including those that are housebound.
Data source: PHIDU, 2023

## Financial support for health service use

### Health Care Card Holders

In 2021, the proportion of Health Care Card holders in WNSW PHN was higher than that for NSW by 19% (Table 2.4). Of all WNSW PHN LGAs, Walgett, Brewarrina and Bourke reported the highest rates of Health Care Card holders with rates more than twice that of NSW. Blayney, Cabonne and Cobar reported the lowest rates and lower than that of NSW by 7%, 16% and 41%, respectively.

### Private Health Insurance

Between July 2019 and June 2020, the rate of private health insurance cover among adults was higher for NSW than for WNSW PHN by 6% (Table 2.4). Of all WNSW PHN LGAs, Blayney had the highest proportion of adults (48%) with private health insurance followed by Orange and Cabonne both with 46% of adults with insurance. By contrast, Bourke, Brewarrina and Walgett had the lowest levels, with each reporting 31% of adults with private health insurance.

### Health Care Cost as a Barrier

The General Social Survey collected these data for 2020 and are expected to be released at the end of 2023. In 2014, the rate of people experiencing cost- related barriers to health care access was higher in WNSW PHN on average than in NSW by 8% (Table 2.4). Of all WNSW PHN LGAs, Broken Hill and Central Darling reported the highest rates of cost-related barriers to health care access while Blayney and Oberon experienced the lowest rates. In 2017, not one WNSW PHN LGA reported private health insurance coverage higher than that of NSW. LGAs with the highest proportion of residents with private health insurance included Cabonne (51%), Orange (47%), Bathurst (47%) and Blayney (47%), while LGAs with the lowest proportion included Broken Hill (30%) and Central Darling (30%).

*Table 2.4 Financial support for health service use by jurisdiction, 2014, 2019-20 and 2021.*

| LGA | 2021 | 2019-20 | 2014 |
|---|---|---|---|
| | Health Care Card holders (%) | Private health insurance# (%) | Financial barrier to accessing health services# (%) |
| Balranald (FW) | 6.4 | 40.7 | 2.1 |
| Bathurst Regional | 7.0 | 41.0 | 3.1 |
| Blayney | 6.2 | 47.7 | 1.7 |
| Bogan | 8.7 | 44.4 | 2.1 |
| Bourke | 13.6 | 31.4 | NA |
| Brewarrina | 15.2 | 31.4 | NA |
| Broken Hill (FW) | 9.3 | 33.7 | 4.0 |
| Cabonne | 5.6 | 46.1 | 2.2 |
| Central Darling (FW) | 13.0 | 33.7 | 4.0 |
| Cobar | 4.0 | 44.4 | 2.1 |
| Coonamble | 13.0 | 44.4 | 2.1 |
| Cowra | 8.5 | 39.0 | 2.1 |
| Dubbo Regional | 7.8 | 41.0 | 3.4 |
| Forbes | 7.6 | 43.4 | 2.0 |
| Gilgandra | 12.5 | 38.7 | 2.0 |
| Lachlan* | 11.7 | 43.4 | 2.0 |
| Mid-Western Regional | 6.6 | 42.7 | 2.1 |
| Narromine | 9.6 | 38.7 | 2.0 |
| Oberon | 6.6 | 38.2 | 1.9 |
| Orange | 6.6 | 46.3 | 3.2 |
| Parkes | 9.2 | 41.5 | 2.1 |
| Unincorporated (FW) | 6.7 | 39.1 | NA |
| Walgett | 17.2 | 31.4 | NA |
| Warren | 11.1 | 43.9 | 2.1 |
| Warrumbungle Shire | 11.3 | 39.4 | 2.0 |
| Weddin | 7.4 | 43.6 | 2.0 |
| Wentworth (FW) | 9.2 | 40.7 | 2.1 |
| **WNSW PHN** | **8.0** | **41.5** | **2.7** |
| **NSW** | **6.7** | **44.2** | **2.5** |

LGA = local government area; ASR = age-standardised rate; FW = Far West Local Health District; NA = Data not available; WNSW PHN = Western NSW Primary Health Network.
#People aged 18 years and over.
*Includes WNSW PHN portion only.
Data source: PHIDU, 2023

## Disability

### Living with a Profound or Severe Disability

People with a profound or severe disability are defined as those needing help or assistance in one or more of the three core activity areas of self-care, mobility and communication, because of a disability or long-term health condition lasting six months or more. (For more information, see ABS website: http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/2901.0Chapter702011)

In 2021, the percentage of people aged 0-64 years living with a profound or severe disability in WNSW PHN, including those in long-term care accommodation, was higher than that for NSW (4.0% vs 3.2%) (Table 2.5). In 2021, the rate of people living with profound or severe disability in WNSW PHN who identified as Aboriginal was three times as that in NSW (872.3 per 100,000 people vs 299.6 per 100,000)

LGAs of WNSW PHN with the highest rate of people living with a profound or severe disability included Broken Hill, Cowra and Warrumbungle Shire at 5.5%, 5.3% and 5.0% respectively. Those LGAs with the lowest rate included Unincorporated Far West and Brewarrina at 0.7% and 1.9% respectively.

In 2021, the percentage of the population profoundly or severely disabled and living in the community in WNSW PHN was also higher than that for NSW (3.9% vs 3.2%) (Table 2.5). The highest and lowest rates were reported in Broken Hill and Unincorporated FW at 5.4% and 0.7%, respectively.

### Disability Support Pensioners

In 2021, the rate of disability support pensions among residents of WNSW PHN was higher than that for NSW by 63% (Table 2.5). WNSW PHN LGAs with the highest rates included Walgett, Central Darling and Broken Hill, at 15.5%, 12.9% and 11.9% respectively, while those with the lowest rates were Cobar and Unincorporated Far West at 4.7% and 3.9% respectively.

### National Disability Insurance Scheme Participants

In 2022, the rate of participation in the National Disability Insurance Scheme (NDIS) among WNSW PHN residents was higher than that for NSW by 19% (Table 2.5). WNSW PHN LGAs with the highest rates included Coonamble, Broken Hill and Orange, at 3.7, 3.0 and 2.8 per 100 respectively while those with the lowest rates were Walgett, Oberon, Blayney and Balranald at 1.7 and Cabonne at 1.6 per 100 respectively. Data were unavailable for Unincorporated Far West.

Concerns were raised during consultation with community and clinicians about the impact of the changes to funding for mental health through the NDIS. Service providers expected people who currently receive support through the NDIS whose funding will discontinue will lose support due to no available affordable services.

*Table 2.5 Disability measures by jurisdiction, 2021 and 2022.*

| LGA | 2021 Persons aged 0-64 years | | 2021 | 2022 |
|---|---|---|---|---|
| | With profound/ severe disability (%) | With profound/severe disability & living in community (%) | Disability support pension (%) | NDIS participant (ASR/100) |
| Balranald (FW) | 3.1 | 3.1 | 5.3 | 1.7 |
| Bathurst Regional | 4.1 | 4.0 | 6.3 | 2.5 |
| Blayney | 3.8 | 3.7 | 5.6 | 1.7 |
| Bogan | 2.7 | 2.7 | 5.6 | 2.0 |
| Bourke | 3.3 | 3.3 | 8.6 | 2.5 |
| Brewarrina | 1.9 | 1.9 | 10.8 | 2.5 |
| Broken Hill (FW) | 5.5 | 5.4 | 11.9 | 3.0 |
| Cabonne | 2.8 | 2.8 | 4.9 | 1.6 |
| Central Darling (FW) | 2.3 | 2.3 | 12.9 | 2.0 |
| Cobar | 2.5 | 2.5 | 4.7 | 1.9 |
| Coonamble | 4.4 | 4.4 | 10.3 | 3.7 |
| Cowra | 5.3 | 5.2 | 10.2 | 2.7 |
| Dubbo Regional | 3.8 | 3.7 | 6.4 | 2.4 |
| Forbes | 3.5 | 3.5 | 6.6 | 2.2 |
| Gilgandra | 4.9 | 3.8 | 9.3 | 2.7 |
| Lachlan* | 2.9 | 3.3 | 7.6 | 1.9 |
| Mid-Western Regional | 3.8 | 2.8 | 6.8 | 2.1 |
| Narromine | 3.6 | 3.8 | 6.7 | 2.2 |
| Oberon | 3.3 | 3.6 | 5.8 | 1.7 |
| Orange | 3.9 | 3.3 | 7.6 | 2.8 |
| Parkes | 4.3 | 3.8 | 7.9 | 2.1 |
| Unincorporated (FW) | 0.7 | 0.7 | 3.9 | N/A |
| Walgett | 4.2 | 4.2 | 15.5 | 1.7 |
| Warren | 2.5 | 2.5 | 5.9 | 2.2 |
| Warrumbungle Shire | 5.0 | 4.9 | 10.9 | 2.6 |
| Weddin | 4.0 | 4.0 | 10.1 | 2.0 |
| Wentworth (FW) | 3.3 | 3.3 | 7.2 | 2.3 |
| **WNSW PHN** | **4.0** | **3.9** | **7.4** | **2.4** |
| **NSW** | **3.2** | **3.2** | **4.6** | **2.0** |

LGA = local government area; NDIS=National Disability Insurance Scheme, ASR=age-standardised rate, FW = Far West LHD.

[+]Data quality for NDIS participants was rated as poor by PHIDU.

*WNSW PHN portion only.

Data source: PHIDU, 2023

# Chapter 3. Burden of Disease

## Summary

| Chapter 3. Burden of disease | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| **Mortality** | | | | | |
| All causes (cf. NSW) | 2017-2021 | 34% higher | 24% higher | 25% higher | NA |
| Median age at death | 2017-2021 | Not available | Not available | 80.0 yrs | 82.0 yrs |
| Leading causes | 2017-2021 | Malignant neoplasms & circulatory diseases | | | |
| Potentially avoidable (cf. NSW) | 2016/17-2020/21 | 91% higher | 48% higher | 53% higher | NA |
| **Hospitalisations** | | | | | |
| All causes (cf. NSW) | 2018/19-2022/23 | 9% higher | 3% higher | 3% higher | NA |
| Leading causes | 2018/19-2022/23 | Dialysis & digestive system diseases | | | |
| Potentially preventable (cf. NSW) | 2017/18-2021/22 | 56% higher | 16% higher | 20% higher | NA |

WNSW PHN experiences significant burden of disease due to the high rates of health risk factors and behaviours, overweight and obesity. Environmental and economic factors and social determinants in the region influence and contribute to the burden of disease. The impacts of burden of disease can be seen in the high rates of mental and emotional distress, high rates of hospitalisations, premature and potentially avoidable deaths and low median age of death across the region.

The WNSW PHN has significant opportunity to improve the quality of life for people in the region through interventions that address prevention and early management of disease and greater support for people living with disease.

### Overweight and obesity

Overweight and obesity was raised in consultations as a concern for clinicians and community across the region. It was seen as an important health issue linked to chronic disease and mental health and wellbeing that did not receive sufficient funding and services in the region.

Access to quality and affordable food is limited in rural and remote communities. In regional centers, prevalence of calorie dense, high sugar and ultra processed foods at low cost and misleading marketing about nutritional content make it difficult for people to make choices about food purchase and consumption.

Sedentary activities such as gaming were raised as concerns for children and young people in maintaining sufficient physical activity. A lack of or decline in social sporting activities and facilities such as public pools was also raised as a barrier to engaging in physical activities.

Between 2017 and 2021, the average annual percentage of overweight or obese adults was higher than that of NSW in FWLHD, WNSWLHD and WNSW PHN by 35%, 17% and 18%, respectively (Figure 2.5). Compared to 2017, the percentage of overweight or obese adults in 2021 increased in NSW, FWLHD, WNSWLHD and WNSW PHN by 8%, 16%, 23% and 22%, respectively.

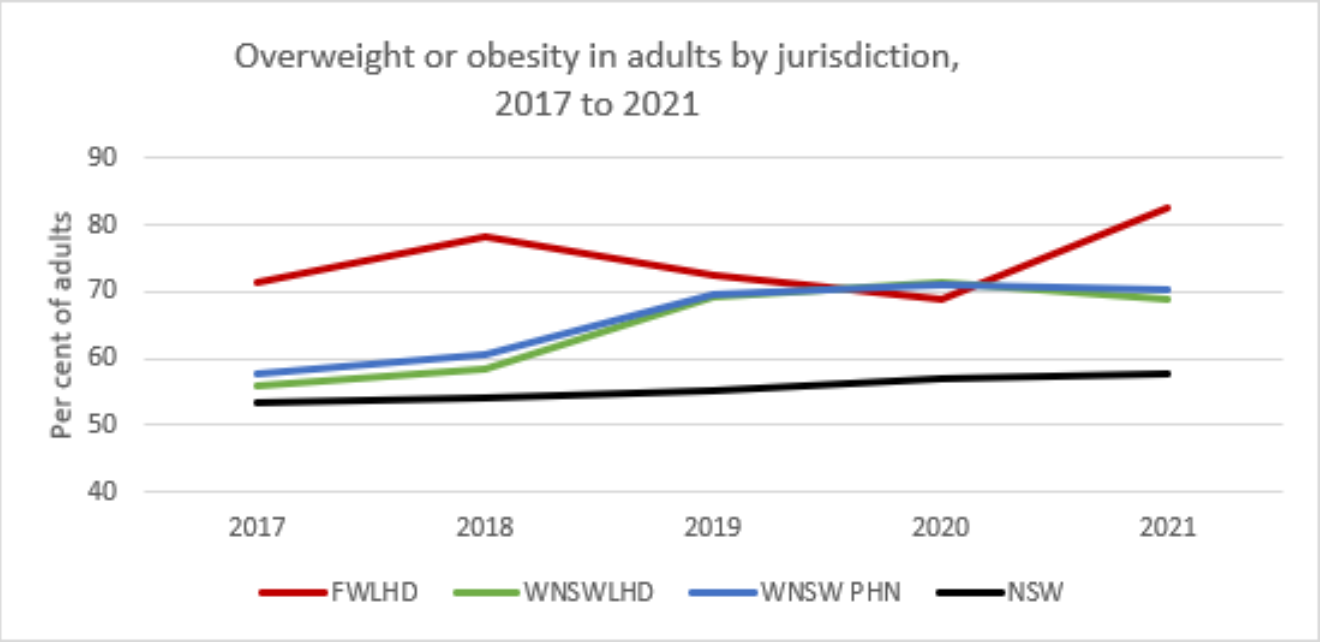



***Figure 2.5 Percentage of adults in overweight or obese by jurisdiction, 2017 to 2021***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

Between 2017 and 2021, the average annual percentage of overweight or obese males and females in WNSW LHD and FWLHD were higher than that of NSW. (Figure 2.6).

Compared to 2017, the percentage of overweight or obese females and males in 2021 increased in NSW, FWLHD.

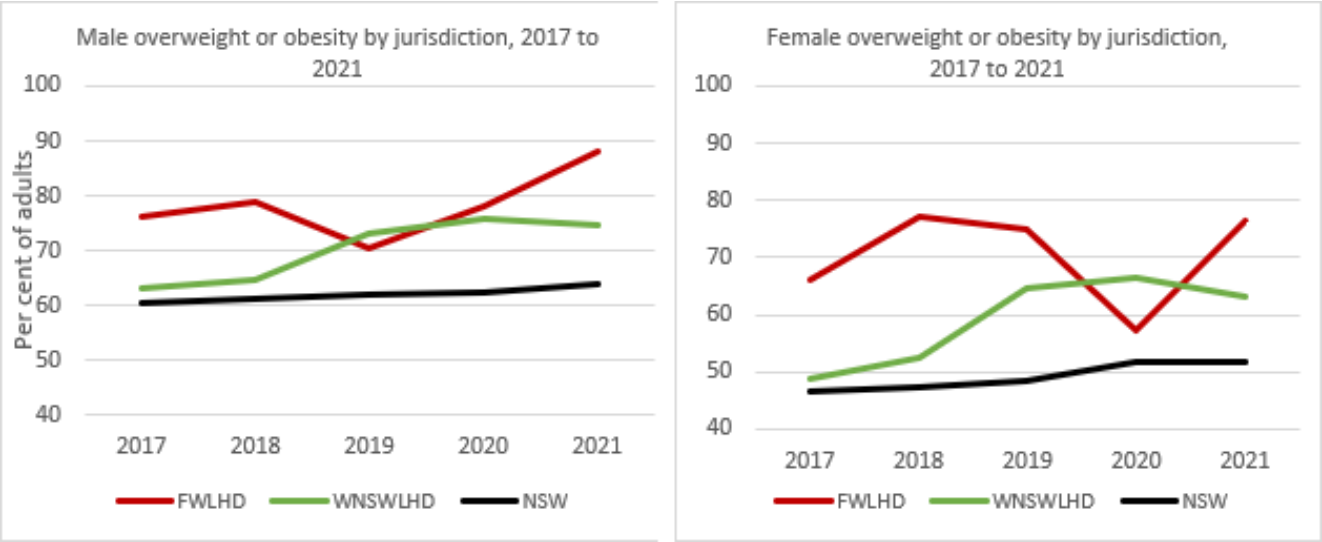



***Figure 2.6 Percentage of adults in overweight or obese by jurisdiction and sex, 2017 to 2021***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

### Self-reported biomedical risk factors

In the 2021 census, the age standardised rate per 100 population (ASR/100) for people with one or more long-term health conditions was 13% higher in WNSW PHN than in NSW (34.8 per 100 vs 30.8 per 100). The LGAs with the highest rates were Broken Hill, Orange, Bathurst Regional and Parkes with 39.3, 37.4, 36.7 and 36.2 per 100, respectively. The LGAs with the lowest rates were Walgett, Bourke, Balranald and Unincorporated Far West with 28.1, 27.3, 27.3 and 24.7 per 100 respectively, (Figure 2.7 and Table A.2.1).

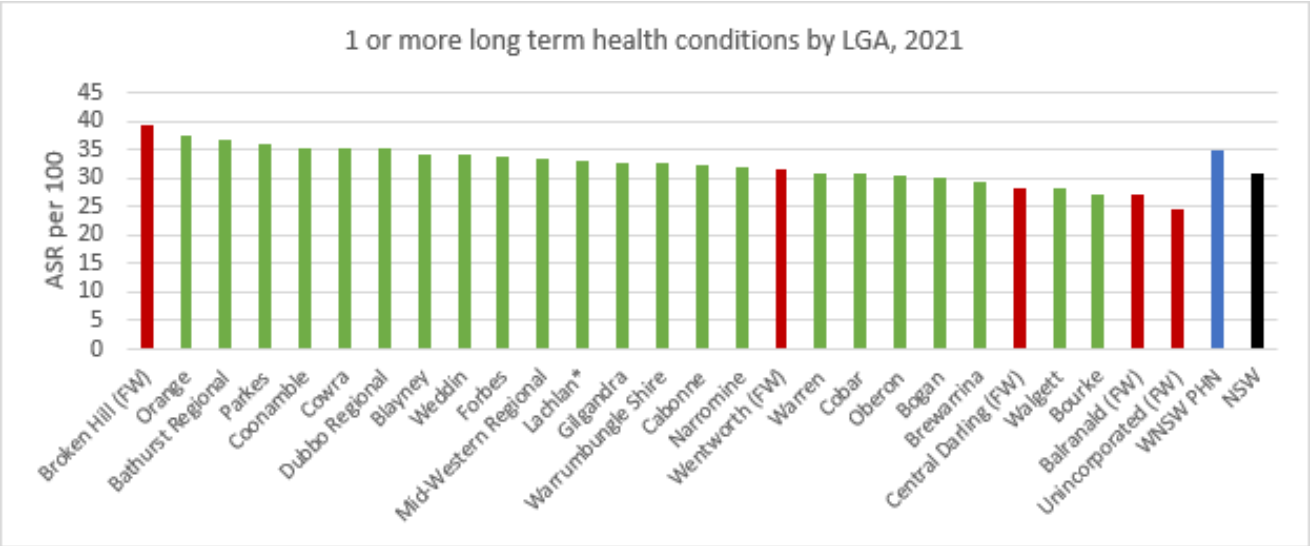



***Figure 2.7 ASR per 100 population with one or more long term health conditions. by LGA, 2021.***

LGA=local government area, ASR=Age Standardised Rate, FW=Far West Local Health District. Data source: PHIDU 2023

## Behavioural risk factors

Biomedical risk factors may be influenced by behavioural risk factors. Behavioural and modifiable risk factors include smoking, alcohol consumption, inadequate fruit consumption and inadequate physical exercise. These behavioural risk factors have been associated with the development of chronic disease. The following sections report on self-reported behavioural risk factors.

### Smoking and Vaping

Smoking is a significant concern for the WNSW PHN. For 2017-18, the rate of current adult smokers (i.e. 18+ years) in WNSW PHN was nearly 20 per 100 and higher than that of NSW by 36% (Table 2.6). No WNSW PHN LGA reported smoking rates lower than NSW. Of all WNSW PHN LGAs, current age-standardised smoking rates were highest in Bogan (26 per 100) and lowest in Bathurst and Cabonne (16 per 100).

Vaping was seen in the community consultations as an underreported and underestimated health concern for the WNSW population. Self-reported vaping rates in 2022-2023[1] in WNSW PHN are slightly lower than rates for NSW and nationally. Vaping was reported in consultation as a growing concern among clinicians and community, particularly for youth and young adults. There was also concern about the ease with which adolescents could access vapes, including from parents.

### Alcohol consumption

In 2017-18, the rate of consumption of two or more standard alcoholic drinks per day for people aged 15+ years was also higher in WNSW PHN than NSW by 35% (Table 2.7). Balranald, Lachlan and Narromine reported the highest rates of risky alcohol consumption (where 'risky' = more than two standard alcohol drinks per day) of 26 persons per 100, or 68% higher than that of NSW. By contrast, Orange, Dubbo and Bathurst reported the lowest rates of risky alcohol consumption; however, with rates still higher than that of NSW by 17%, 22% and 23%, respectively.

Alcohol consumption was raised frequently as a concern in consultations as is discussed in detail in Chapter 8: Alcohol and Other Drugs.

### Nutrition and Exercise

For the same reporting period, the rate of adults consuming adequate fruit was marginally higher in NSW than in WNSW PHN by 6% (Table 2.7). Of all WNSW PHN LGAs, only Bogan, Cobar, Blayney and Lachlan were on par with NSW. All other LGAs reported adequate fruit intake lower than that of NSW with Broken Hill reporting the lowest rate of 40 adults per 100, or 25% lower than NSW. In addition, there was only a small difference in inadequate levels of exercise between WNSW PHN and NSW, with exercise levels in WNSW PHN being poorer than NSW by 7% (Table 2.7). Rates of inadequate physical activity were highest in Central Darling (i.e. 82 adults/100) and worse than that of NSW by 25%, while rates were lowest in Bathurst (i.e. 65 adults/100) and on par with that of NSW.

[1] Source: NSW Population Health Survey (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health)

*Table 2.6 Self-reported behavioural risk factors by jurisdiction, 2017-18.*

| LGA | Current smokers (≥18 yrs) (ASR/100) | >2 alcoholic drinks/day (≥15 yrs) (ASR/100) | Adequate fruit intake[1] (≥18 yrs) (ASR/100) | Inadequate exercise[2] (≥18 yrs) (ASR/100) |
|---|---|---|---|---|
| Balranald (FW) | 23.5 | 26.0 | 50.0 | 72.4 |
| Bathurst Regional | 15.8 | 19.0 | 51.3 | 64.6 |
| Blayney | 18.0 | 20.9 | 52.0 | 72.0 |
| Bogan | 26.2 | 24.6 | 52.8 | 76.7 |
| Bourke | NA | NA | NA | NA |
| Brewarrina | NA | NA | NA | NA |
| Broken Hill (FW) | 23.8 | 21.9 | 39.6 | 73.8 |
| Cabonne | 16.1 | 19.4 | 50.8 | 68.3 |
| Central Darling (FW) | 24.7 | 23.6 | 44.0 | 81.5 |
| Cobar | 24.5 | 23.8 | 52.2 | 75.0 |
| Coonamble | 25.1 | 23.2 | 50.0 | 73.0 |
| Cowra | 20.3 | 19.5 | 46.4 | 68.3 |
| Dubbo Regional | 18.7 | 18.9 | 51.0 | 69.0 |
| Forbes | 21.3 | 25.2 | 50.9 | 73.6 |
| Gilgandra | 22.1 | 25.8 | 48.7 | 75.3 |
| Lachlan* | 21.8 | 26.1 | 52.8 | 76.0 |
| Mid-Western Regional | 21.0 | 21.9 | 50.0 | 69.2 |
| Narromine | 21.8 | 26.0 | 49.6 | 76.4 |
| Oberon | 19.2 | 20.2 | 49.4 | 70.9 |
| Orange | 18.0 | 18.2 | 49.2 | 67.6 |
| Parkes | 20.5 | 24.7 | 50.1 | 69.7 |
| Unincorporated (FW) | NA | NA | NA | NA |
| Walgett | NA | NA | NA | NA |
| Warren | 25.0 | 23.0 | 49.3 | 72.1 |
| Warrumbungle | 22.0 | 24.6 | 47.6 | 72.5 |
| Weddin | 19.4 | 23.8 | 49.3 | 69.6 |
| Wentworth (FW) | 24.1 | 25.6 | 48.8 | 70.9 |
| **WNSW PHN** | **19.6** | **21.0** | **49.5** | **69.8** |
| **NSW** | **14.4** | **15.5** | **52.5** | **65.3** |

*Includes WNSW PHN portion only.
LGA = local government area; ASR = age-standardised rate; yrs = years; FW = Far West Local Health District; NA = Data not available; WNSW PHN = Western NSW Primary Health Network.
Data source: PHIDU, 2019

[1]***Adequate fruit intake:*** *"For adults, the dietary guidelines recommend consuming at least 2 serves of fruit per day, and at least 5.5 serves of vegetables a day for males aged 16-18 years; at least 6 serves a day for males aged 19-50 years; at least 5.5 serves per day for males aged 51-70 years; and at least 5 serves per day for males aged over 70, and all females aged 16 years and over." Source: HealthStats, NSW Ministry of Health.*

[2]***Adequate exercise:*** *"The National physical activity guidelines for adults recommend at least 30 minutes of moderate activity on most, and preferably all, days of the week. Moderate intensity activity includes brisk walking, dancing, swimming, or cycling, which can be undertaken in shorter bursts such as 3 lots of 10 minutes (AGDHA, 1999 and 2005). Australian recommendations for levels of physical activity in young people are at least 60 minutes of moderate to vigorous intensity physical activity every day (AGDHA, 2004)." Source: HealthStats, NSW Ministry of Health.*

## Trends in smoking

Compared to 2002, daily smoking rates among adults (16+ years) in 2022 were lower by 22%, 6%, 27% and 33% in FWLHD, WNSWLHD, WNSW PHN and NSW, respectively (Figure 2.8).

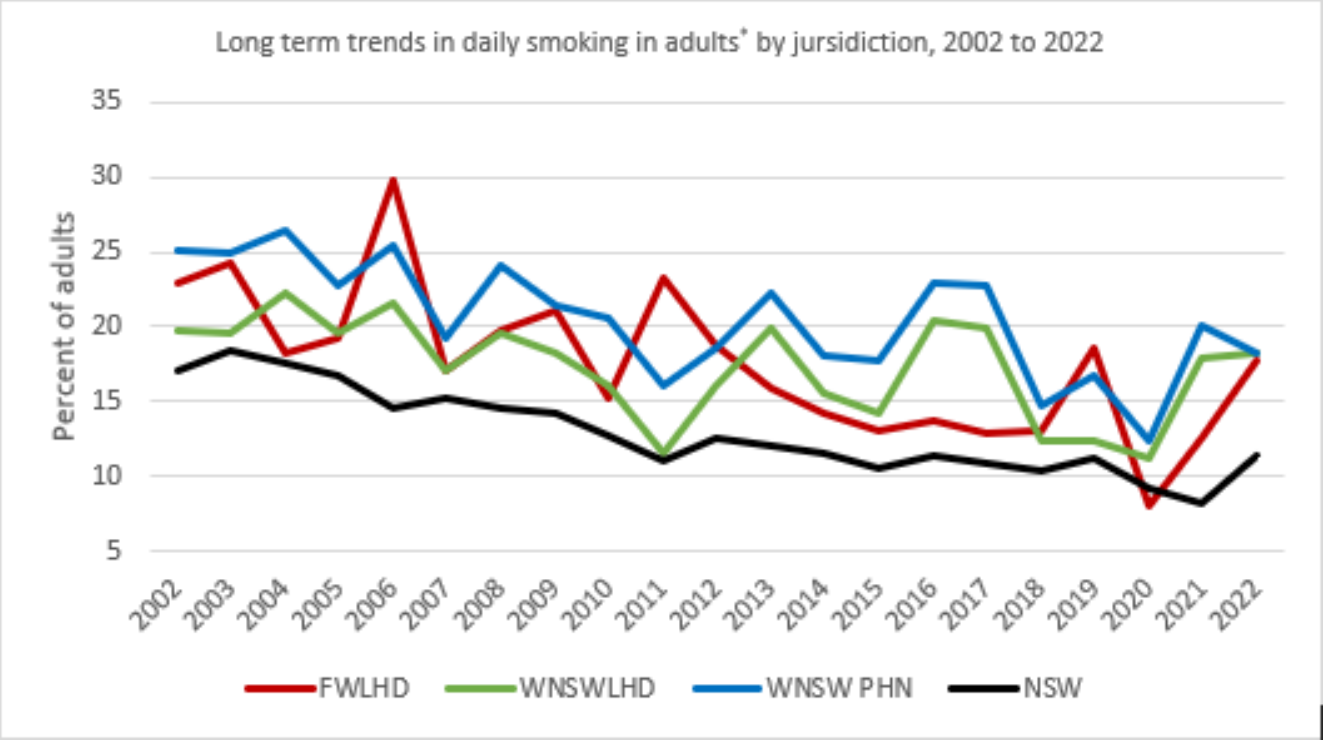



***Figure 2.8 Long term trends in daily smoking in adults by jurisdiction, 2002 to 2022.***

* Adults aged 16 years and over

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

Compared to 2018, the rate of daily smoking among adults in 2022 was higher by 36%, 48%, 23% and 11% in FWLHD, WNSWLHD, WNSW PHN and NSW, respectively. In Western NSW jurisdictions, the greatest rate increases occurred between 2020 and 2021 (Figure 2.9).

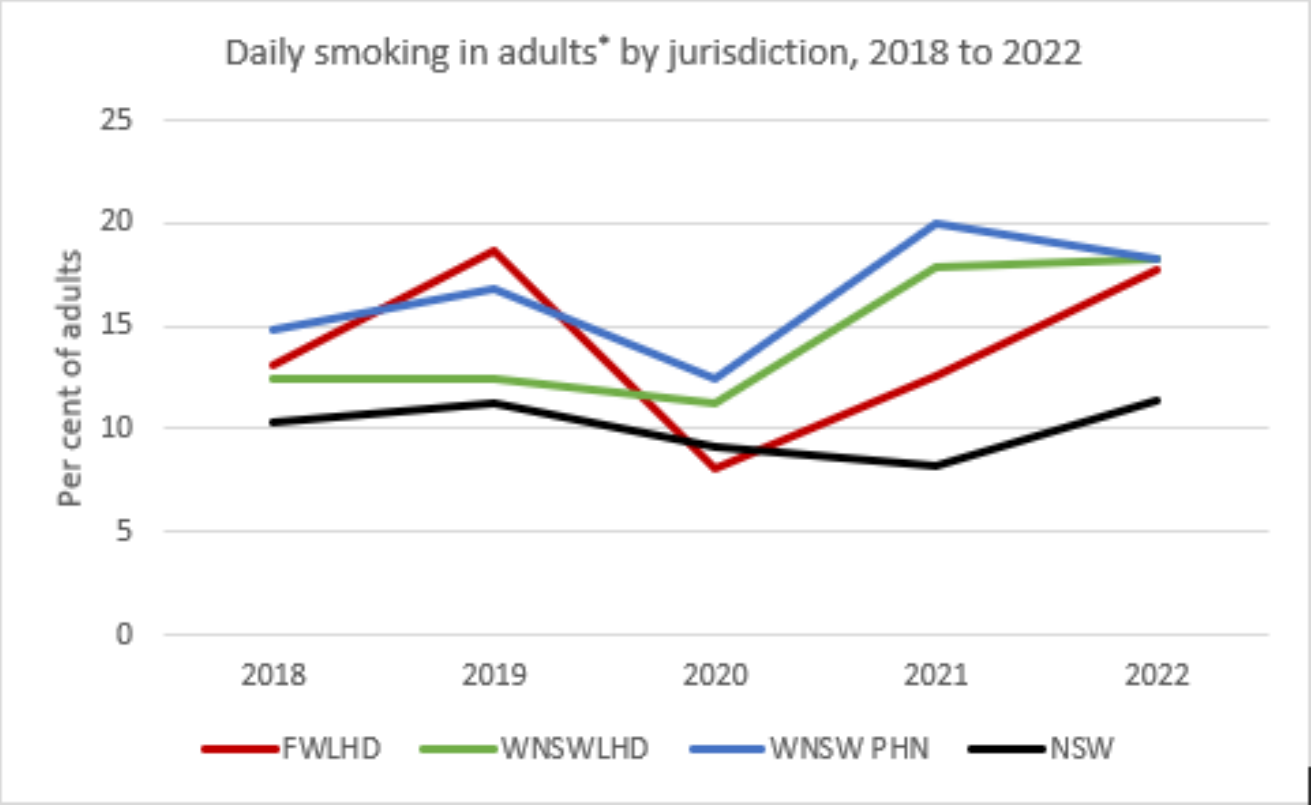



***Figure 2.9 Daily smoking in adults by jurisdiction, 2018 to 2022.***

* Adults aged 16 years and over

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

## Risky alcohol consumption

Between 2017 and 2021, the average annual percentage of adults (16+ years) who drank at risky levels was higher than that of NSW by 18%, 10% and 11% in FWLHD, WNSWLHD and WNSW PHN, respectively. Compared to 2017, the percentage of adults in 2021 that drink at risky levels increased by 11%, 2%, 3% and 8% in FWLHD, WNSWLHD, WNSW PHN and NSW, respectively. The largest increases in risky alcohol consumption occurred between 2018 and 2019 for WNSWLHD and WNSW PHN, and between 2020 and 2021 for FWLHD.

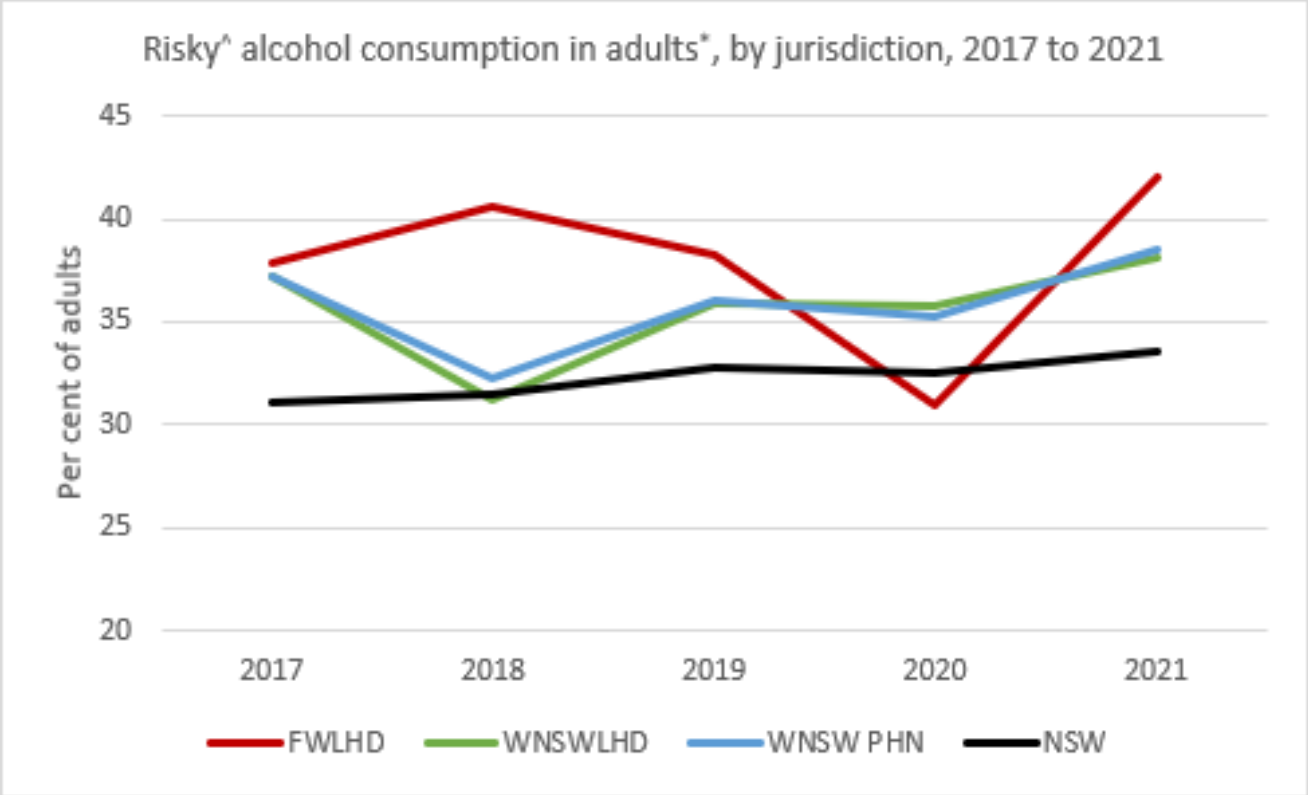



***Figure 2.10 Risky consumption of alcohol in adults by jurisdiction, 2017 to 2021.***

^ More than two standard alcohol drinks per day

* Adults aged 16 years and over

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

## Mortality (all causes)

Between 2017 and 2021, the average annual age-standardised mortality rates for WNSW PHN, FWLHD and WNSWLHD were substantially higher than that of NSW by 25%, 34% and 24%, respectively (Figure 3.1). Mortality rates declined for NSW, WNSW PHN and WNSW LHD, by 8%, 5% and 6% respectively and an increase in FWLHD by 2%.

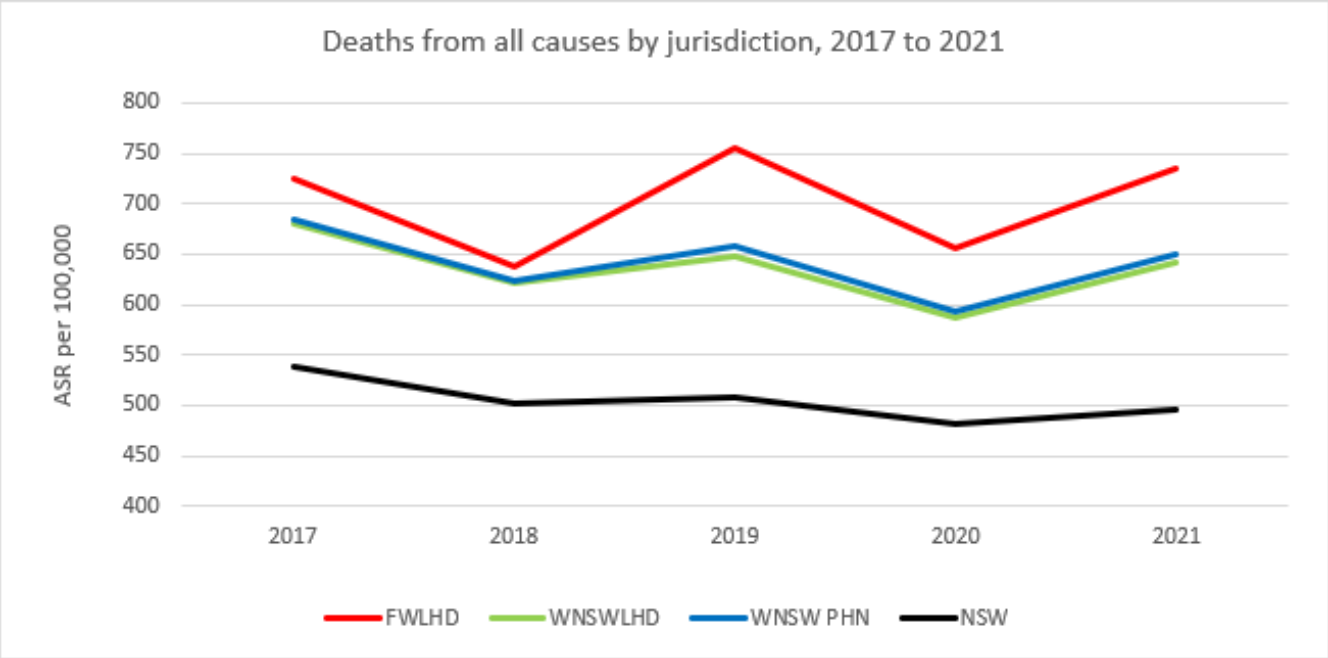



***Figure 3.1 Trends in death rates (age-standardised) from all causes by jurisdiction, 2017 to 2021.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2017 and 2021, the average annual age-standardised mortality rates in males were higher than that in females by 43-47% in WNSW PHN, WNSWLHD and NSW (Figure 3.2). However, for FWLHD, the average annual mortality rate among males was 69% higher than that among their female counterparts and 46% higher than NSW males. Mortality rates among males in WNSW PHN and WNSWLHD were 26% and 24% higher than NSW males. Mortality rates among females across all Western NSW jurisdictions were approximately 26%-27% higher than NSW females.

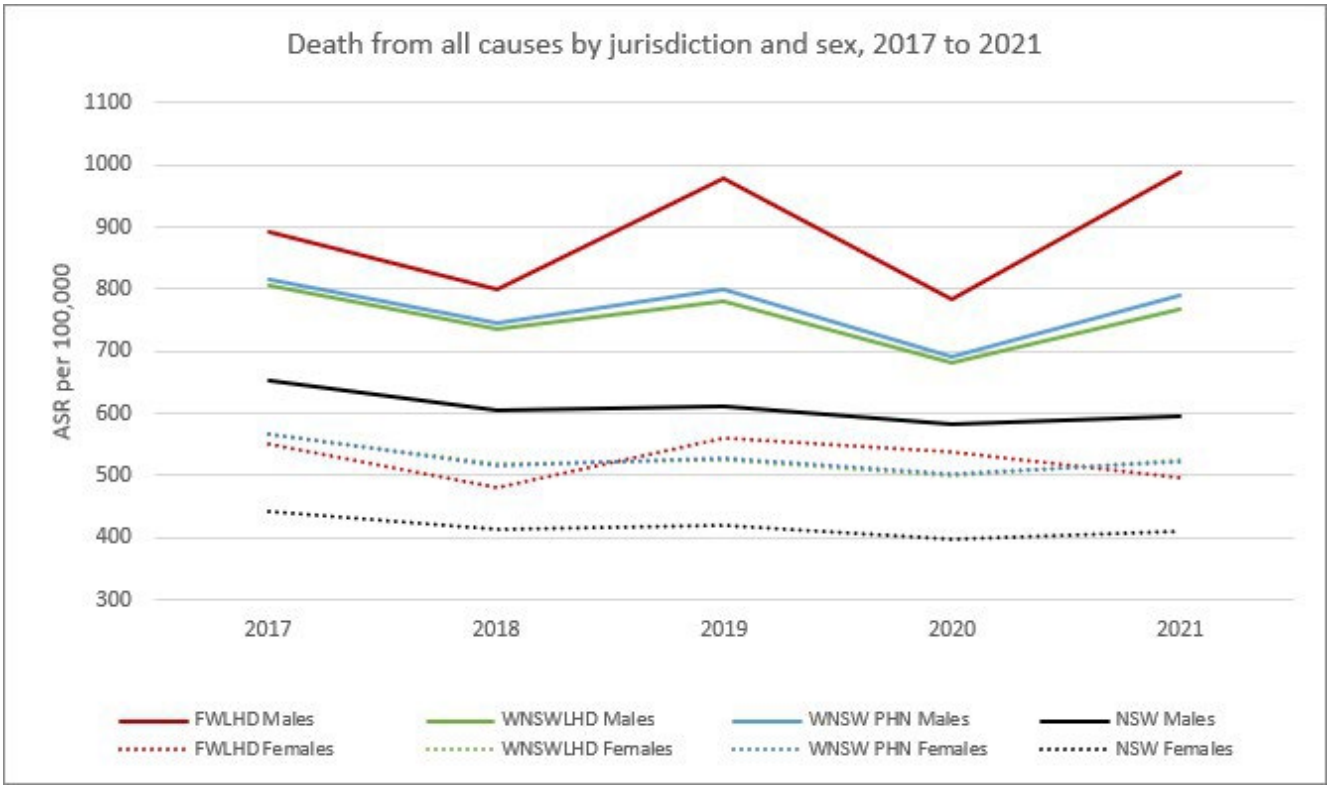



***Figure 3.2 Trends in death rates (age-standardised) from all causes by jurisdiction and sex, 2017 to 2021.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

For the five years, 2017 to 2021, the mortality rate for all WNSW PHN LGAs was higher than that of NSW, except Weddin, which was 1% lower (Figure 3.3, Table A.3.1 – see Appendix). The highest rates, occurring in Bourke and Brewarrina were 88% and 82% higher than that of NSW. By comparison, mortality rates in Cabonne were only 4% higher than the NSW rate.

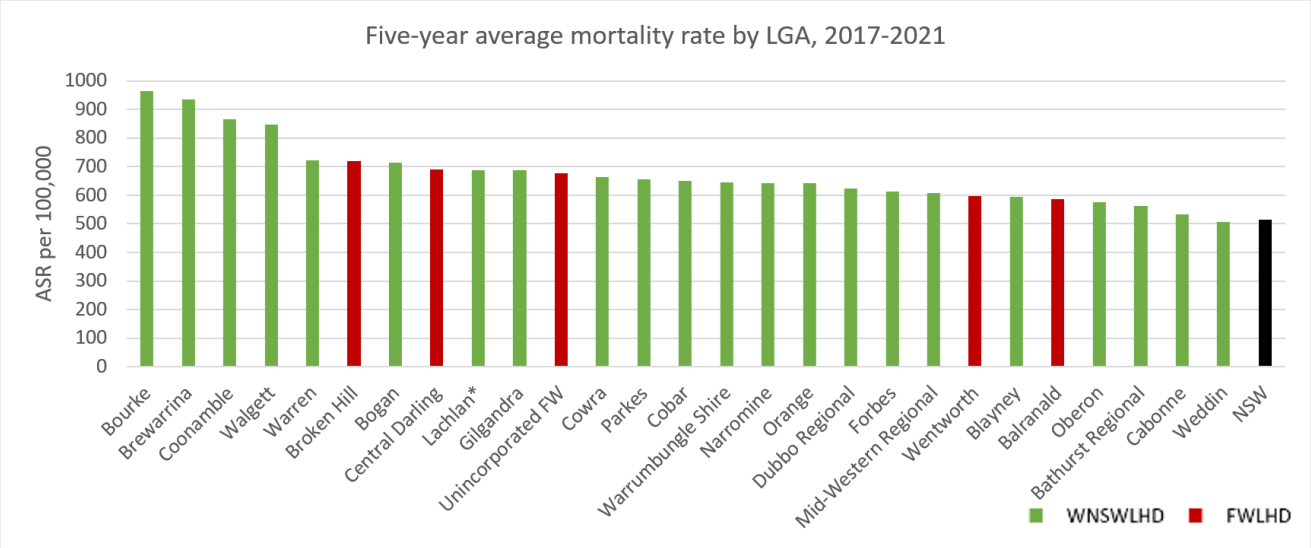



***Figure 3.3 Average quadrennial mortality rates (age-standardised) from all causes by local government area compared to NSW, 2017-2021.***

LGA=Local Government Area, ASR=age-standardised rate

*Includes WNSW PHN and non-WNSW PHN portions.

*Data source: AIHW MORT workbooks* Mortality Over Regions and Time (MORT) books, MORT Excel workbooks - Australian Institute of Health and Welfare (www.aihw.gov.au)-accessed 24/5/2024

## Median age at death

Between 2017 and 2021, the median age at death for WNSW PHN males, females and all residents was two years less than that of their NSW counterparts (Table 3.1). Further, the median age at death of WNSW PHN male residents was six years less than their female counterparts. The median age at death for all residents was lowest in Central Darling (63 years) and Brewarrina (71 years), and highest in Forbes and Parkes (82 years) (Table 3.1 and Figure 3.4). For males, median age at death was lowest in Central Darling (63 years) and Brewarrina (70 years) and highest in Forbes and Gilgandra (80 years) and higher than that for NSW males. For females, median age at death was lowest in Central Darling (65 years) and Brewarrina (73 years) and highest in Cabonne and Bogan (86 years and higher than that for NSW females).

*Table 3.1 Median age at death by sex and jurisdiction, 2017 to 2021.*

| LGA | Male (years) | Female (years) | Person (years) |
|---|---|---|---|
| Balranald (FW) | 76.0 | 79.0 | 77.0 |
| Bathurst | 77.0 | 83.0 | 80.0 |
| Blayney | 76.5 | 82.0 | 79.0 |
| Bogan | 77.0 | 86.0 | 80.0 |
| Bourke | 71.5 | 76.5 | 72.5 |
| Brewarrina | 69.5 | 72.5 | 71.0 |
| Broken Hill (FW) | 77.0 | 85.0 | 81.0 |
| Cabonne | 79.0 | 86.0 | 82.0 |
| Central Darling (FW) | 63.0 | 65.0 | 63.0 |
| Cobar | 74.5 | 82.0 | 79.0 |
| Coonamble | 76.0 | 78.0 | 77.0 |
| Cowra | 79.0 | 84.0 | 81.0 |
| Dubbo Regional | 78.0 | 82.0 | 80.0 |
| Forbes | 80.0 | 85.0 | 82.0 |
| Gilgandra | 80.0 | 81.0 | 80.0 |
| Lachlan* | 79.0 | 84.0 | 80.0 |
| Mid-Western Regional | 78.0 | 81.5 | 79.0 |
| Narromine | 75.0 | 81.0 | 77.0 |
| Oberon | 77.0 | 84.0 | 80.0 |
| Orange | 79.0 | 84.0 | 81.0 |
| Parkes | 79.0 | 84.0 | 82.0 |
| Unincorporated (FW) | 78.0 | 78.0 | 78.0 |
| Walgett | 74.0 | 79.0 | 75.5 |
| Warren | 72.0 | 78.5 | 75.0 |
| Warrumbungle Shire | 79.0 | 84.0 | 81.0 |
| Weddin | 79.5 | 82.0 | 80.0 |
| Wentworth (FW) | 74.0 | 84.0 | 77.0 |
| **WNSW PHN** | **77.0** | **83.0** | **80.0** |
| **NSW** | **79.0** | **85.0** | **82.0** |

LGA=Local Government Area, FW=Far West.
*WNSW PHN portion only.
Data source: PHIDU

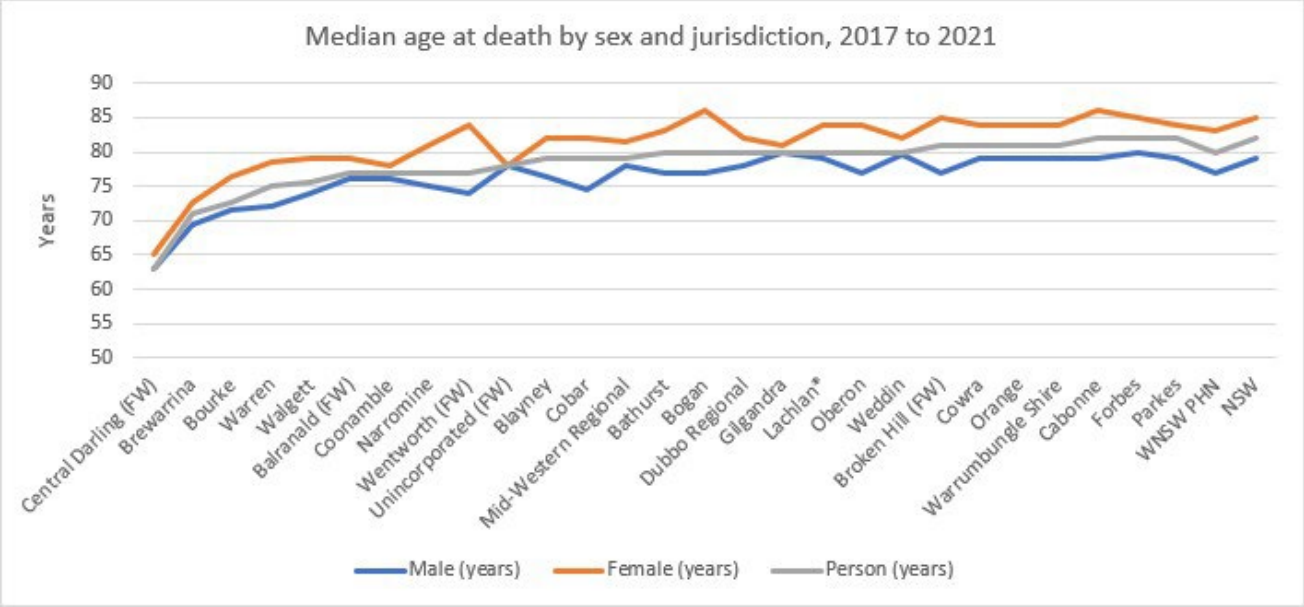



***Figure 3.4 Median age at death by sex and local government area, 2017 to 2021.***

LGA=local government area, FW=Far West.

*WNSW PHN portion only.

Data source: PHIDU

## Potential years of life lost

Potential years of life lost (PYLL) is a measure of premature mortality. It estimates the average years a person would have lived had they not died before the age of 75 years. Between 2017 and 2021, the PYLL per 1,000 residents of WNSW PHN was 48% higher than that of NSW (Table 3.2).

The PYLL for WNSW PHN males was higher than that of their female counterparts by 69% and higher than that of their NSW counterparts by 47%, while the PYLL for WNSW PHN females was higher than that of their NSW counterparts by 48%.

PYLL was highest among residents in Central Darling (112 years per 1,000) and Bourke (108 years per 1,000), and lowest in Unincorporated Far West (25 years per 1,000), Cabonne and Oberon (29 and 31 years per 1,000, respectively ) (Figure 3.5). For males, PYLL was highest in Central Darling (145 years per 1,000) and Bourke (127 years per 1,000) and lowest in Unincorporated Far West (16 years per 1,000). For females, PYLL was highest in Coonamble (91 years per 1,000) and Bourke (88 years per 1,000) but lowest in Cabonne and Oberon (15 and 17 years per 1,000, respectively).

*Table 3.2 Potential years of life lost# by jurisdiction, 2017 to 2021.*

| LGA | Potential years of life lost# (Annual average ASR per 1,000) | | |
|---|---|---|---|
| | Males | Females | Persons |
| Balranald (FW) | 91.6 | 75.3 | 84.1 |
| Bathurst | 50.3 | 35.3 | 43.0 |
| Blayney | 46.8 | 26.2 | 36.6 |
| Bogan | 82.1 | 43.9 | 63.9 |
| Bourke | 126.8 | 88.2 | 108.0 |
| Brewarrina | 120.9 | 64.8 | 93.8 |
| Broken Hill (FW) | 90.2 | 46.2 | 68.5 |
| Cabonne | 43.5 | 14.6 | 29.3 |
| Central Darling (FW) | 145.0 | 75.6 | 112.3 |
| Cobar | 84.6 | 24.5 | 56.9 |
| Coonamble | 87.2 | 90.7 | 88.7 |
| Cowra | 70.2 | 37.6 | 54.1 |
| Dubbo Regional | 67.5 | 39.8 | 53.7 |
| Forbes | 71.3 | 33.7 | 53.0 |
| Gilgandra | 63.3 | 45.5 | 54.5 |
| Lachlan* | 92.2 | 37.2 | 65.2 |
| Mid-Western Regional | 62.5 | 41.0 | 52.1 |
| Narromine | 72.4 | 45.3 | 59.1 |
| Oberon | 43.5 | 17.1 | 31.0 |
| Orange | 63.7 | 43.7 | 53.5 |
| Parkes | 76.5 | 52.9 | 65.0 |
| Unincorporated (FW) | 15.9 | 35.8 | 25.2 |
| Walgett | 102.0 | 49.1 | 76.9 |
| Warren | 114.9 | 51.9 | 84.3 |
| Warrumbungle Shire | 69.3 | 36.3 | 53.1 |
| Weddin | 56.4 | 26.4 | 41.8 |
| Wentworth (FW) | 88.8 | 20.2 | 56.3 |
| **WNSW PHN** | **68.1** | **40.2** | **54.4** |
| **NSW** | **46.4** | **27.2** | **36.8** |

LGA=Local Government Area, ASR=age-standardised rate, FW=Far West

#Deaths before 75 years of age.

*WNSW PHN portion only.

Data source: PHIDU

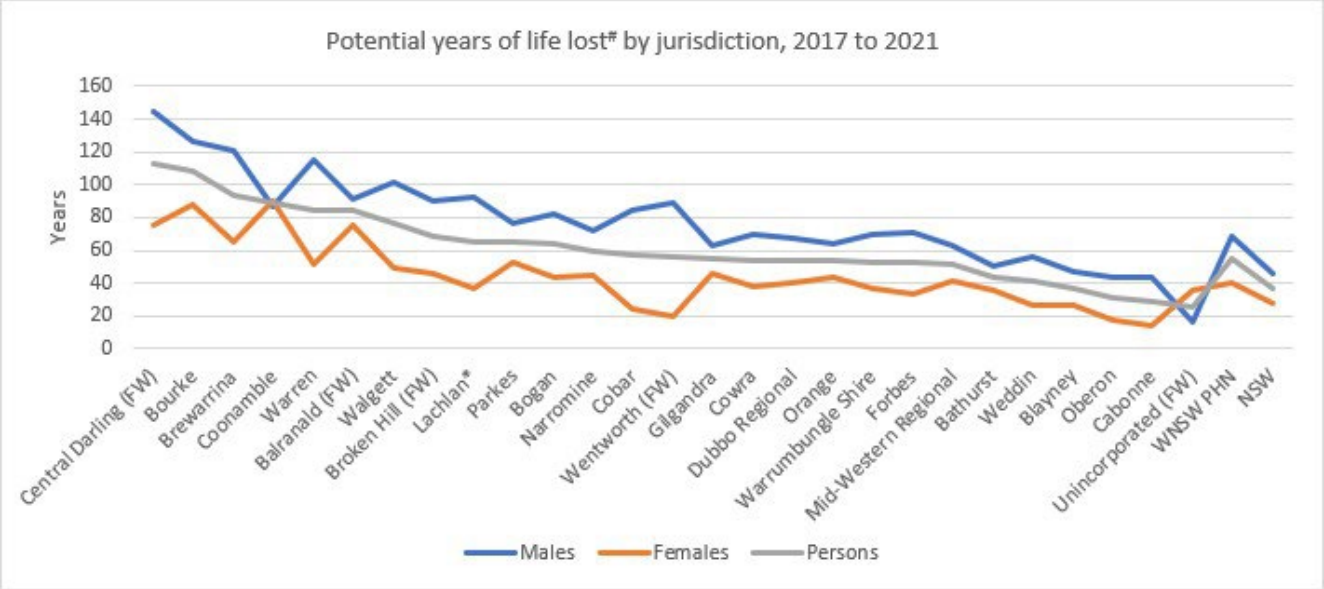



***Figure 3.5 Potential years of life lost# by local government area and compared to NSW, 2017 to 2021.***

LGA=local government area, ASR=age-standardised rate, FW=Far West

#Deaths before 75 years of age.

*WNSW PHN portion only.

Data source: PHIDU

### Leading causes of mortality

Between 2017 and 2021, the two leading causes of death in WNSW PHN and NSW were circulatory diseases and malignant neoplasms (cancer) (Figure 3.6). These diseases caused approximately 40% deaths in each jurisdiction over this period. Respiratory conditions were the third leading cause of death in all jurisdictions. Diabetes and dementia, including Alzheimer disease were the next greatest cause of death.

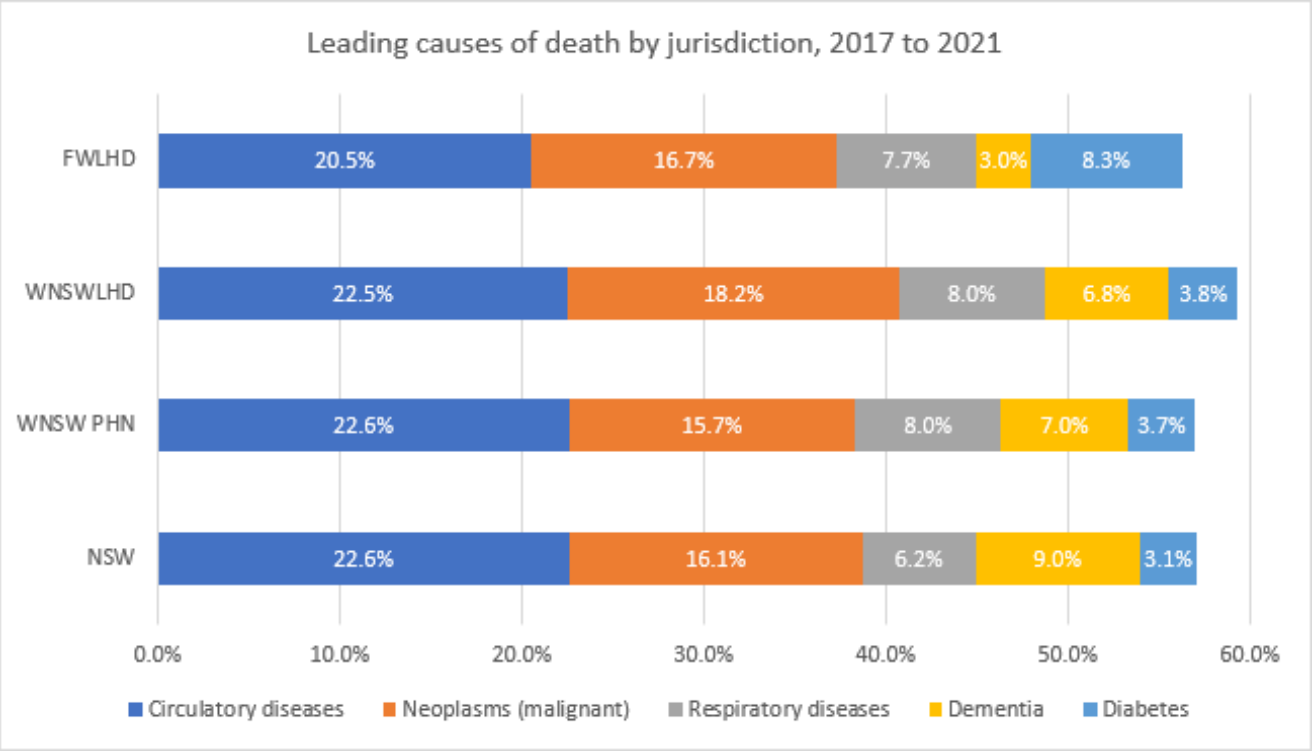



Figure 3.6 Leading causes of death by jurisdiction, 2017 to 2021.
*Data source:* *AIHW MORT workbooks* Mortality Over Regions and Time (MORT) books, MORT Excel workbooks - Australian Institute of Health and Welfare (aihw.gov.au) accessed 24/5/2024

Note the limitation in the dataset: it only includes the top 20 causes of death in Local Government Areas, which may undercount rarer conditions which would contribute to the disease categories.

## Potentially avoidable deaths

### Potentially avoidable deaths (all causes)

Between 2016-2017 and 2020-2021, the average biennial age-standardised rate of potentially avoidable deaths was substantially higher for WNSW PHN, FWLHD and WNSWLHD than that for NSW by 53%, 91% and 48%, respectively (Figure 3.7). In all jurisdictions, the rate of potentially avoidable deaths among males was higher than that among females by between 72% and 82%, except in FWLHD where the rate among males was more than twice (2.2 times) that of females (Figure 3.8). Compared to NSW, the rate of potentially avoidable deaths among males was twice as high in FWLHD, and higher by 45% in WNSWLHD and 51% in WNSW PHN. Similarly, compared to NSW, the rate of potentially avoidable deaths among females was higher by 65% in FWLHD, 53% in WNSWLHD and 54% in WNSW PHN. The rates for males and females in all jurisdictions have decreased except in FWLHD where rates for females have increased by 32%.

[7] "Potentially avoidable deaths are those that occur before age 75 years and are caused by conditions that are potentially preventable through individualised care and/or treatable through existing primary or hospital care. Deaths are defined as avoidable in the context of the present health system." Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

*HealthStats: Potentially avoidable deaths (Accessed 21 May 2024).*

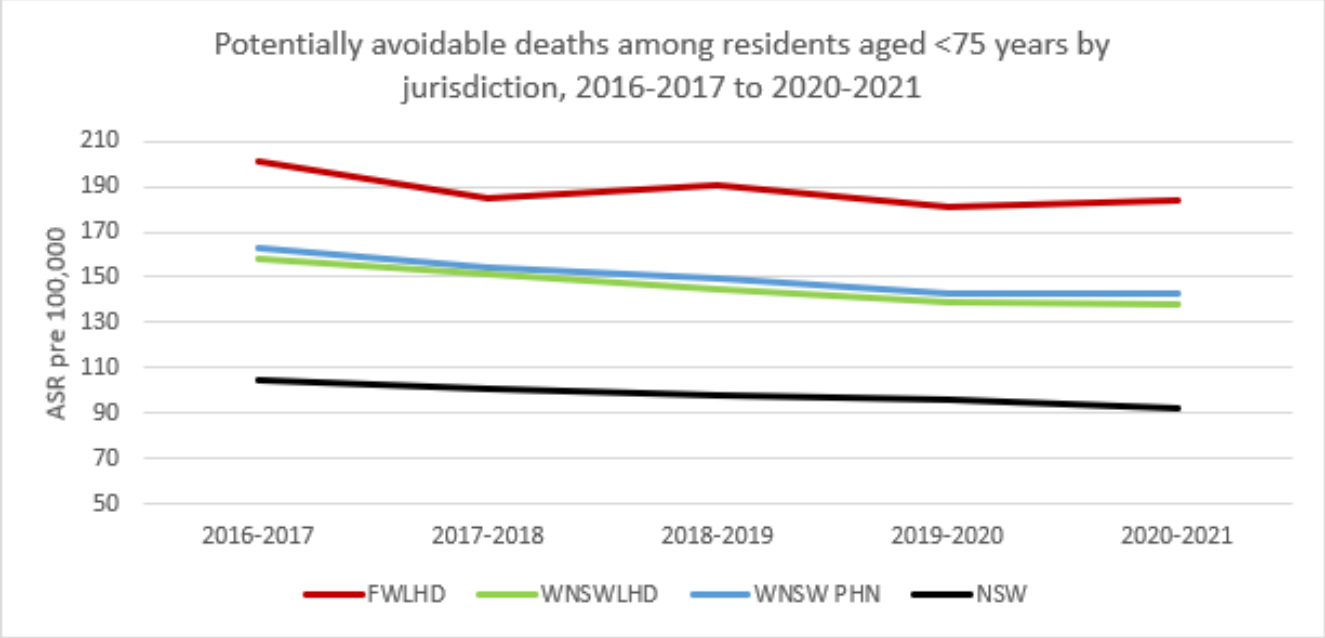



***Figure 3.7 Trends in potentially avoidable death rates (average biennial) for residents less than 75 years by jurisdiction, 2016-2017 to 2020-2021.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

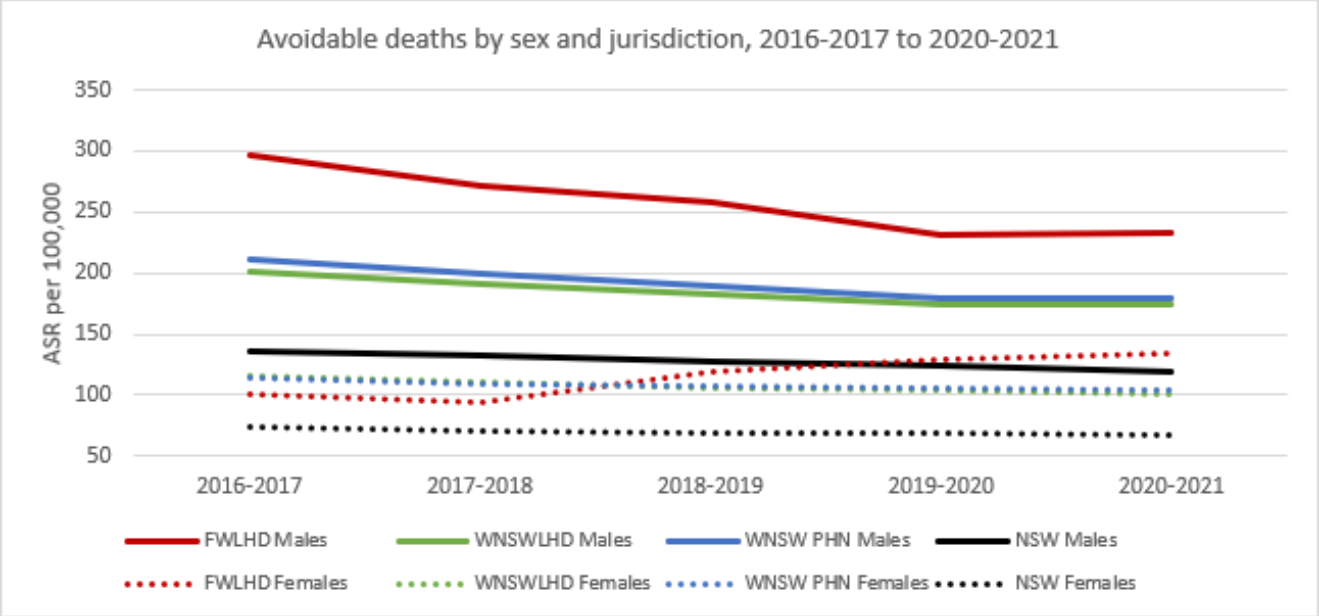



***Figure 3.8 Trends in potentially avoidable death rates (average biennial) for residents less than 75 years by sex and jurisdiction, 2016-2017 to 2020-2021.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2017-21, the average yearly age standardised rates of potentially avoidable deaths were higher for all WNSW PHN LGAs than that for NSW (Figure 3.9; Table A.3.2 – see Appendix). Potentially avoidable death rates were highest in Brewarrina and Central Darling by 3.3 and 3.0 times, respectively compared with NSW. Only Oberon and Cabonne LGAs reported rates less than 15% higher than that of NSW.

These data are extracted from PHIDU whereas the LHD data are extracted from *Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.* The biennial age standardised rate for WNSW PHN in HeathStats over 6 years is 51% higher than NSW whereas the average over 5 years in PHIDU is 50%, so these measures seem comparable.

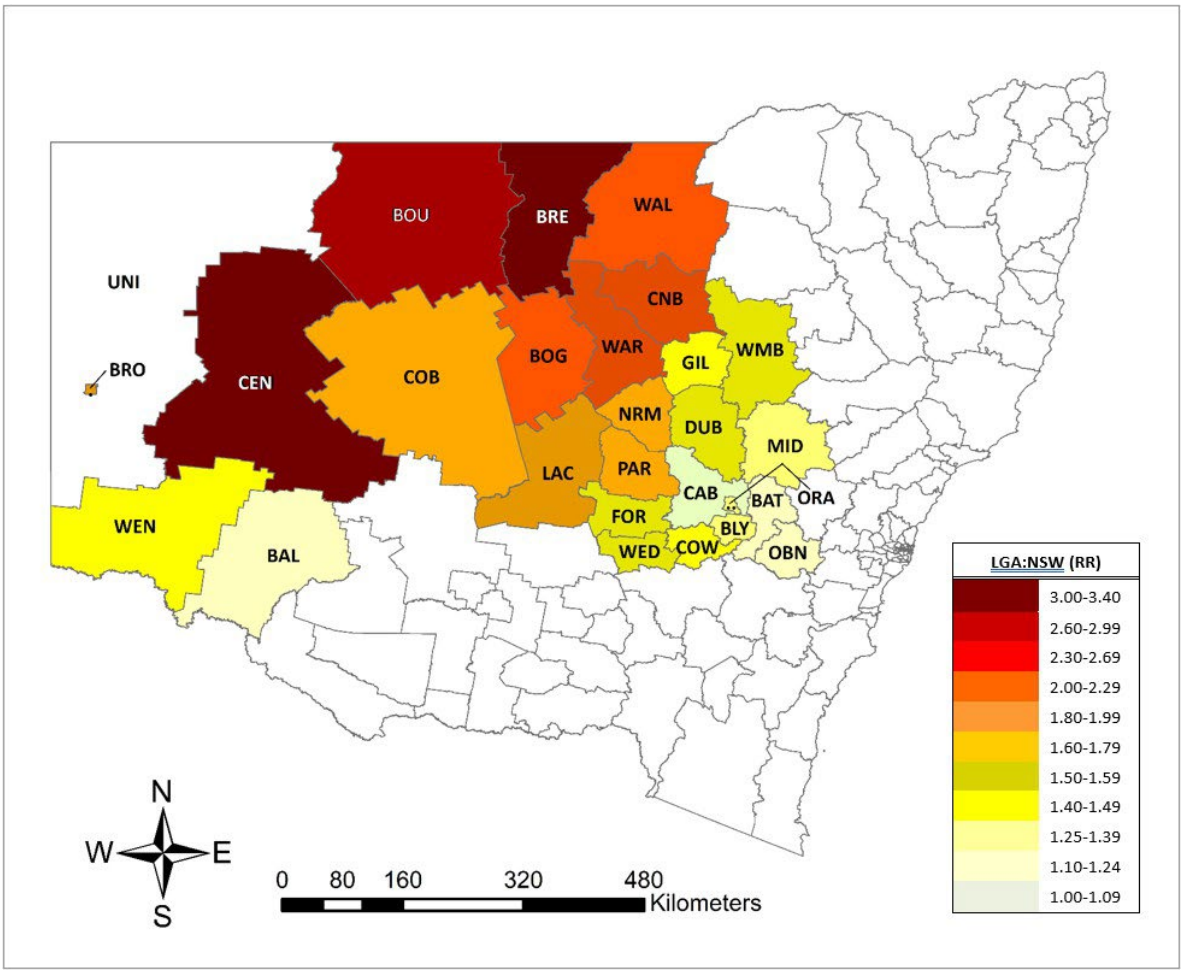



***Figure 3.9 Average annual potentially avoidable death rates (age-standardised) among residents less than 75 years of age by local government area compared to NSW, 2017 to 2021.***

LGA=local government area, RR=rate ratio.

*The ratio of LGA annual average age-standardised potentially avoidable death rates to that of NSW (rate ratio). See LGA Abbreviations.

Data source: PHIDU

### Hospitalisations (all causes)

Between 2018-19 and 2022-23, the average annual hospitalisation rates for WNSW PHN, FWLHD and WNSWLHD were higher than that for NSW by 3%, 9% and 3%, respectively (Figure 3.10). In all jurisdictions, the rate of hospitalisations declined from 2018-2019 to 2022-2023, with the change in rates being slight. The fluctuations make the trend difficult to determine. The large decline in 2020-21 may be partially attributable to the COVID-19 pandemic.

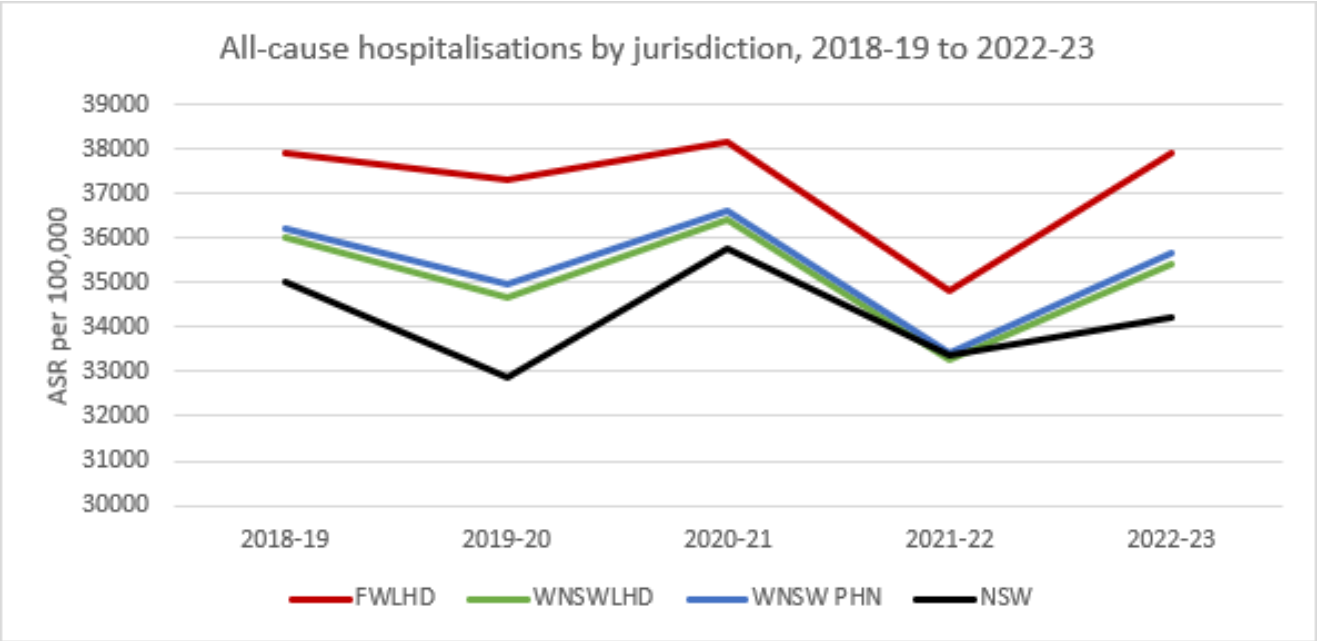



***Figure 3.10 Trends in hospitalisation rates (age-standardised) from all causes by jurisdiction, 2018-19 to 2022-23.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

During the same reporting period, the average annual rate of hospitalisations among females was higher than among males in WNSWLHD (by 4%), WNSW PHN (by 3%) and NSW (by 3%) but higher among males in FWLHD (by 6%) (Figure 3.11). For all Western NSW jurisdictions, hospitalisations among males and females were higher than among their NSW counterparts. FWLHD reported the highest hospitalisation rates with rates among males being 13% higher than NSW males and rates among females being 4% higher than NSW females. For WNSWLHD, rates for males and females were higher than that of their NSW counterparts by 2% and 3% respectively, while for WNSW PHN male and female rates were both higher by 3%.

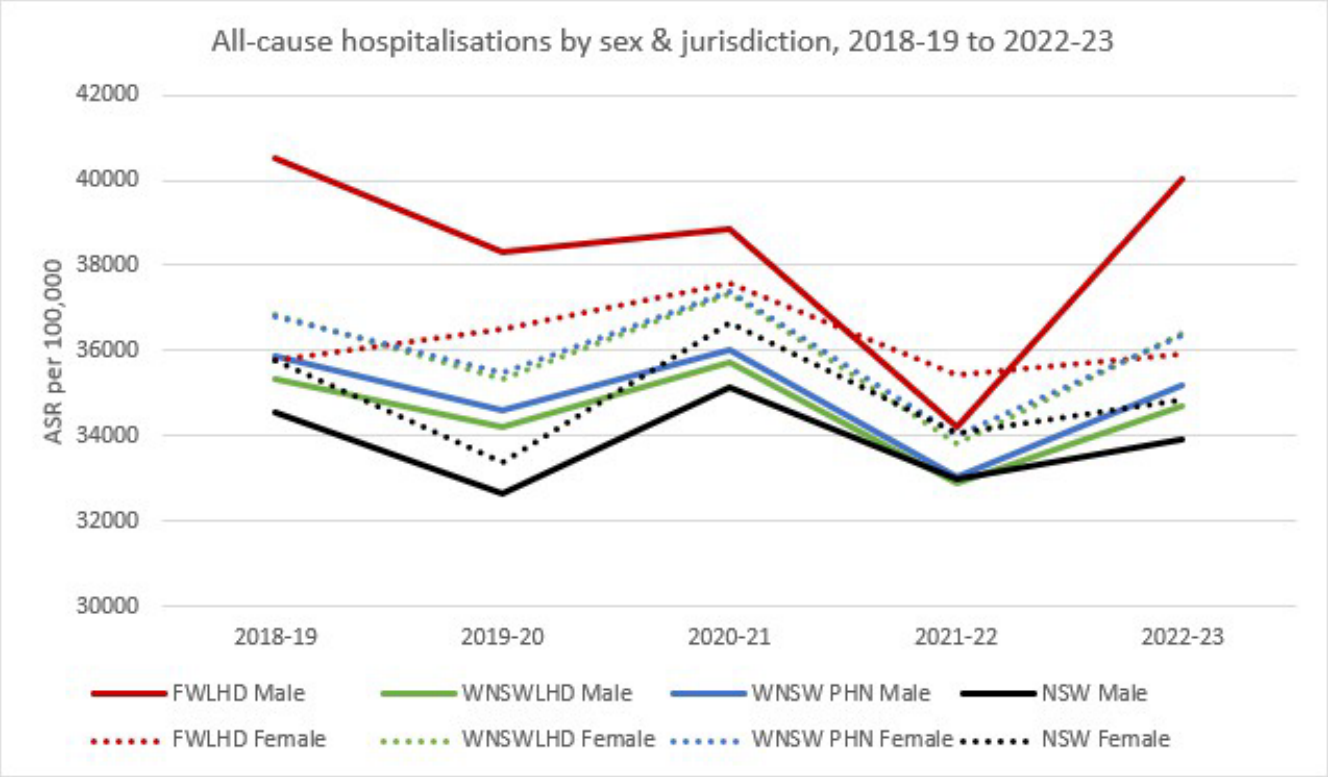



***Figure 3.11 Trends in hospitalisation rates (age-standardised) from all causes by sex and jurisdiction, 2018-19 to 2022- 23.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2018-19 and 2022-23, 54% of WNSW PHN LGAs had a higher average annual hospitalisation rate than that of NSW (Figure 3.12; Table A.3.3 – see Appendix). Central Darling reported the highest rate, being higher than that of NSW by 51%. Bourke and Lachlan reported the next highest rates being 45% and 22% higher than that of NSW, respectively. Weddin and Cabonne reported the lowest rates of hospitalisation of all LGAs, with rates for being 10% and 11% lower than that of NSW, respectively. Orange and Narromine were marginally higher than NSW by 0.2% and 0.1% respectively.

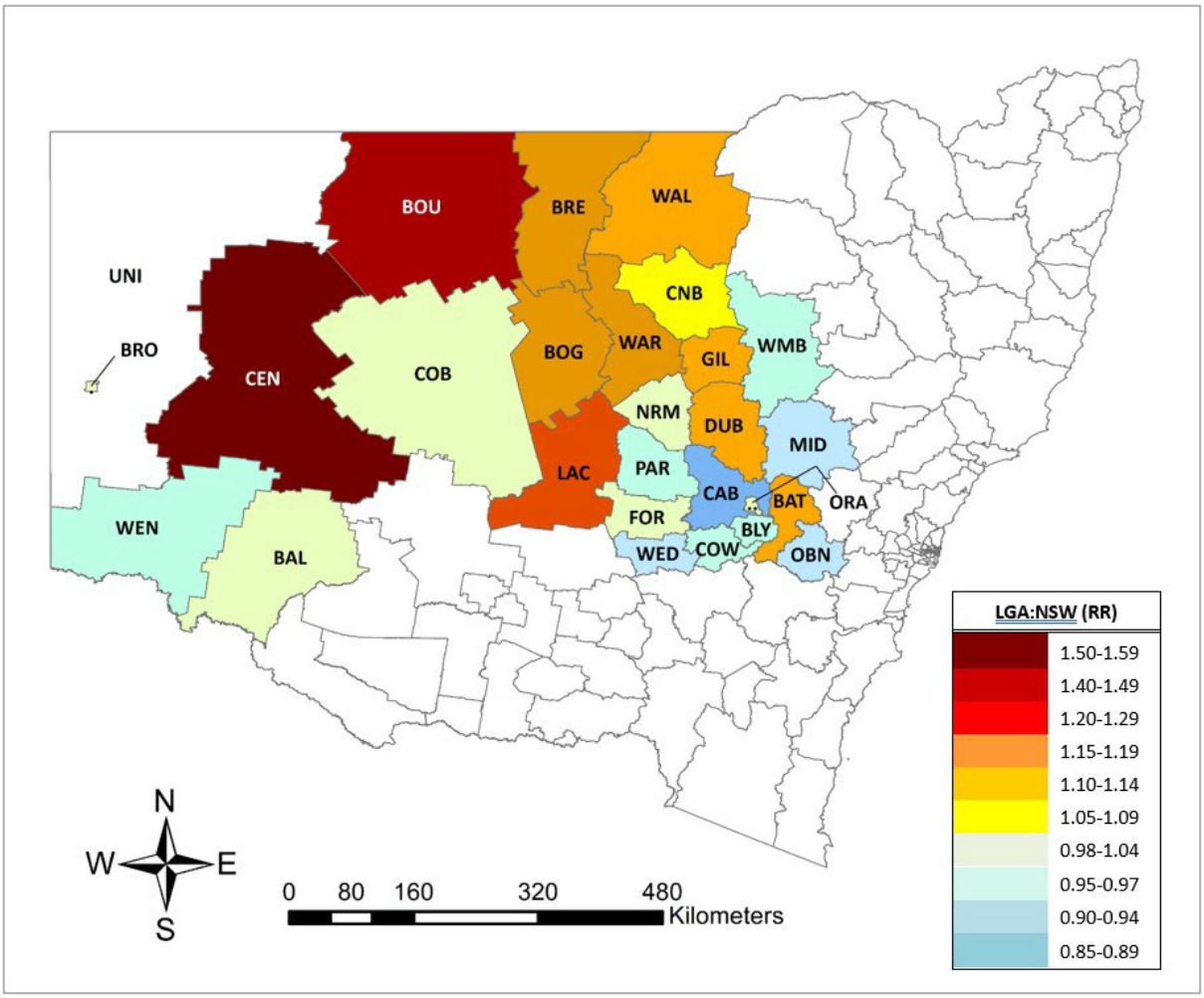



***Figure 3.12 Average annual hospitalisation rates (age-standardised) from all causes by local government area compared to NSW, 2018-19 to 2022-23.***

LGA=local government area, RR=rate ratio.

*The ratio of LGA average annual age-standardised hospitalisation rate to that of NSW (rate ratio). See LGA Abbreviations.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Hospitalisations by Aboriginality (all causes)

Data for hospitalisations by Aboriginality are no longer available at LHD or PHN level. They are only available at State level. Between 2018-19 and 2022-23, the annual average age-standardised hospitalisation rates among Aboriginal people for NSW were higher than that for non-Aboriginal people by 76%, respectively (Figure 3.13). Hospitalisation rates among NSW Aboriginal and non-Aboriginal people were lower by 3% in 2022-23 compared to 2018-19.

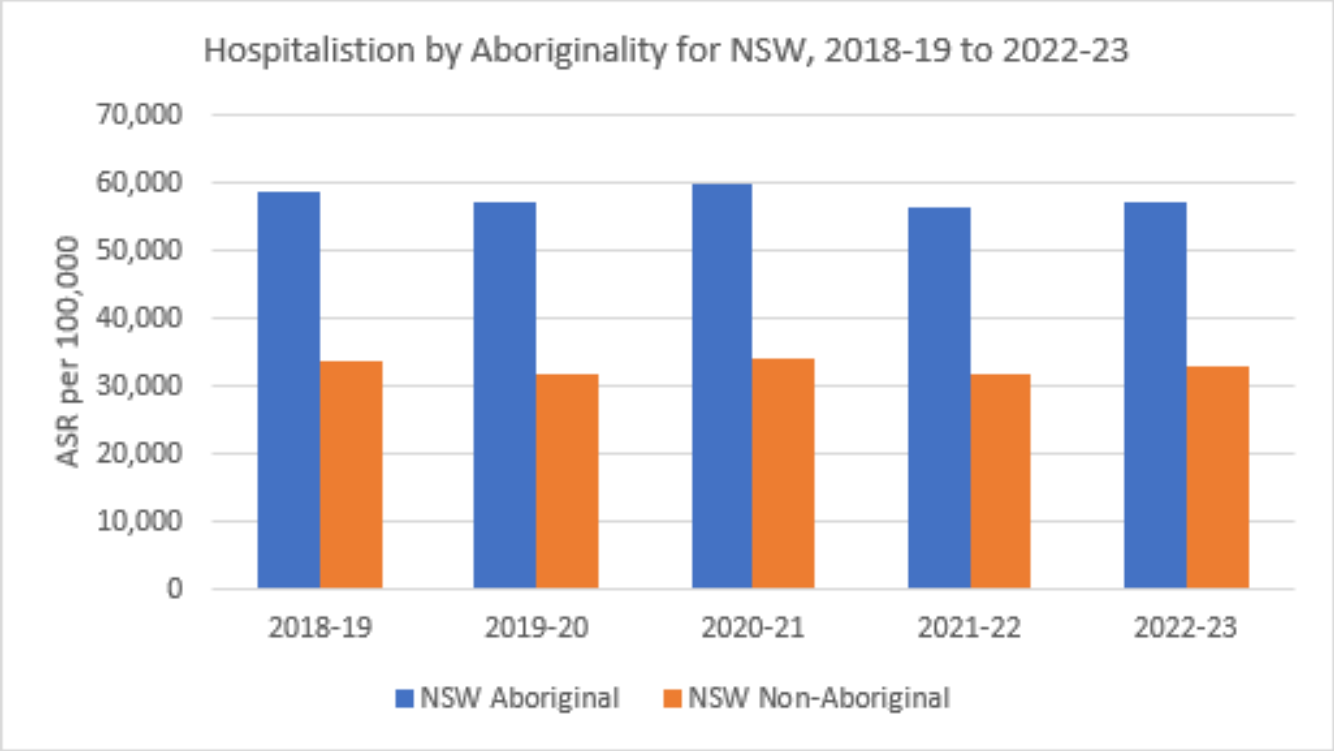



***Figure 3.13 Trends in hospitalisation rates (age-standardised) from all causes by Aboriginality in NSW, 2018-19 to 2022-23.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Leading causes of hospitalisations

Between 2018-19 and 2022-23, the leading cause of hospitalisation for all jurisdictions was dialysis, with the annual average per cent attributed to dialysis ranging between 13% and 24% of all hospitalisations (Figure 3.14). Of all jurisdictions, FWLHD reported the highest proportion of dialysis hospitalisations (24%) and was higher than that of NSW by 66%.

Diseases of the digestive system were the 2nd leading cause of hospitalisation for all Western NSW jurisdictions, making up 10% of all hospitalisations for each jurisdiction. 'Other factors influencing health' (i.e. examination, investigations, hazards and/or interactions with people and services) was the 2nd leading cause for NSW and the 3rd leading cause for FWLHD.

Injury and poisoning was the 4th leading cause of hospitalisation for FWLHD and 5th leading cause for both WNSWLHD and WNSW PHN; however, for NSW, they were not in the top 5 causes. The 5th leading cause of hospitalisation for FWLHD was 'Symptoms and abnormal findings', these were the 3rd leading cause for WNSWLHD and WNSW PHN and the 4th leading cause in NSW. Nervous and sense disorders were the 5th leading cause for NSW and the 9th, 6th and 7th leading causes for FWLHD, WNSWLHD and WNSW PHN respectively.

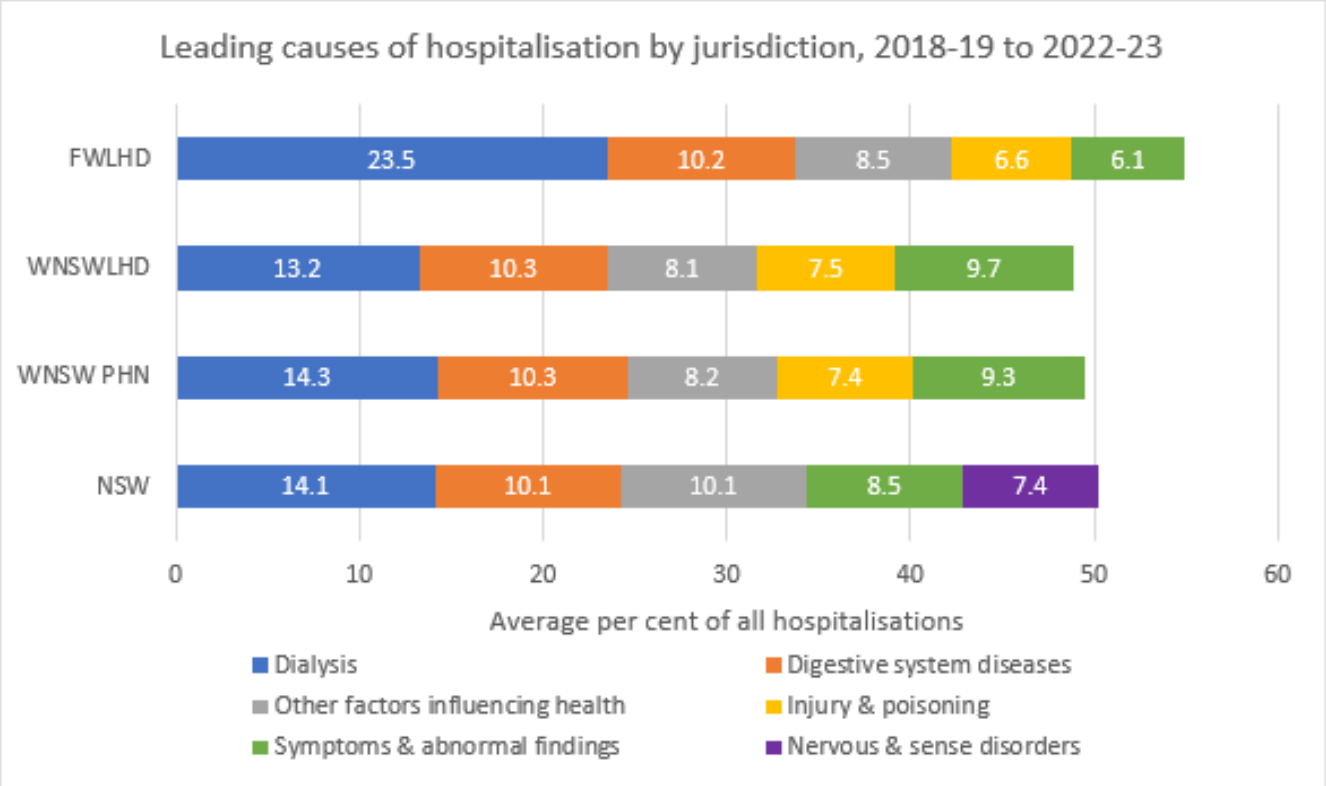



*Figure 3.14 Leading causes of hospitalisation by jurisdiction, 2018-19 to 2022-23.*

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Potentially preventable hospitalisations (all causes)

Between 2017-18 and 2021-22, the average annual rate of potentially preventable hospitalisations (PPH) in *FWLHD, WNSWLHD and WNSW PHN* was higher than that for NSW by 56%, 16% and 20%, respectively (Figure 3.15).

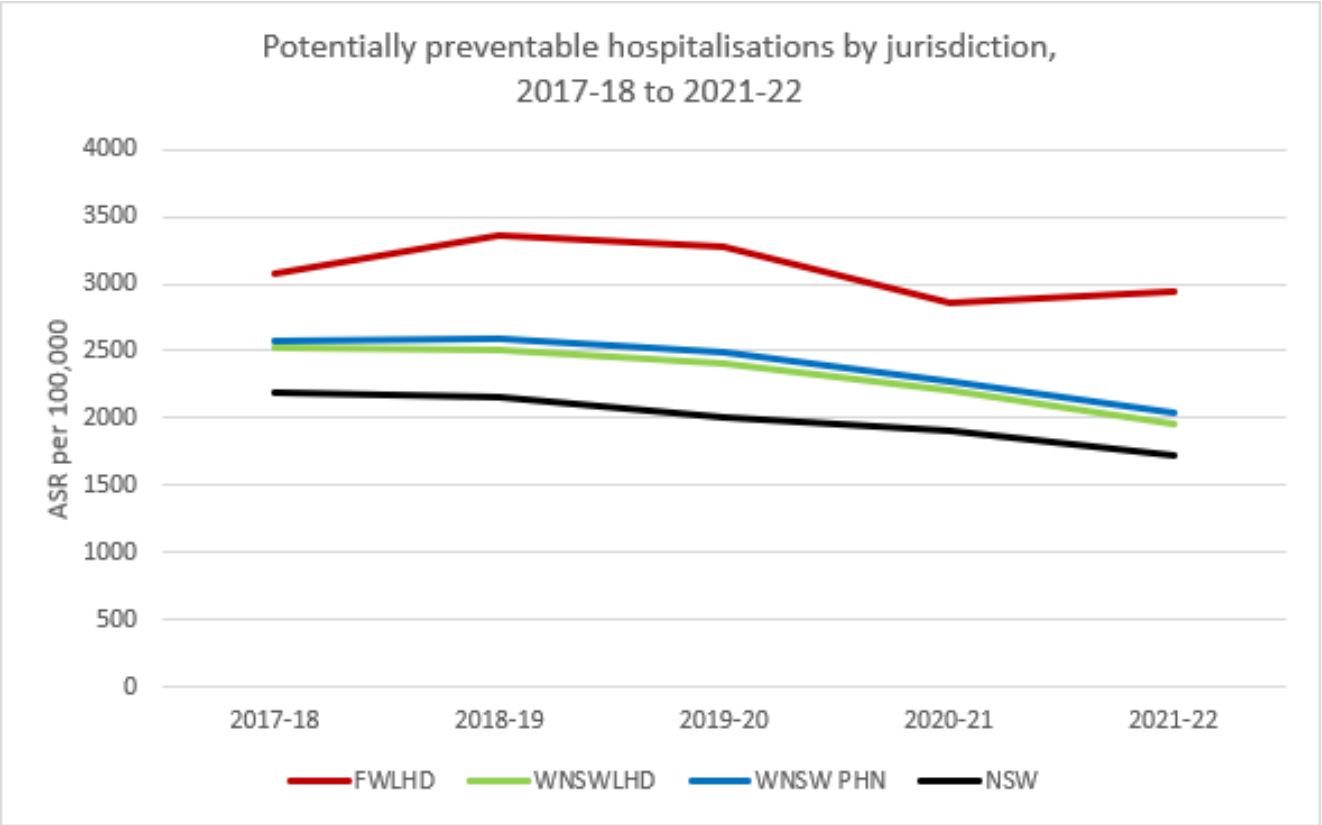



***Figure 3.15 Trends in potentially preventable hospitalisation rates by jurisdiction, 2017-18 to 2021-22.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Potentially preventable hospitalisations by Aboriginality (all causes)

Data for potentially preventable hospitalisations by Aboriginality are no longer available by LHD or PHN. They are only available at the State level.

Potentially preventable hospitalisations among Aboriginal people in NSW were higher than for non-Aboriginal people by 76%, on average between 2018- 19 and 2021-22 (Figure 3.16). In addition, compared to 2018-19, PPH rates in 2022-23 for Aboriginal and non-Aboriginal people were lower by 3%.

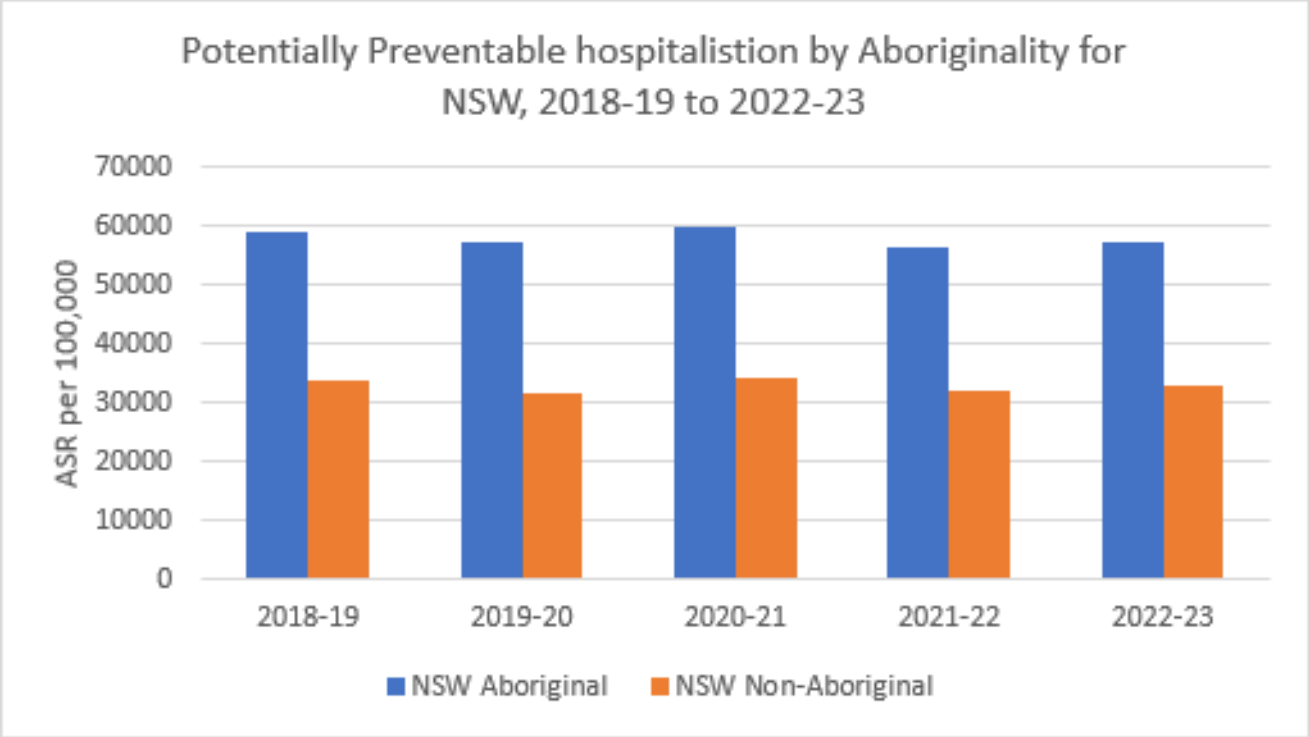



***Figure 3.16 Trends in potentially preventable hospitalisation rates by Aboriginality in NSW, 2018-19 to 2022-23.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Self-assessed health

In the 2017-18 National Health Survey, respondents aged 15 years and over were asked to assess their health as 'poor', 'fair', 'good', 'very good', or 'excellent'. The data reported here are the sum of responses categorised as 'poor' or 'fair' and are expressed as an age-standardised rate per 100. In 2017-18, WNSW PHN residents over the age of 15 years assessed their health as fair or poor at a rate that was higher than that of NSW by 13% (Table 3.3). The highest rates of fair to poor self-assessed health among WNSW PHN residents occurred in Central Darling, Balranald and Broken Hill, where rates were higher than that of NSW by 55%, 31% and 31%, respectively (Table 3.3, Figures 3.17 & 3.18). Conversely, the lowest rates of fair to poor self- assessed health occurred in Blayney and Cabonne where rates were lower than that of NSW by 2% and 4%, respectively.

***Table 3.3 Fair or poor self-assessed health among people aged 15 years and over, 2017-18.***

| LGA | ASR per 100 | LGA:NSW (RR)* |
|---|---|---|
| Balranald (FW) | 18.5 | 1.31 |
| Bathurst Regional | 14.3 | 1.01 |
| Blayney | 13.8 | 0.98 |
| Bogan | 17.4 | 1.23 |
| Bourke | NA | NA |
| Brewarrina | NA | NA |
| Broken Hill (FW) | 18.5 | 1.31 |
| Cabonne | 13.6 | 0.96 |
| Central Darling (FW) | 21.8 | 1.55 |
| Cobar | 18.1 | 1.28 |
| Coonamble | 16.4 | 1.16 |
| Cowra | 17.0 | 1.21 |
| Dubbo Regional^ | 15.4 | 1.09 |
| Forbes | 15.7 | 1.11 |
| Gilgandra | 16.6 | 1.18 |
| Lachlan** | 16.5 | 1.17 |
| Mid-Western Regional | 16.8 | 1.19 |
| Narromine | 17.2 | 1.22 |
| Oberon | 14.4 | 1.02 |
| Orange | 15.5 | 1.10 |
| Parkes | 17.1 | 1.21 |
| Walgett | NA | NA |
| Warren | 16.0 | 1.13 |
| Warrumbungle Shire | 15.5 | 1.10 |
| Weddin | 14.7 | 1.04 |
| Wentworth (FW) | 17.5 | 1.24 |
| Unincorporated (FW) | NA | NA |
| **NSW** | **14.1** | **1.00** |

LGA=Local Government Area, ASR=Age-standardised rate, FW=Far West, NA=data not available.
^Previously known as Western Plains and includes Wellington.
*WNSW PHN portion only.
Data source: PHIDU

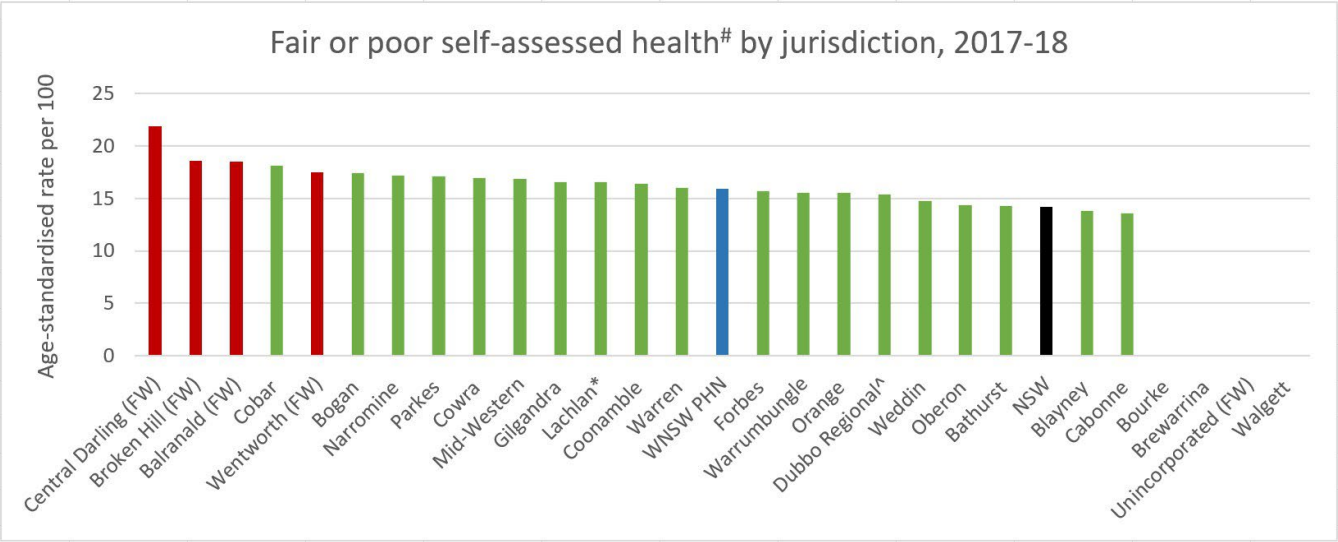



***Figure 3.17 Fair or poor self-assessed health among people aged 15 years and over, 2017-18.***

FW=Far West.

#Persons aged 15 years and older.

*WNSW PHN portion only.

^Previously known as Western Plains and includes Wellington.

Note that data are not available for Bourke, Brewarrina, Unincorporated Far West and Walgett.

Data source: PHIDU

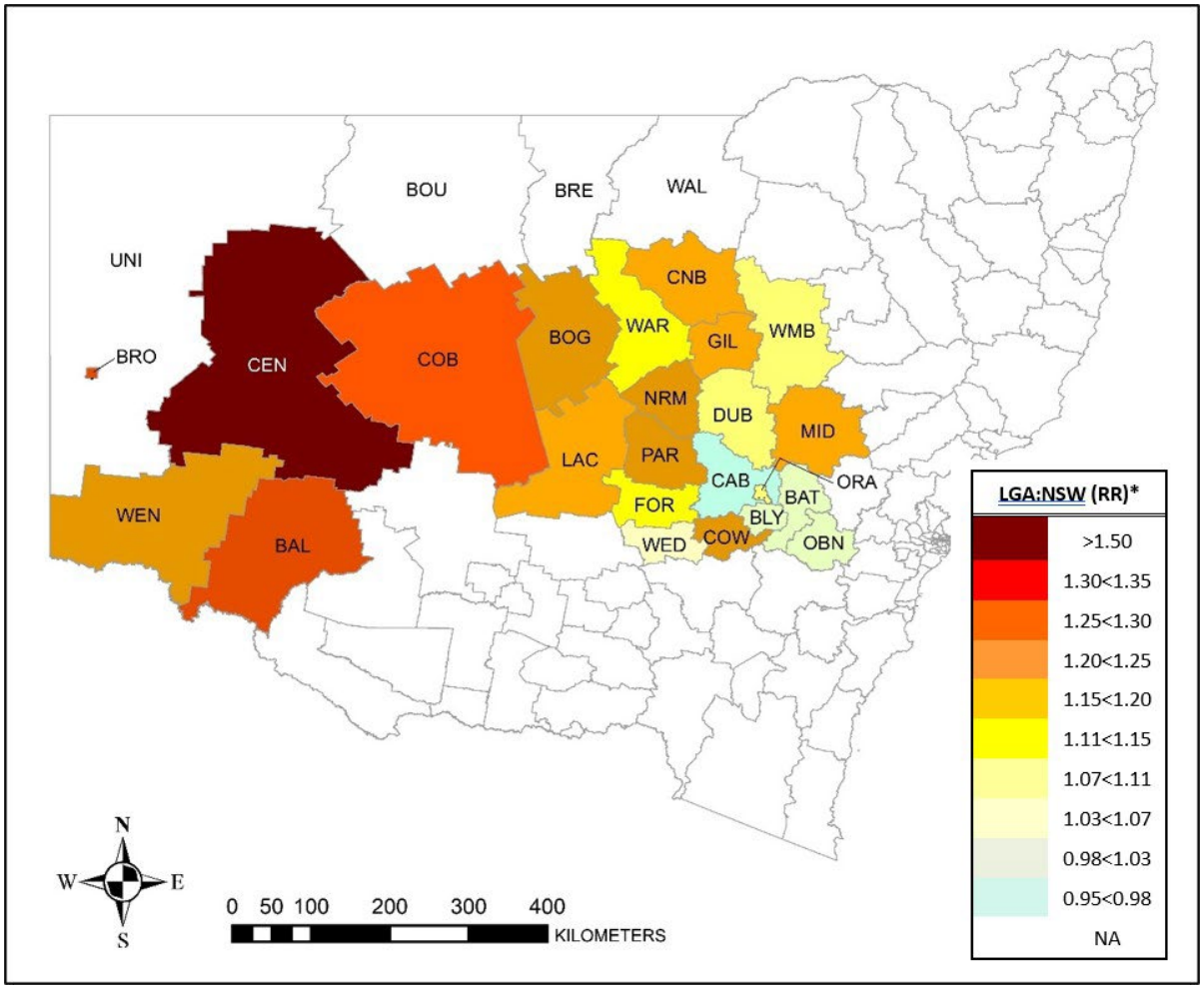



***Figure 3.18 Fair or poor self-assessed health among people aged 15 years and over by LGA compared to NSW, 2017-18.***

LGA=local government area, RR=rate ratio, NA=data not available

*The ratio of the LGA's age-standardised rate to that of NSW (rate ratio). See LGA abbreviations.

Data source: PHIDU

# Chapter 4. Cancer

## Summary

| Chapter 4. Cancer | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| **Incidence** | | | | | |
| New cancer diagnoses (cf. NSW) | 2017-2021 | *1.5% lower** | *8% higher* | *7% higher* | *Not applicable* |
| Leading types of newly diagnosed cancers | 2017-2021 | *Prostate/breast, melanoma & lung* | | | |
| **Mortality** | | | | | |
| Deaths from cancer (cf. NSW) | 2017-2021 | *8% higher* | *13% higher* | *13% higher* | *Not applicable* |
| Leading cause of cancer deaths | 2017-2021 | *Lung, prostate/breast & colon* | | | |

cf=compared to

*NB. Some FWLHD residents may access interstate services, with the potential for that data not being available to NSW.

## Cancer

In 2021, 2,168 new cases of cancer were diagnosed for WNSW PHN (compared to 2,089 in 2017). For the same year, cancer was responsible for 786 deaths (compared to 674 in 2017), or 26% of all deaths among WNSW PHN residents. Among females, 26% of all deaths were due to cancer while for males, 27% of all deaths were due to cancer (NSW Cancer Institute, NSW HealthStats). For each year between 2017-18 and 2021-22, nearly 4% of all hospitalisations among WNSW PHN residents were due to malignant neoplasms (cancers).

Cancer incidence for WNSW PHN and WNSWLHD persons was statistically significantly higher than that for NSW by 7% and 8%, respectively (Figures 4.1 & 4.2). In FWLHD, the incidence was lower by 1.5% but not significantly lower. Cancer incidence was also statistically significantly higher among males than females in all Western jurisdictions by 33-34% as well as in NSW by 30%

Between 2017 and 2021, 70% of WNSW PHN LGAs reported a higher cancer incidence than NSW, with 30% of WNSW PHN LGAs being statistically significantly higher (Figure 4.3, Table A.4.1 – see Appendix). Bogan and Coonamble reported the highest rates, being 27% and 22% higher than that of NSW, respectively. Central Darling, Brewarrina and Weddin reported the lowest rates of 18%, 16% and 15% lower than that of NSW, respectively. Note, however, that these rates were not statistically significantly different to that of NSW. Although Unincorporated (FW) reported a statistically significantly lower rate of cancer incidence compared to NSW, this result may be anomalous as data for residents accessing interstate services may not be recorded in NSW cancer databases.

In addition to the above, rates that were statistically significantly higher than that of NSW included those for Narromine (by 16%), Walgett (14%), Orange (10%), Mid-Western Regional (9%), Bathurst Regional (8%) and Dubbo Regional (8%).

## Cancer incidence (newly diagnosed cancers)

The NSW Cancer Institute[2] makes available to the public statistics on cancer incidence and deaths by age, sex and location, as well as by cancer type and extent of disease spread. The following pages provide an overview of the rate of newly diagnosed cancers by comparing rates in FWLHD, WNSWLHD, WNSW PHN and their local government areas to that of NSW.

## New cancer diagnosis by sex

Between 2017 and 2021, 10,857 new cases of cancer were diagnosed among residents of WNSW PHN, with 957 (9%) of those being diagnosed among FWLHD residents. Cancer incidence for WNSW PHN and WNSWLHD persons was statistically significantly higher than that for NSW by 7% and 8%, respectively (Figures 4.1 & 4.2). In FWLHD, the incidence was lower by 1.5% but not significantly lower. Cancer incidence was also statistically significantly higher among males than females in all Western jurisdictions by 33-34% as well as in NSW by 30%. Trends in cancer diagnoses over the reporting period remained relatively stable (Figure 4.2).

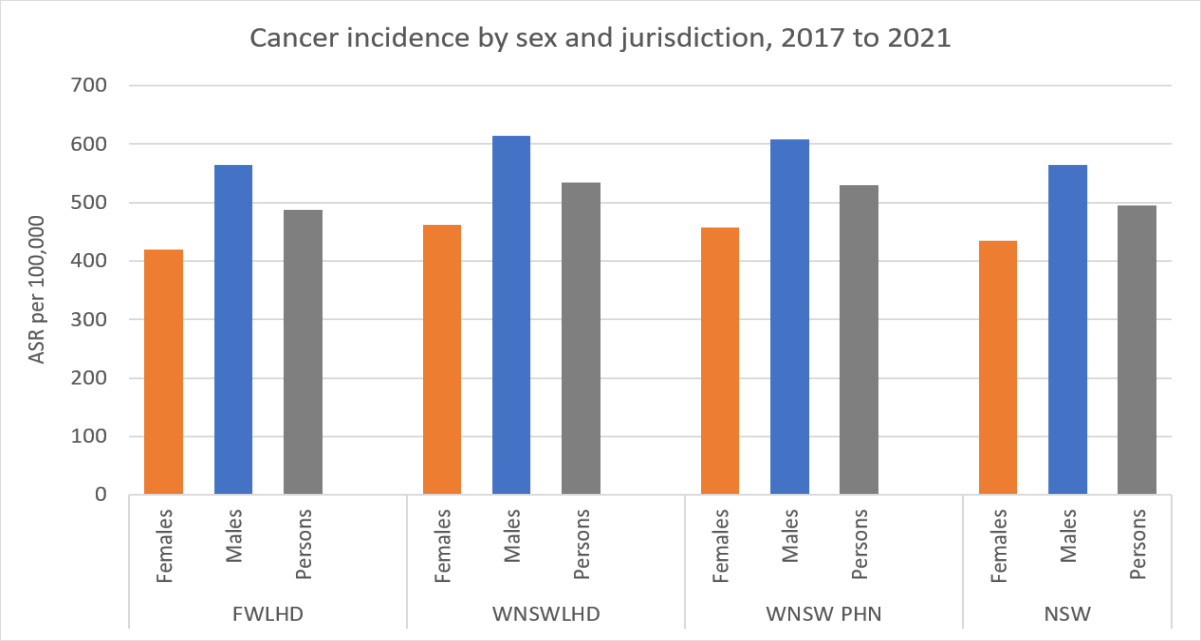



***Figure 4.1 Newly diagnosed cancer (all types) by sex & jurisdiction, 2017 to 2021.***

ASR=age-standardised rate

NB. Some FWLHD residents may access interstate services, with the potential for that data not being available to NSW. Data source: NSW Cancer Institute

[2] Source: https://www.cancer.nsw.gov.au/research-and-data

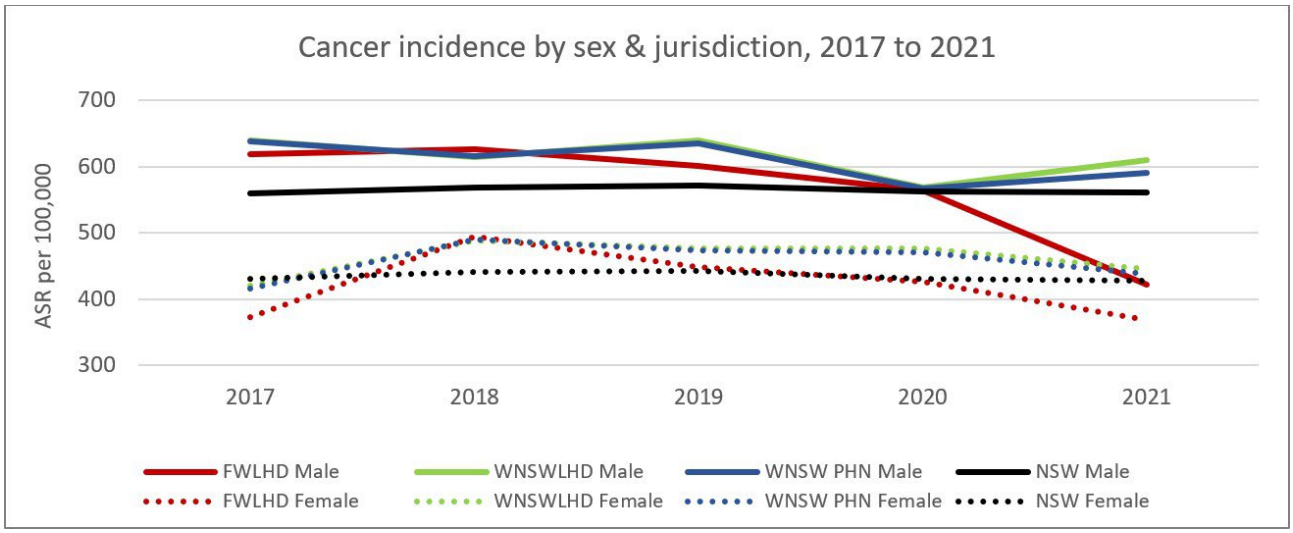



***Figure 4.2 Trends in newly diagnosed cancer (all types) by sex & jurisdiction, 2017 to 2021.***

ASR=age-standardised rate.

NB. Some FWLHD residents may access interstate services, with the potential for that data not being available to NSW. Data source: NSW Cancer Institute

### New cancer diagnosis by age group

Cancer incidence increases with age. Between 2017 and 2021, the average annual rate of newly diagnosed cancers among residents across all jurisdictions was highest among those aged 80+ years, followed by those aged 70- 79 years (Figure 4.4). Cancer incidence was lowest among those aged 0-49 years. Between 2017 and 2021, the annual average cancer incidence was higher in WNSWLHD and WNSW PHN than in NSW for residents aged less than 80 years. For those aged 60-69 years, cancer incidence was higher than that in NSW by 12% for WNSWLHD and 11% for WNSW PHN. In FWLHD, cancer incidence among those aged 0-49 and 50-59 years was slightly lower than that of NSW by 7% and 5%, respectively. This result may arise due to FWLHD residents accessing interstate services, the data for which may not be captured in NSW datasets.

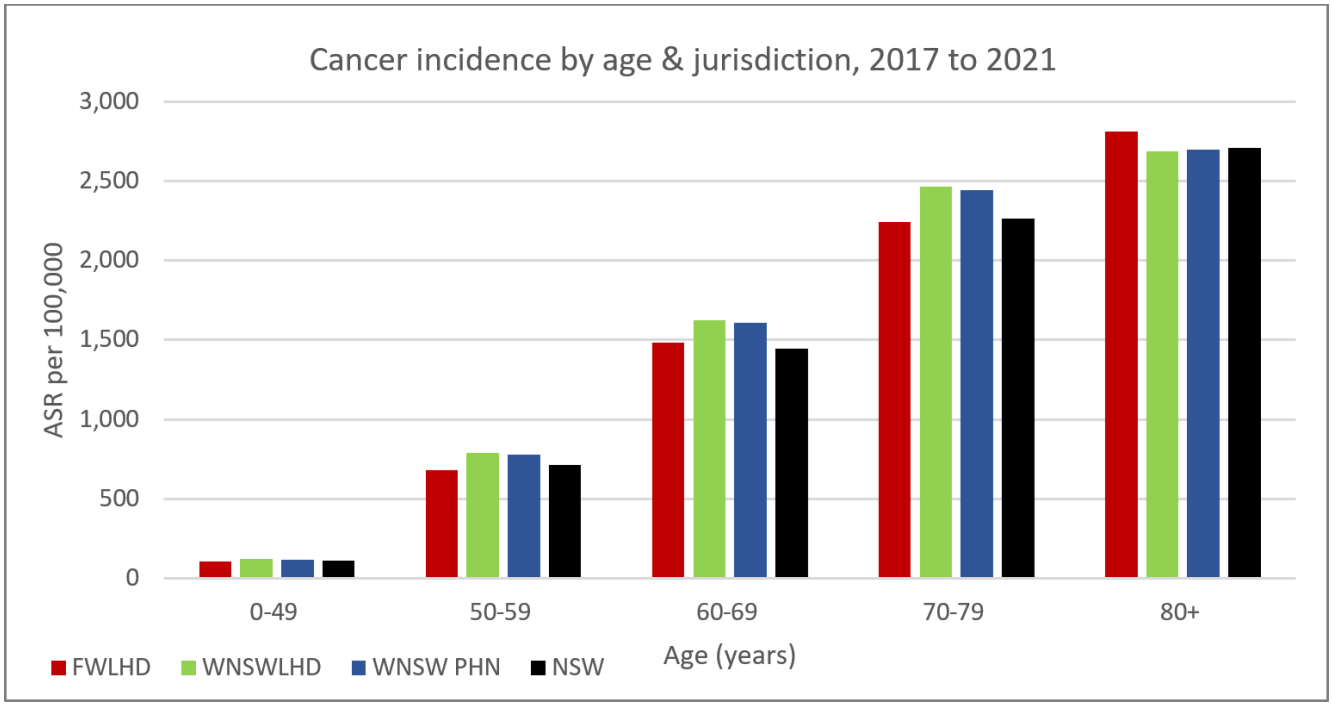



***Figure 4.3 Newly diagnosed cancer by age group & jurisdiction, 2017 to 2021.***

ASR=age-standardised rate.

Data source: NSW Cancer Institute

### New cancer diagnosis by LGA

Between 2017 and 2021, 70% of WNSW PHN LGAs reported a higher cancer incidence than NSW, with 30% of WNSW PHN LGAs being statistically significantly higher (Figure 4.3, Table A.4.1 – see Appendix). Bogan and Coonamble reported the highest rates, being 27% and 22% higher than that of NSW, respectively. Central Darling, Brewarrina and Weddin reported the lowest rates of 18%, 16% and 15% lower than that of NSW, respectively. Note, however, that these rates were not statistically significantly different to that of NSW. Although Unincorporated (FW) reported a statistically significantly lower rate of cancer incidence compared to NSW, this result may be anomalous as data for residents accessing interstate services may not be recorded in NSW cancer databases.

In addition to the above, rates that were statistically significantly higher than that of NSW included those for Narromine (by 16%), Walgett (14%), Orange (10%), Mid-Western Regional (9%), Bathurst Regional (8%) and Dubbo Regional (8%).

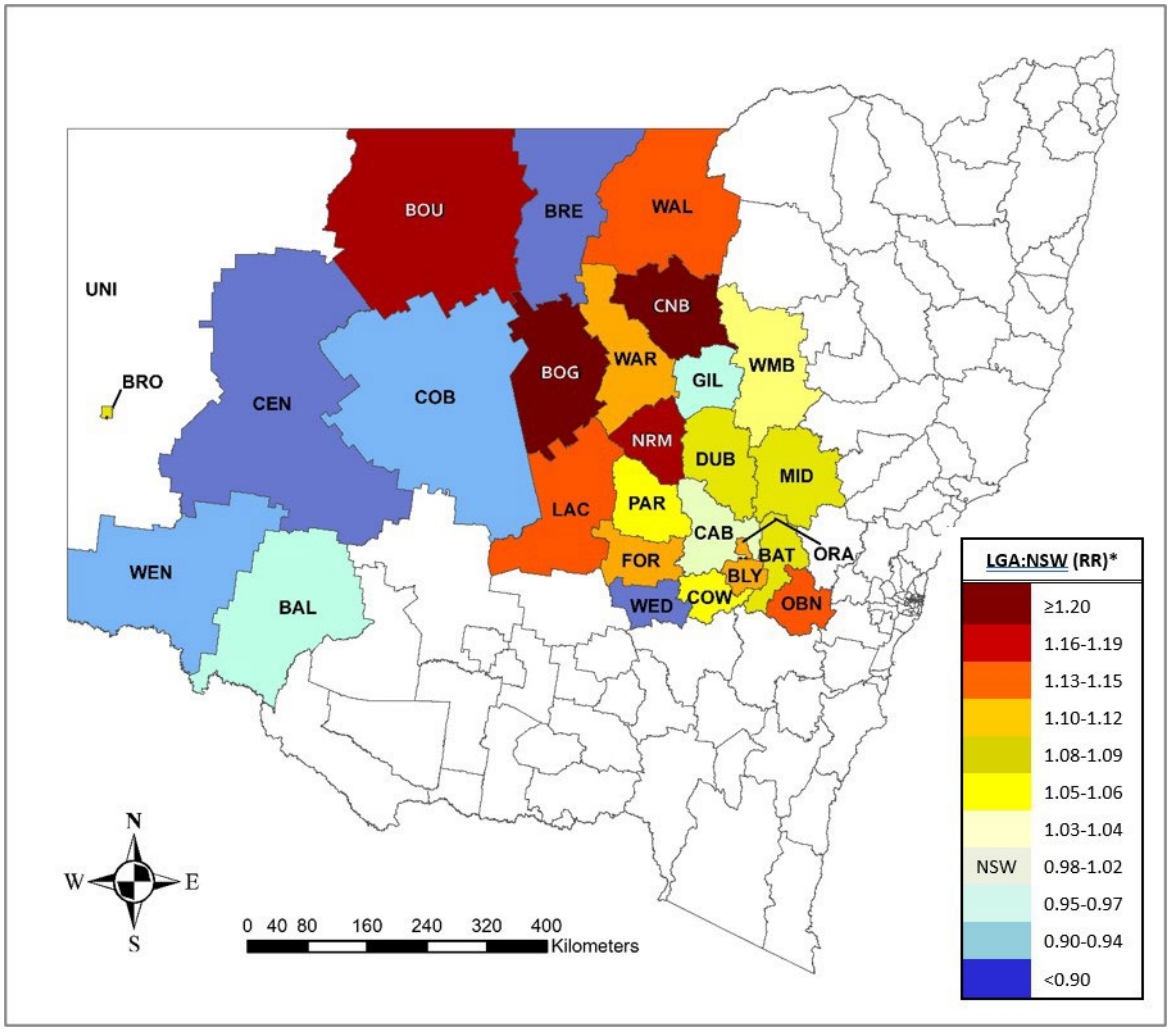



***Figure 4.4 Average annual incidence (age-standardised) of newly diagnosed cancer (all types) by local government area compared to NSW, 2017 to 2021.***

LGA=local government area, RR=rate ratio.

*The ratio of LGA annual average incidence (age-standardised) to that of NSW (rate ratio). See LGA abbreviations.

NB. Some FWLHD residents may access interstate services, with the potential for that data not being available to NSW. Data source: NSW Cancer Institute

### Leading types of newly diagnosed cancers

Between 2017 and 2021, the leading types of newly diagnosed cancers for males included prostate, melanoma of the skin, lung, colon and rectal cancers (Figure 4.5). For females, the leading types included breast, melanoma of the skin, lung, colon and uterine cancers.

### Comparisons between jurisdictions

Between 2017 and 2021, WNSW PHN males were statistically significantly more likely than NSW males to be diagnosed with melanoma of the skin by 15%, lung cancer by 15% and rectal cancer by 17%. Females in WNSW PHN were statistically significantly more likely than NSW females to be diagnosed with melanoma of the skin by 22% and lung cancer by 15%.

For the same reporting period, WNSW PHN males were 6% and 9% more likely to be diagnosed with prostate and colon cancer, respectively, than NSW males; WNSW PHN females were 7% and 5% more likely to be diagnosed with colon and uterine cancer, respectively, but slightly less likely to be diagnosed with breast cancer (2%) than NSW females (Figure 4.5). Note, however, that these results were not statistically significant.

In FWLHD, while the incidence of lung cancer among males was 29% higher than that among NSW males, this difference was not statistically significant (Figure 4.5). Similarly, while the incidence of uterine cancer among FWLHD females was 85% higher than NSW females, this result was also not statistically significant. However, for melanoma of the skin, both FWLHD males and females reported statistically significantly lower incidence rates than their NSW counterparts by 38% and 40%, respectively. These results could, however, be a reflection of FWLHD patients accessing interstate services for diagnosis and treatment.

### Comparisons between males and females

Between 2017 and 2021, the incidence of all leading cancers was higher among males than females across all jurisdictions except for uterine cancer among FWLHD females which was higher than rectal cancer among males (Figure 4.5). This difference, however, was not statistically significant. In WNSW PHN and WNSWLHD, all leading cancers among males were statistically significantly higher than that among their female counterparts, excepting colon cancer which was higher but not significantly. The largest discrepancy in cancer incidence between the sexes occurred for melanoma of the skin. Compared to their female counterparts, WNSW PHN and WNSWLHD males were significantly more likely to be diagnosed with melanoma of the skin by 46% and 45%, respectively. Similarly, WNSW PHN and WNSWLHD males were significantly more likely to be diagnosed with lung cancer by 34% and 30%, respectively. In addition, males were 33% (WNSW PHN) and 32% (WNSWLHD) more likely to be diagnosed with prostate cancer and 31% (WNSW PHN) and 43% (WNSWLHD) more likely to be diagnosed with rectal cancer than females with breast or uterine cancer, respectively.

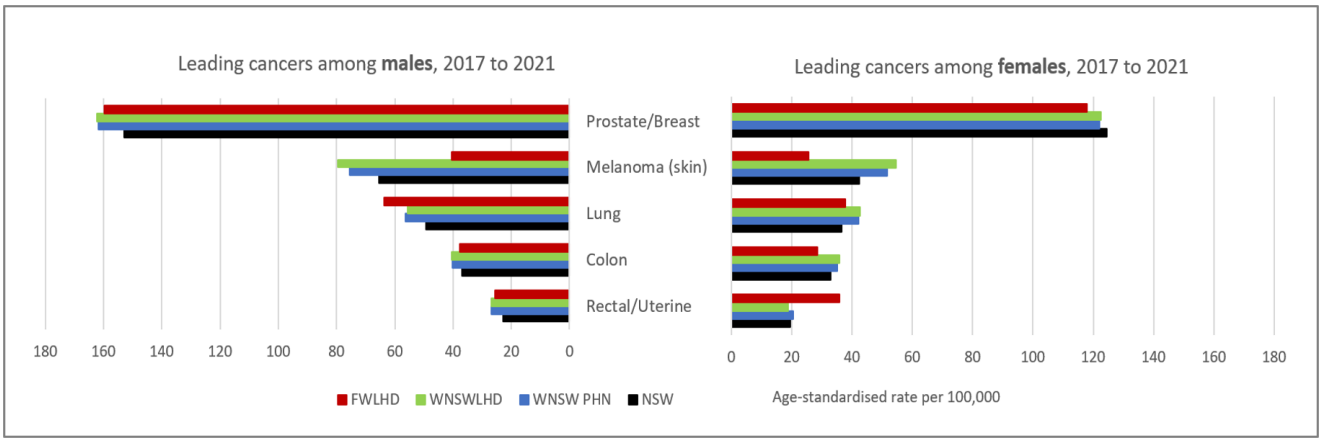



***Figure 4.5 Leading types of newly diagnosed cancers by sex & jurisdiction, 2017 to 2021.***

NB. Some FWLHD residents may access interstate services, with the potential for that data not being available to NSW. Data source: NSW Cancer Institute

### Extent of cancer spread at diagnosis

The extent of the spread of a cancer at diagnosis is generally indicative of how long the disease has been present in an individual. The extent of the cancer is determined by the degree of spread that occurs within four months from the date of diagnosis. Cancers confined to the tissue of origin are classified as 'localised'; those that have spread to an adjacent tissue, organ or lymph node are classified as 'regional' and those that have spread or metastasised to another location in the body are classified as 'distant'. Cancers of 'unknown' classification include those where the extent of spread is not known.

The more extensive the spread of the cancer, the more difficult it is to treat. Early diagnosis of cancer when very little or no spread has occurred, increases the chances of successful treatment and patient survival. Accordingly, early diagnosis among patients is an important step in reducing poor health outcomes and/or death.

Between 2017 and 2021, only 26% of all cancers among FWLHD residents were diagnosed as still being localised four months post-diagnosis, compared to 40-42% of all cancers diagnosed among residents of other jurisdictions (Figure 4.6). FWLHD residents were statistically significantly more likely to be diagnosed with cancers of 'unknown' extent (i.e. 47%) than other jurisdictions (i.e. 26-28%). Indeed, cancers with 'unknown' spread among FWLHD residents were higher than that of WNSWLHD by 63%, WNSW PHN by 53% and NSW by 80%.

For the same period and for all jurisdictions, the cancer most likely to be diagnosed after it had already metastasised to distant locations was lung cancer followed by colon cancer (Figure 4.7). Of all jurisdictions, FWLHD had the least proportion of lung cancers diagnosed at a time when they were still localised, while across all jurisdictions, colon cancer was the only cancer that was most likely to be diagnosed as a regional cancer. Cancers most likely to be diagnosed as localised cancers included melanoma of the skin, breast and prostate cancer across all jurisdictions. However, prostate cancer among FWLHD males was approximately 65% less likely to be diagnosed as a localised cancer than among WNSWLHD or NSW males. The reason for this large discrepancy is not known, however FWLHD males may access interstate services for diagnosis, in which case their results may not be included in NSW datasets.

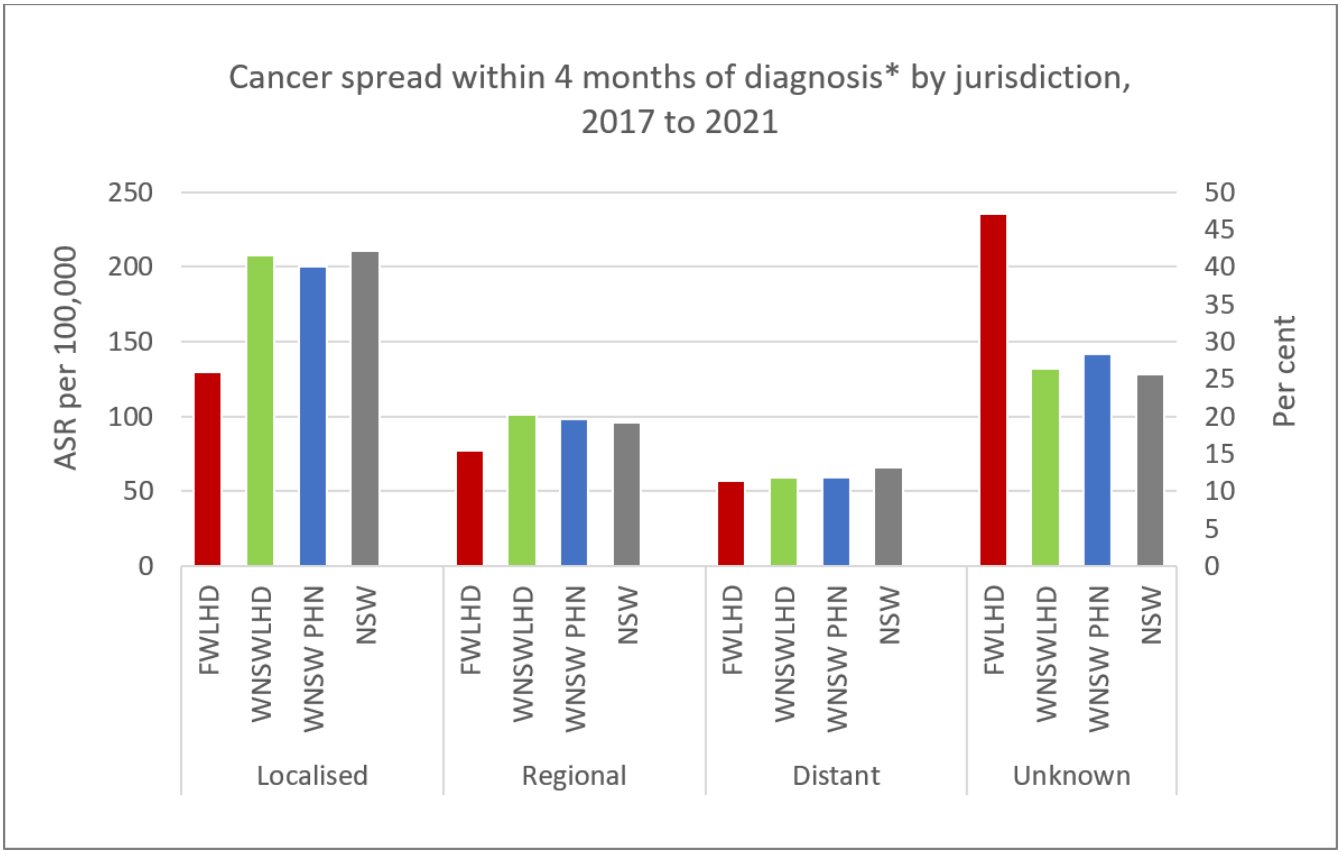



***Figure 4.6 Extent of cancer spread at diagnosis by jurisdiction, 2017 to 2021.***

ASR=age-standardised rate

*The highest degree of cancer spread occurring within four months from the date of diagnosis ('Extent of Disease', Glossary, NSW Cancer Institute, www.cancer.nsw.gov.au/glossary#letter-E).

Localised=found only in tissue of origin; Regional=spread to adjacent tissue, organ or lymph node; Distant=spread to another location in the body.

NB. Some FWLHD residents may access interstate services, with the potential for that data not being available to NSW. Data source: NSW Cancer Institute

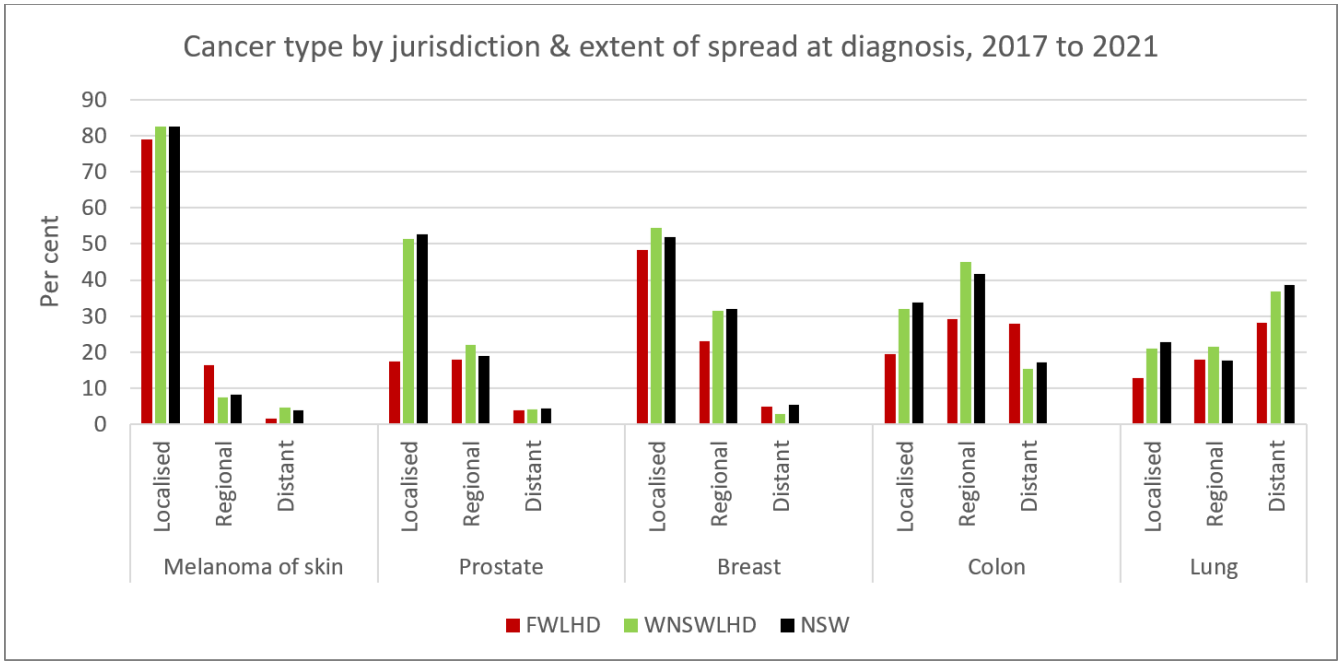



***Figure 4.7 Cancer type by extent of spread at diagnosis by jurisdiction, 2017 to 2021.***

ASR=age-standardised rate

NB. Cases diagnosed with cancer of unknown extent were included in the denominator for calculating percentages.

NB. Some FWLHD residents may access interstate services, with the potential for that data not being available to NSW.

Localised=localised to the tissue of origin; regional=spread to an adjacent tissue, organ or lymph node; distant=spread to another location in the body.

Data and definition source: NSW Cancer Institute

## Cancer deaths

Cancer is a leading cause of death worldwide. According to the Australian Institute of Health & Welfare (AIHW), Australia recorded more than 49,000 deaths to cancer in 2021.[1] The AIHW estimates that a person has a 1 in 6 risk of dying from cancer by the age of 85. The most common causes of cancer death include lung, colorectal, pancreatic, prostate and breast cancers.

The NSW Cancer Institute makes available to the public statistics on cancer incidence and deaths by age, sex and location, as well as by cancer type and extent of disease spread.[2] The following pages provide an overview of the rate of cancer deaths by comparing rates in FWLHD, WNSWLHD, WNSW PHN and their local government areas to that of NSW.

[1] https://www.canceraustralia.gov.au/impacted-cancer/what-cancer/cancer-australia-statistics

[2] https://www.cancer.nsw.gov.au/research-and-data

## Cancer deaths by sex

Between 2017 and 2021, 3,663 cancer deaths were reported for WNSW PHN with 2,077 (57%) of deaths occurring among male residents and 372 (10%) occurring among FWLHD residents. The age-standardised rate (per 100,000) of cancer deaths in WNSWLHD and WNSW PHN was statistically significantly higher than that of NSW by 13% (Figure 4.8). Cancer death rates were also higher in FWLHD than in NSW by 8% but this difference was not statistically significant. In all jurisdictions, the rate of cancer deaths among males was statistically significantly higher than that among females by 58% (FWLHD), 42% (WNSWLHD), 43% (WNSW PHN) and 49% (NSW) (Figures 4.8 & 4.9). For all jurisdictions, there was no obvious trending upwards or downwards in cancer death rates over the reporting period (Figure 4.9).

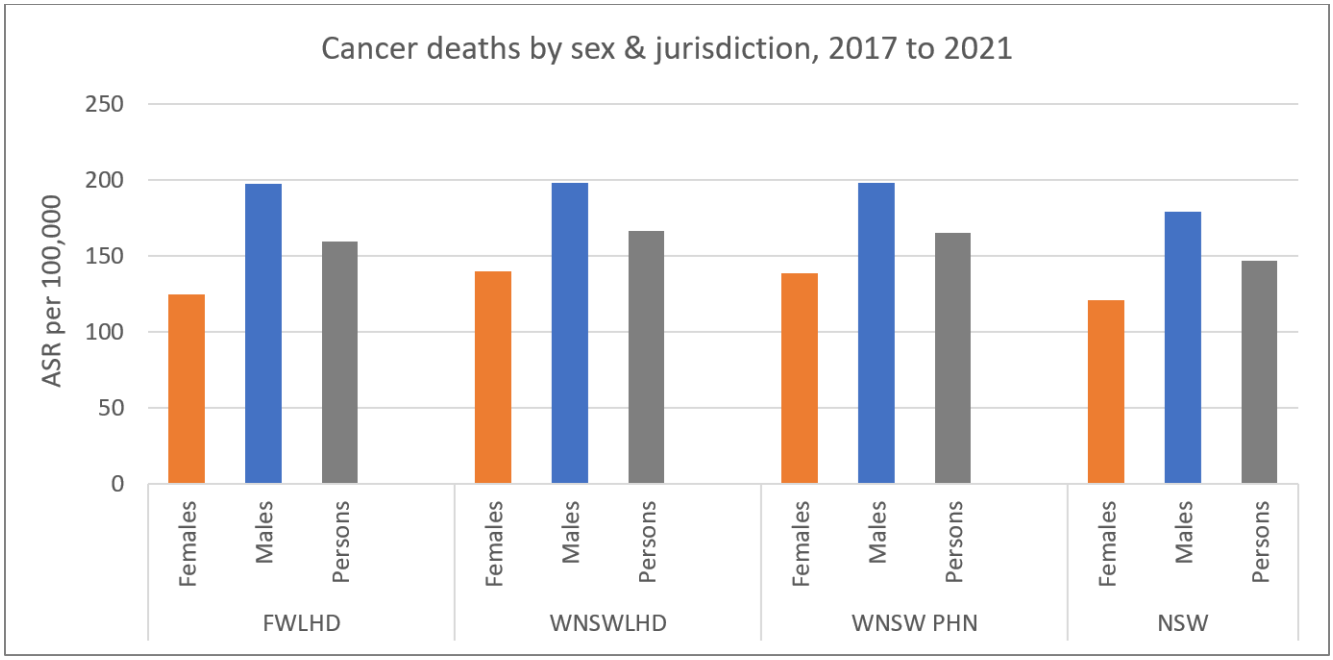



*Figure 4.8 Rates of cancer deaths by sex & jurisdiction, 2017 to 2021*

ASR=age-standardised rate

Data source: NSW Cancer Institute

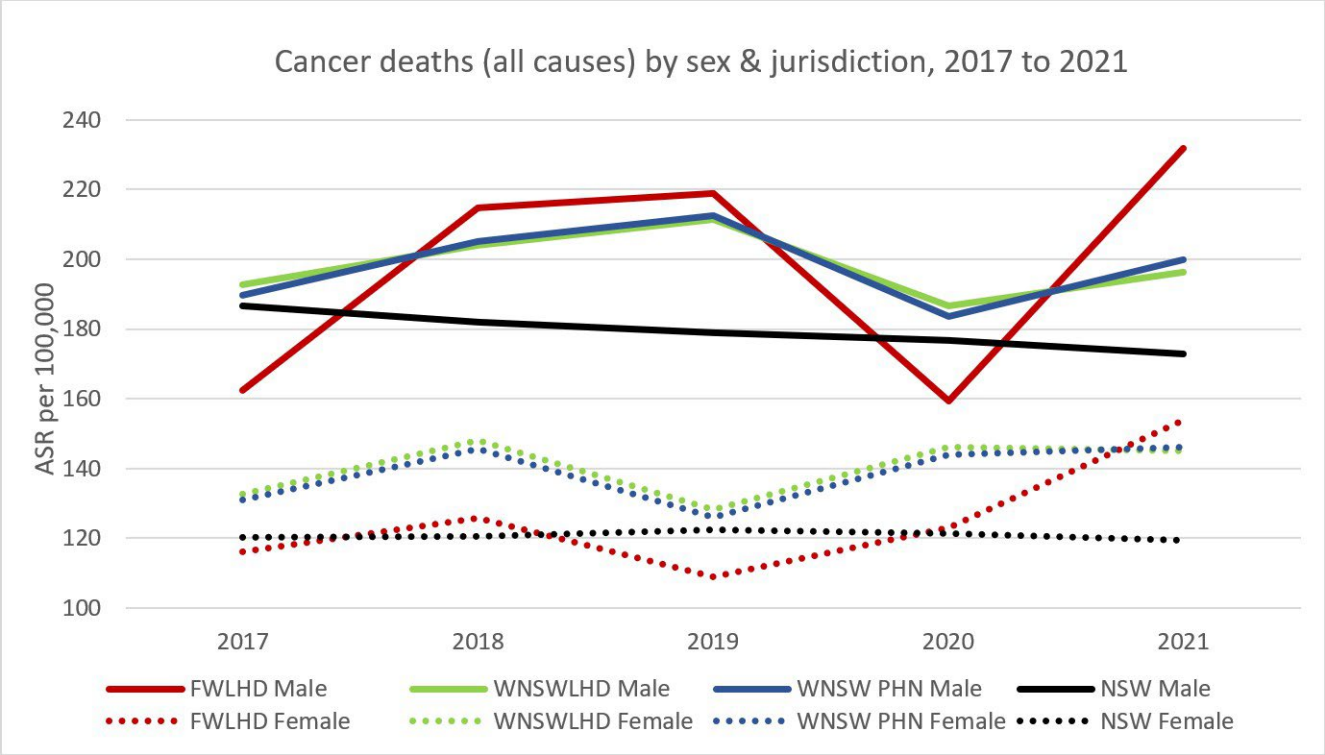



***Figure 4.9 Trends in cancer deaths from all causes by gender & jurisdiction, 2017 to 2021.***

ASR=age-standardised rate

Data source: NSW Cancer Institute

## Cancer deaths by age group

The rate of cancer deaths increases with age. Between 2017 and 2021, the average annual rate of cancer mortality among residents across all jurisdictions was highest among those aged 80+ years, followed by those aged 70-79 years (Figure 4.10).

Compared to NSW residents, cancer mortality rates were higher among WNSWLHD and WNSW PHN residents aged 0- 49 years by 19-20%, 50-59 years by 20%, 60-69 years by 20% and 70-79 years by 15-16% (Figure 4.10). Mortality rates for WNSWLHD and WNSW PHN residents aged 80+ years were slightly higher than that of NSW by 3-4%. For FWLHD residents aged 50-59, 60-69 and 80+ years, cancer deaths were 17%, 19% and 10% higher, respectively, than their NSW counterparts.

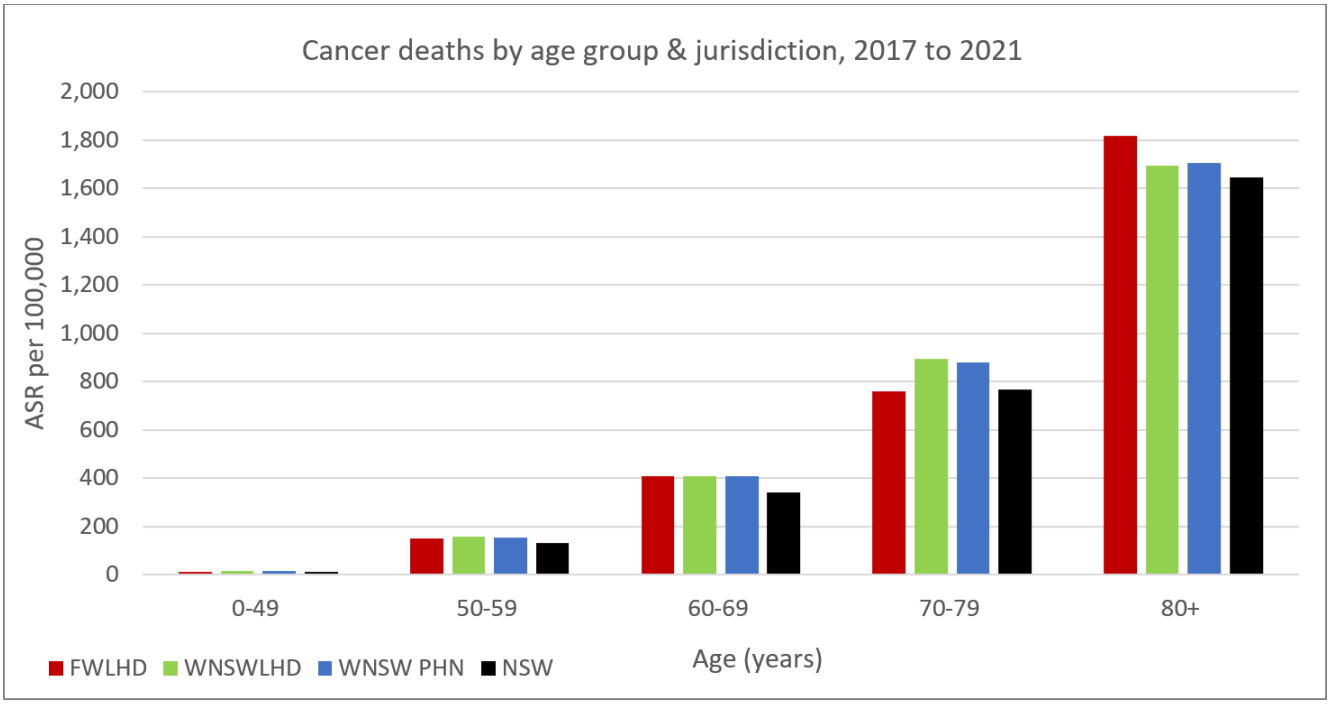



***Figure 4.10 Cancer deaths by age group and jurisdiction, 2017 to 2021.***

ASR=age-standardised rate

Data source: NSW Cancer Institute

## Cancer deaths by LGA

Between 2017 and 2021, the standardised mortality rate for cancer was higher in 81% of WNSW PHN LGAs than in NSW (Figure 4.11, Table A.4.2 - Appendix). In addition, 31% of all LGAs reported mortality rates statistically significantly higher than that of NSW including Walgett (by 69%), Coonamble (43%), Warren (38%), Blayney (29%), Broken Hill (26%), Narromine (23%), Cowra (20%) and Orange (17%).

LGAs with cancer mortality rates lower than that of NSW included Wentworth (by 24%), Brewarrina (21%), Balranald (20%) and Cabonne (8%); only rates for Wentworth were statistically significantly lower than that of NSW (Figure 4.11).

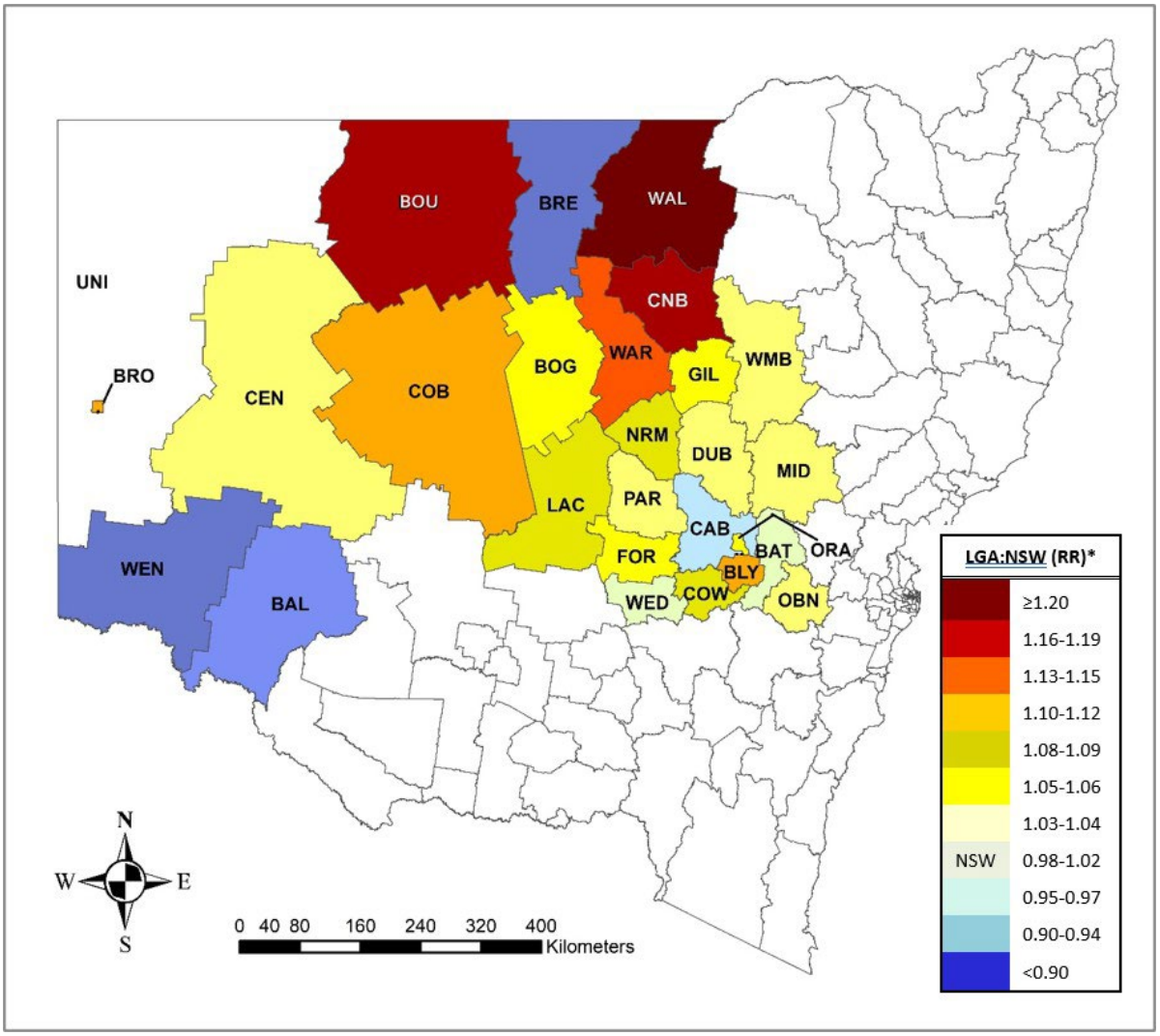



***Figure 4.11 Ratio of average annual mortality rates (age-standardised) for cancer (all types) by LGA to that of NSW, 2017 to 2021.***

LGA=local government area, RR=rate ratio.

*The ratio of LGA annual average age-standardised mortality rates to that of NSW (rate ratio). See LGA abbreviations.

Data source: NSW Cancer Institute

## Leading causes of cancer deaths

Between 2017 and 2021, the leading causes of cancer deaths for NSW residents were lung, prostate/breast, colon and pancreatic cancers, as well as rectal/ovarian cancers and cancers of unknown origin (Figure 4.12). In all jurisdictions, lung cancer was the main cause of cancer mortality followed by prostate/breast cancers. Compared to NSW, mortality rates for lung and breast cancer were higher in all Western jurisdictions, while mortality rates for prostate cancer were higher only in WNSWLHD and WNSW PHN.

Compared to NSW, cancer mortality rates were highest for cancers with unknown primaries among FWLHD males (by 87%), WNSWLHD females (by 31%) and WNSW PHN females (by 29%) (Figure 4.12). For WNSWLHD and WNSW PHN males, rates of prostate cancer deaths were higher than that of NSW by 27% and 24%, respectively. For males of all Western jurisdictions, death rates for rectal cancer and lung cancer were 18-21% and 13-16% higher than that of NSW, respectively. Conversely, deaths among males due to pancreatic cancer were lower than that of NSW by 8-11%.

Among WNSWLHD and WNSW PHN females, mortality rates were higher than that of NSW females for lung cancer (by 25-27%), colon cancer (by 14- 16%), pancreatic cancer (by 8-11%) and breast cancer (by 8-10%) (Figure 4.12). Among FWLHD females, death rates due to breast cancer were higher than that of NSW by 26%. Conversely, death rates among WNSWLHD and WNSW PHN females due to ovarian cancer were 8-13% lower than that of NSW.

Across all jurisdictions and for all leading causes of cancer mortality, rates were higher among males than females except for a) breast cancer where mortality in FWLHD females was higher than prostate cancer mortality in FWLHD males by 8%, and b) cancer with unknown primary where mortality in WNSWLHD females was higher than mortality in WNSWLHD males by 6% (Figure 4.12). Across all jurisdictions, lung cancer mortality rates were higher among males than females by 60% (FWLHD), 45% (WNSWLHD), 46% (WNSW PHN) and 58% (NSW). The greatest discrepancy between male and female mortality occurred in FWLHD for cancers of unknown primary, where rates among males were more than twice that of females. Finally, death rates for rectal cancer among males were higher than that for ovarian cancer among females by 93% in WNSW PHN and 83% in WNSWLHD.

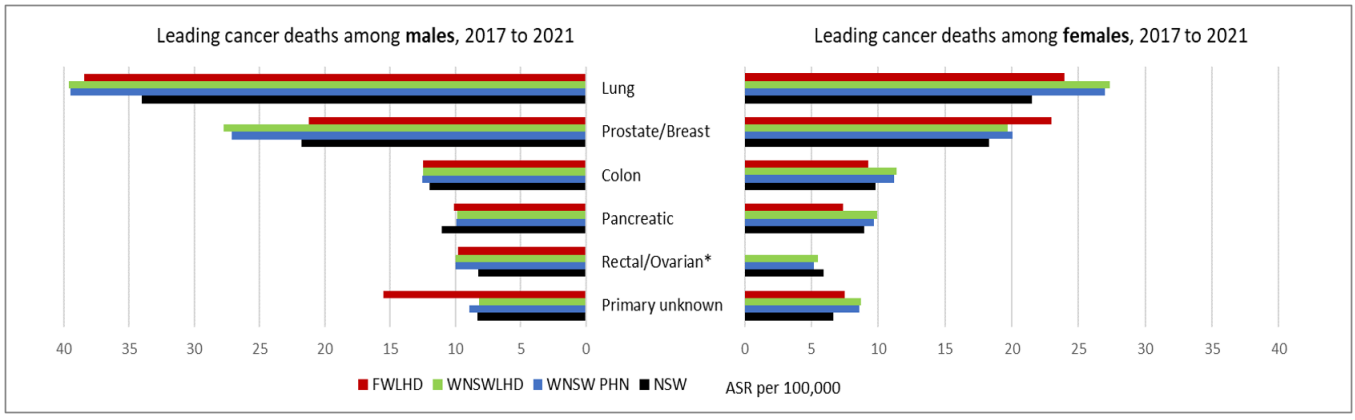



***Figure 4.12 Rates of leading causes of cancer deaths by sex & jurisdiction, 2017 to 2021***

*Data not available for ovarian cancer deaths among FWLHD females. ASR=age-standardised rate

Data source: NSW Cancer Institute

## Leading cancer deaths in FWLHD

Table 4.1 depicts the top 5 cancers causing death in each jurisdiction between 2017 and 2021, in descending order of age- standardised rate per 100,000. In all jurisdictions except FWLHD, death rates for lung and prostate cancers among males were statistically significantly higher than rates of lung and breast cancers among their female counterparts. While NSW reported death rates for colon and pancreatic cancer among males to be statistically significantly higher than that among females, this was not evident for Western jurisdictions (Table 4.1).

***Table 4.1 Top 5 cancers causing death (in descending order of age-standardised rate) by sex & jurisdiction, 2017 to 2021.***

| | MALE | | | | FEMALE | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 95% CI | | | | 95% CI | |
| | Cancer type | ASR# | LL | UL | Cancer type | ASR# | LL | UL |
| FWLHD | Lung | 38.5 | 27.7 | 52.0 | Lung | 24.0 | 15.7 | 35.0 |
| | Prostate | 21.2 | 13.2 | 32.3 | Breast | 23.0 | 15.0 | 33.5 |
| | Unknown^ | 15.5 | 8.8 | 25.3 | Colon | 9.2 | 4.5 | 16.6 |
| | Oesophageal | 12.7 | 6.8 | 21.5 | Unknown^ | 7.5 | 3.6 | 13.5 |
| | Colon | 12.5 | 6.9 | 20.6 | Brain | 7.4 | 2.5 | 16.5 |
| WNSWLHD | Lung* | 39.6 | 35.7 | 43.9 | Lung | 27.3 | 24.2 | 30.8 |
| | Prostate* | 27.8 | 24.5 | 31.4 | Breast | 19.7 | 16.9 | 22.8 |
| | Colon | 12.5 | 10.3 | 15.0 | Colon | 11.4 | 9.3 | 13.8 |
| | Rectal | 10.0 | 8.1 | 12.3 | Pancreatic | 9.9 | 8.1 | 12.0 |
| | Pancreatic | 9.9 | 7.9 | 12.1 | Unknown^ | 8.7 | 7.0 | 10.7 |
| WNSW PHN | Lung* | 39.5 | 35.7 | 43.5 | Lung | 27.0 | 24.0 | 30.3 |
| | Prostate* | 27.1 | 24.0 | 30.5 | Breast | 20.1 | 17.4 | 23.0 |
| | Colon | 12.5 | 10.5 | 14.8 | Colon | 11.2 | 9.2 | 13.4 |
| | Rectal | 10.0 | 8.2 | 12.1 | Pancreatic | 9.7 | 7.9 | 11.6 |
| | Pancreatic | 9.9 | 8.1 | 12.0 | Unknown^ | 8.6 | 7.0 | 10.5 |
| NSW | Lung* | 34.0 | 33.3 | 34.8 | Lung | 21.5 | 21.0 | 22.1 |
| | Prostate* | 21.8 | 21.2 | 22.4 | Breast | 18.3 | 17.8 | 18.8 |
| | Colon* | 12.0 | 11.5 | 12.4 | Colon | 9.8 | 9.5 | 10.2 |
| | Pancreatic* | 11.0 | 10.6 | 11.5 | Pancreatic | 8.9 | 8.6 | 9.3 |
| | Liver | 8.7 | 8.4 | 9.1 | Unknown^ | 6.7 | 6.4 | 7.0 |

#Age-standardised rate per 100,000
^Unknown=Cancer of unknown primary
*Statistically significantly higher than that among the female counterpart at -level=0.05 CI=confidence interval, LL=lower limit, UL=upper limit
Data source: NSW Cancer Institute

## Cancer deaths by extent of disease spread at diagnosis

For most types of cancer, early diagnosis improves patient outcomes. Between 2017 and 2021, residents of Western NSW who died of cancer were more likely to have been diagnosed with a cancer of unknown extent compared to their NSW counterparts (Figure 4.13). Of all jurisdictions, FWLHD reported the highest rate of cancer mortality with unknown spread, with a rate higher than that of NSW by 84%. In addition, of all the jurisdictions, FWLHD residents who died of cancer were least likely to have had their cancer diagnosed at a time when the extent of the spread was still localised. Interestingly, residents of WNSWLHD and WNSW PHN who died of cancer were slightly more likely to have had their cancer diagnosed with regional spread compared to NSW residents.

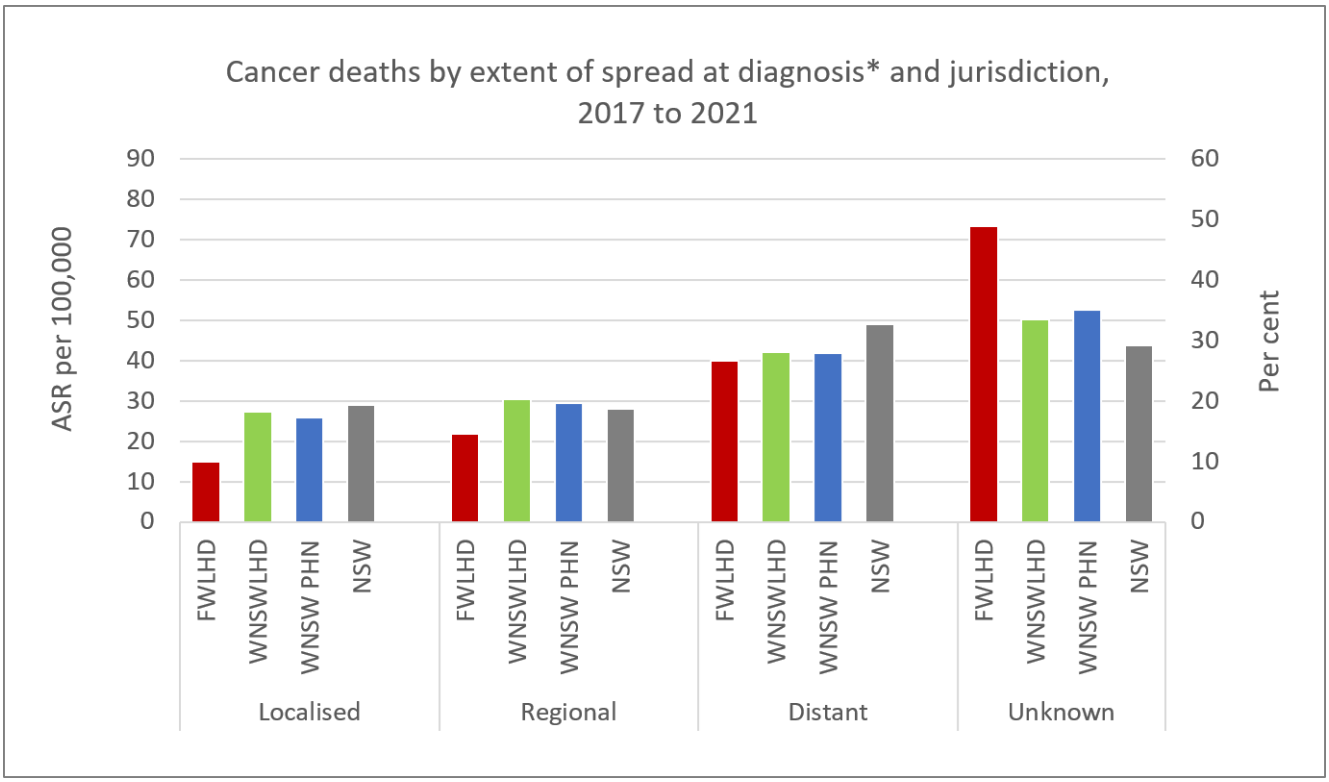



***Figure 4.13 Cancer deaths by extent of spread at diagnosis* & jurisdiction, 2017 to 2021.***

*Localised=localised to the tissue of origin, regional=spread to an adjacent tissue, organ or lymph node, distant=spread to another location in the body, unknown=extent of cancer spread not known
ASR=Age-standardised rate
Data source: NSW Cancer Institute

Between 2017 and 2021 and for 4 out of 5 leading cancer types (prostate cancer excluded due to no available data), FWLHD residents who died of cancer were least likely to have had a localised cancer at diagnosis compared to all other jurisdictions (Figure 4.14).

Across all jurisdictions, residents who died of lung and pancreatic cancer were more likely to have been diagnosed with distant cancer spread than other leading cancers (Figure 4.14). For pancreatic cancer deaths, distant spread at diagnosis was highest for FWLHD residents.

Females who died of breast cancer were more likely to have been diagnosed with regional cancer spread, while males dying of prostate cancer were more likely diagnosed with localised spread

(Figure 4.14). For colon cancer deaths, distant spread at diagnosis occurred more commonly for FWLHD and NSW residents than other extents, while regional spread occurred more commonly for WNSWLHD and WNSW PHN residents.

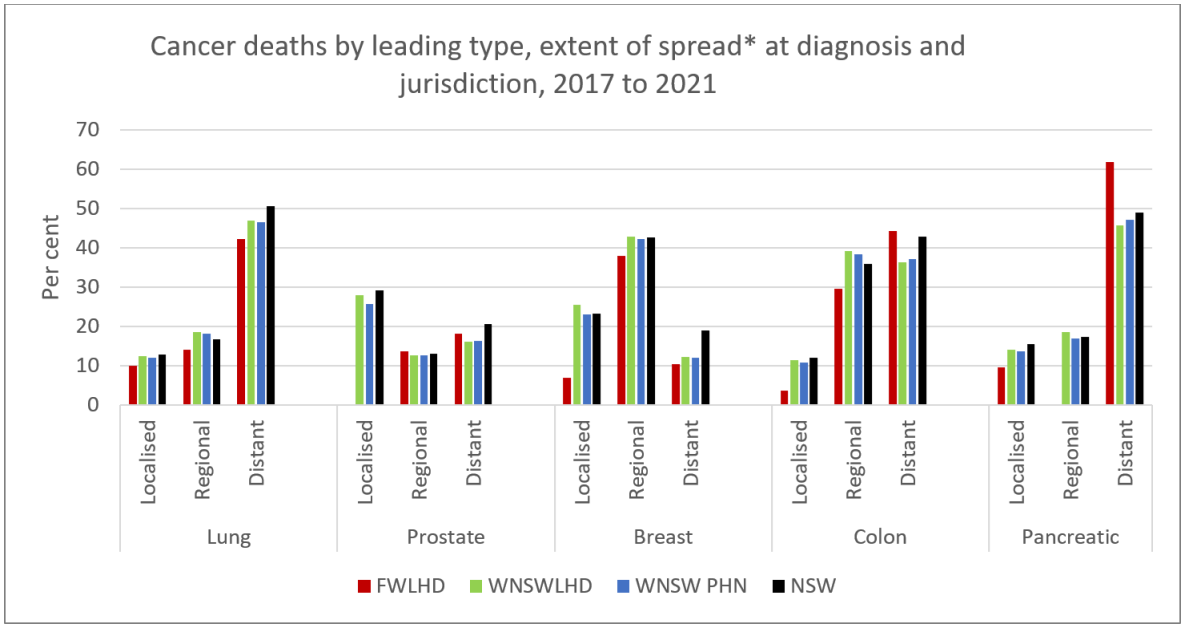



***Figure 4.14 Cancer deaths by leading type, extent of spread at diagnosis* & jurisdiction, 2017 to 2021***

*Localised=localised to the tissue of origin; regional=spread to an adjacent tissue, organ or lymph node; distant=spread to another location in the body.

Data source: NSW Cancer Institute

# Chapter 5. Chronic Disease

## Summary

| Chapter 5. Chronic Disease | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| **Cardiovascular disease** | | | | | |
| Mortality rate (cf. NSW) | 2016-2017 to 2020-2021 | *27% higher* | *27% higher* | *27% higher* | *Not applicable* |
| Mortality rate for males (cf. females) | 2016-2017 to 2020-2021 | *Not available* | *Not available* | *50% higher* | *49% higher* |
| Hospitalisation rate (cf. NSW) | 2017/18-2021/22 | *8% higher* | *19% higher* | *18% higher* | *Not applicable* |
| **Diabetes** | | | | | |
| Prevalence, self-reported (cf. NSW) | 2015-2019 | *66% higher* | *7% higher* | *13% higher* | *Not applicable* |
| Mortality rate (cf. NSW) | 2017 to 2021 | *Not available* | *43% higher* | *46% higher* | *Not applicable* |
| Mortality rate for males (cf. females) | 2017 to 2021 | *Not available* | *72% higher* | *70% higher* | *83% higher* |
| Hospitalisation rate (cf. NSW) | 2017/18-2021/22 | *2.8 x higher* | *41% higher* | *54% higher* | *Not applicable* |
| **Chronic obstructive pulmonary disorder** | | | | | |
| Mortality rate (cf. NSW) | 2016-2017 to 2020-2021 | *64% higher* | *77% higher* | *75% higher* | *Not applicable* |
| Mortality rate for males (cf. females) | 2016-2017 to 2020-2021 | *98% higher* | *29% higher* | *34% higher* | *38% higher* |
| Hospitalisation rate (cf. NSW) | 2016/17-2020/21 | *2.1 x higher* | *60% higher* | *65% higher* | *Not applicable* |
| **Dialysis** | | | | | |
| Hospitalisation rate (cf. NSW) | 2017/18-2021/22 | *74% higher* | *5% lower* | *3% higher* | *Not applicable* |
| Hospitalisation rate for males (cf. females) | 2017/18-2021/22 | *2.3 x higher* | *2 x higher* | *2.1 x higher* | *85% higher* |
| Hosp. rate, Aboriginal people (cf. non-Aboriginal) | 2012/13-2016/17 | *8.2 x higher* | *7.1 x higher* | *7.0 x higher* | *5.1 x higher* |

cf=compared to, hosp=hospitalisation

Chronic disease is a significant health and well-being concern for WNSW PHN. As a major contributor to premature death, preventable hospitalisations and diminished quality of life. These health outcomes contribute to and exacerbate other health and wellbeing concerns for people including costs, travel and disruption caused by managing their chronic disease. Other negative impacts raised include effects on mental health and wellbeing and the impact of grief and loss as a result of premature death.

National trends in chronic disease demonstrate that prevalence increases with rurality and with age. In line with this, AIHW data shows that WNSW has comparatively high rates of chronic disease, compared to other PHNs nationally. Age standardised data shows that 6.4% of people living in WNSW PHN have self-reported heart, stroke and vascular disease (compared to 5.6% nationally)[3] and 6.2% have type 2 diabetes (compared to 5.2% nationally)[4]. This emphasises the importance of proactive and effective chronic disease management in WNSW PHN.

Aggregated data from general practices in the region shows high numbers of active patients with an active diagnosis of type 2 diabetes, coronary heart disease or chronic lung disease, though these figures are influenced by health service attendance and GP availability. Coonamble was identified as having high rates of active patients with chronic disease.

[3] Source: AIHW https://aihw.maps.arcgis.com/apps/dashboards/205d333be95e46c38dfae2ed4a7493af
[4] Source: AIHW https://aihw.maps.arcgis.com/apps/dashboards/cc511c075a474b2dbc07cc8d6d6b2edf

*Table 5.1 Estimated Resident Population by jurisdiction, 2021.*

| Chronic disease | Number of patients | Rate[1] | Prevalence[2] | Top 3 LGAs by Prevalence |
|---|---|---|---|---|
| Type 2 diabetes | 16,030 | 7.2% | 5.1% | Brewarrina (16.0%) |
| | | | | Bourke (11.8%) |
| | | | | Coonamble (10.8%) |
| Coronary heart disease | 9,531 | 4.3% | 3.1% | Bourke (7.3% |
| | | | | Brewarrina (6.9%) |
| | | | | Coonamble (6.4%) |
| Chronic lung disease | 41,756 | 18.7% | 13.4% | Coonamble (27%) |
| | | | | Parkes (17.6) |
| | | | | Forbes (17.1%) |

[1] Number of active diagnosis/number of active patients
[2] Number of active diagnosis / LGA population
Source: PATCAT PBI HNA data

People living with multiple chronic conditions (known as multimorbidity) typically have complex health needs and poorer overall quality of life. While quantitative data is not currently available for WNSW PHN region specifically, multimorbidity is known to be more common with increasing socioeconomic disadvantage (31% in areas of least disadvantage compared with 44% in areas of most disadvantage) as well as outside of major cities (35% in major cities compared with 45% in inner regional and 45% in outer regional areas). These differences remain after adjusting for differences in age structure[5]. Therefore, multimorbidity is likely an issue impacting the population in WNSW, which adds complexity to chronic disease management.

While there is a genetic component, chronic disease risk is highly related with social determinants and lifestyle factors. These are further described in Chapter 2. Determinants of Health and Chapter 3. Burden of Disease and include: cost of living pressures, food advertising and other commercial determinants of health, poor nutrition, low levels of physical activity, comparatively high rates of overweight and obesity, high rates of smoking.

The influence of these factors needs to be considered when designing primary and secondary prevention initiatives in the region or evaluating the impacts of interventions.

Chronic disease diagnosis is also dependent on health service access. During consultations shortage of specialists, such as endocrinologists and pediatricians, was highlighted as a significant issue impacting diagnosis delays, resulting in wait times of up to 18 months to receive diagnoses. This results in delays in interventions for chronic conditions and more likely disease progression. Timely diagnosis of diabetes in young people was flagged as a particular diagnosis issue (see diabetes prevalence section below).

Stakeholders also reported that people are falling behind on important health checks and screenings. This is partly due to limited GP availability highlighting the need for better use of a multidisciplinary health workforce, including trained nurse practitioners, Aboriginal health workers and other healthcare providers for health checks to support timely diagnoses.

[5] Source: https://www.aihw.gov.au/reports/australias-health/multimorbidity

### Diabetes prevalence by LHD

LHD level self-report prevalence data is available for diabetes. Between 2015 and 2019, the average annual percentage of adults (persons aged 16 years or older) with self-reported diabetes in WNSW PHN, FWLHD and WNSWLHD was higher than that of NSW by 13%, 66% and 7%, respectively (Figure 5.1). Diabetes is known to disproportionately affect Aboriginal and Torres Strait Islander communities in Australia [ref: https://www.diabetesaustralia.com.au/wp-content/uploads/State-of-the-Nation-2024-Diabetes-Australia.pdf]. These data highlight the distinctive needs of Aboriginal and Torres Strait Islander people and people living in the far west when it comes to health promotion, preventative behaviours and risk factor management, as well as culturally appropriate prevention support for Aboriginal and Torres Strait Islander populations.

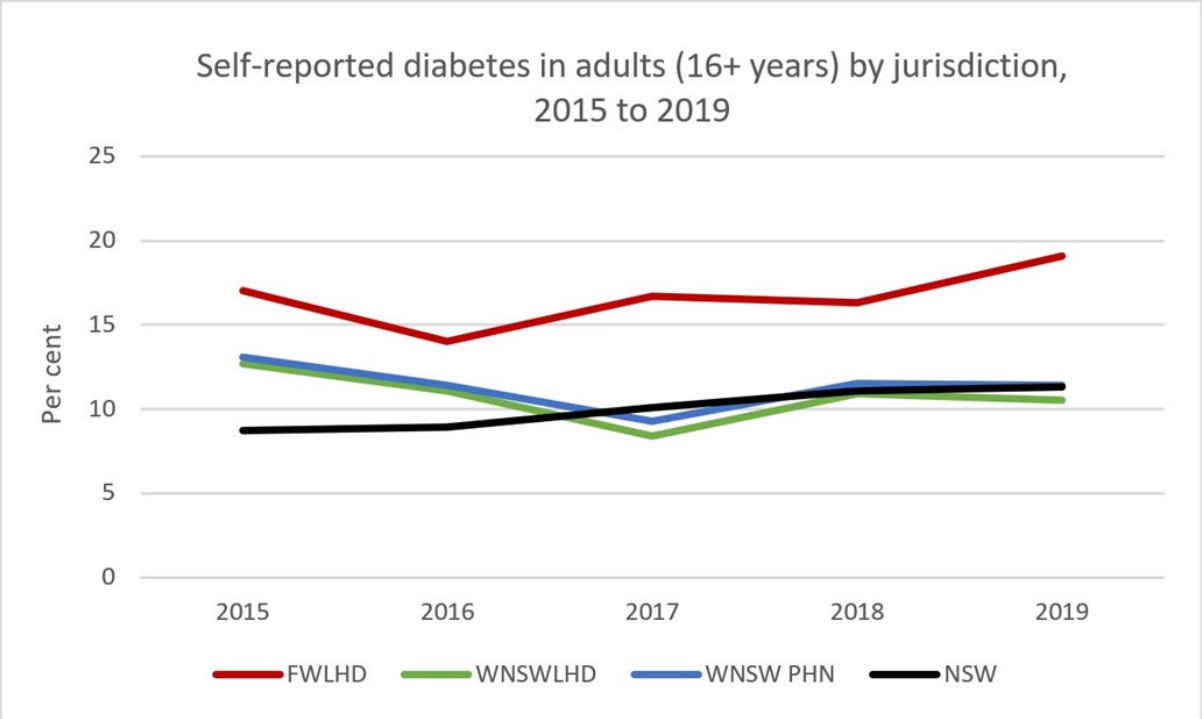



***Figure 5.1 Trends in proportion of adults (16 years or older) self-reporting diabetes by jurisdiction, 2015 to 2019.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

While quantitative data is not available for younger groups, stakeholder consultations indicated that children with type 2 diabetes are presenting to services at younger ages than previously seen, particular in Aboriginal communities, and have more rapid progression of complications. Examples were given of children presenting at age 12 or 13 with a type II diabetes diagnosis. Earlier age of onset means increased risk of complications and disease progression, such as needing more than one medication to keep blood sugar controlled, and progressing through second, third or fourth line medication in a short time leading to more difficulties to manage disease and more significant complications.

## Chronic disease hospitalisations

Consultations across all health topics emphasise a lack of preventative and management services based in the community, which results in increasing pressure on hospitals. This is reflected in the quantitative data in this section demonstrating that WNSW PHN has consistently higher rates of hospitalisations for CVD, diabetes, COPD and dialysis.

Patient trust, poor experience due to lack of cultural safety and understanding of trauma were described in consultations as a significant barrier to people accessing care and delaying treatment. Challenges in providing supported transitions following hospitalisation was also highlighted as a factor impacting quality care and management of disease. People managing chronic conditions face significant challenges during care transitions between hospitals, general practices, and community providers, due to complexity of the system, low system literacy, deficiencies of digital health infrastructure, workforce shortages and a lack of dedicated care navigator positions. These issues impact successful outcomes from the acute systems, potentially leading to representation into the acute system or untimely death.

### Cardiovascular disease hospitalisations

WNSW PHN experiences significantly high rates of cardiovascular disease related hospitalisations across both LHDs and all LGAs except Oberon. This again indicates the lack of appropriate management and secondary prevention in the community and an overreliance on acute care.

Between 2017-18 and 2021-22, the WNSW PHN average annual rate of all CVD hospitalisations was 1,895 per 100,000, and greater than that for NSW by 18% (Figure 5.2). Similarly, the rate for WNSWLHD was higher than NSW by 19%, while that for FWLHD was higher by only 8%. This much lower reported rate in FWLHD may be artificially low due to some FWLHD residents being hospitalised interstate rather than in NSW. Compared to 2017-18, CVD hospitalisations in 2021-22 were lower in all jurisdictions by 8-11%, except for FWLHD where hospitalisations were slightly higher by 3%.

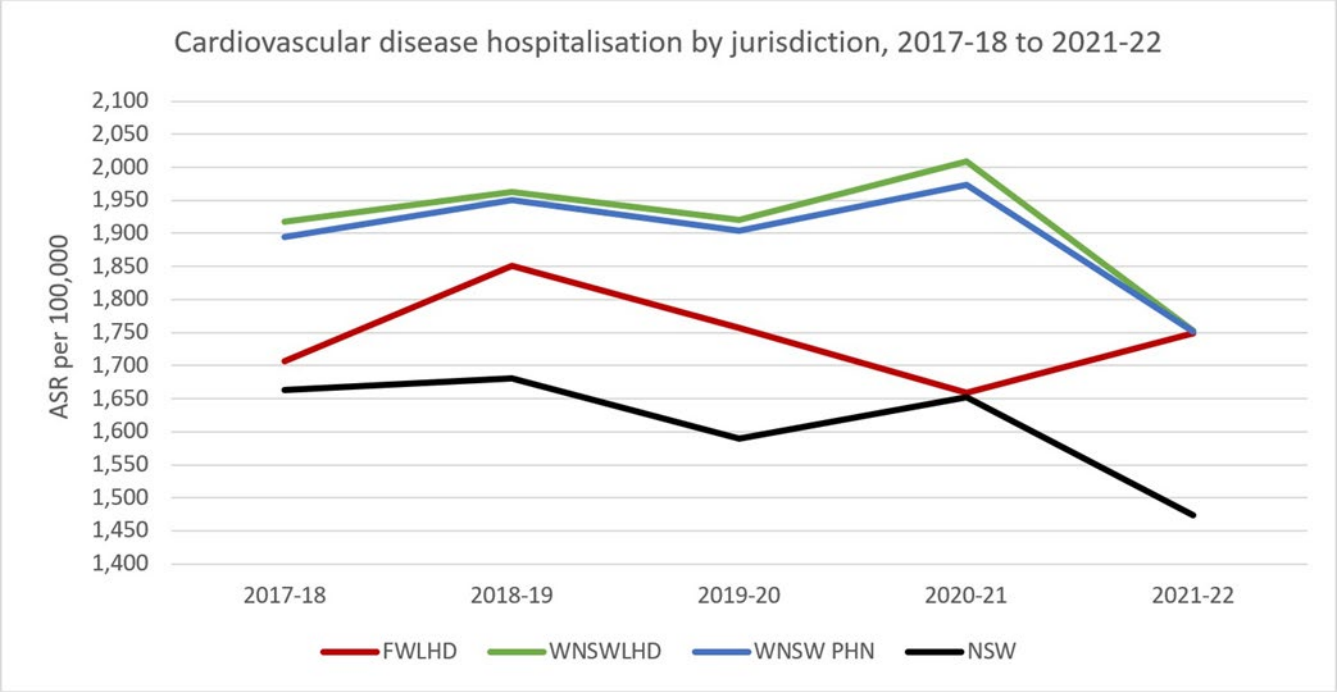



***Figure 5.2 Trends in all cardiovascular disease hospitalisations by jurisdiction, 2017-18 to 2021-22 (financial years).***

ASR=age-standardised rate

*FWLHD rates may be artificially low due to hospitalisations for some residents occurring interstate.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2017-18 and 2021-22, the average annual rate of hospitalisations for CVD was higher among males than females by 47% in FWLHD, 60% in WNSWLHD, 58% in WNSW PHN and 65% in NSW (Figure 5.3). However there is a growing body of evidence demonstrating that CVD in women is under recognised and underdiagnosed[6].

In addition, compared to their NSW counterparts, both male and female hospitalisation rates were higher in WNSW PHN (by 15%-M; 20%-F), WNSWLHD (16%-M; 21%-F) and FWLHD (3%-M; 16%-F). Compared to 2017-18, CVD hospitalisation rates for each sex in each jurisdiction were lower by 7-13%, except for FWLHD females where rates were higher by 25%.

[6] Source: https://www.heartfoundation.org.au/for-professionals/women-and-heart-disease-for-professionals

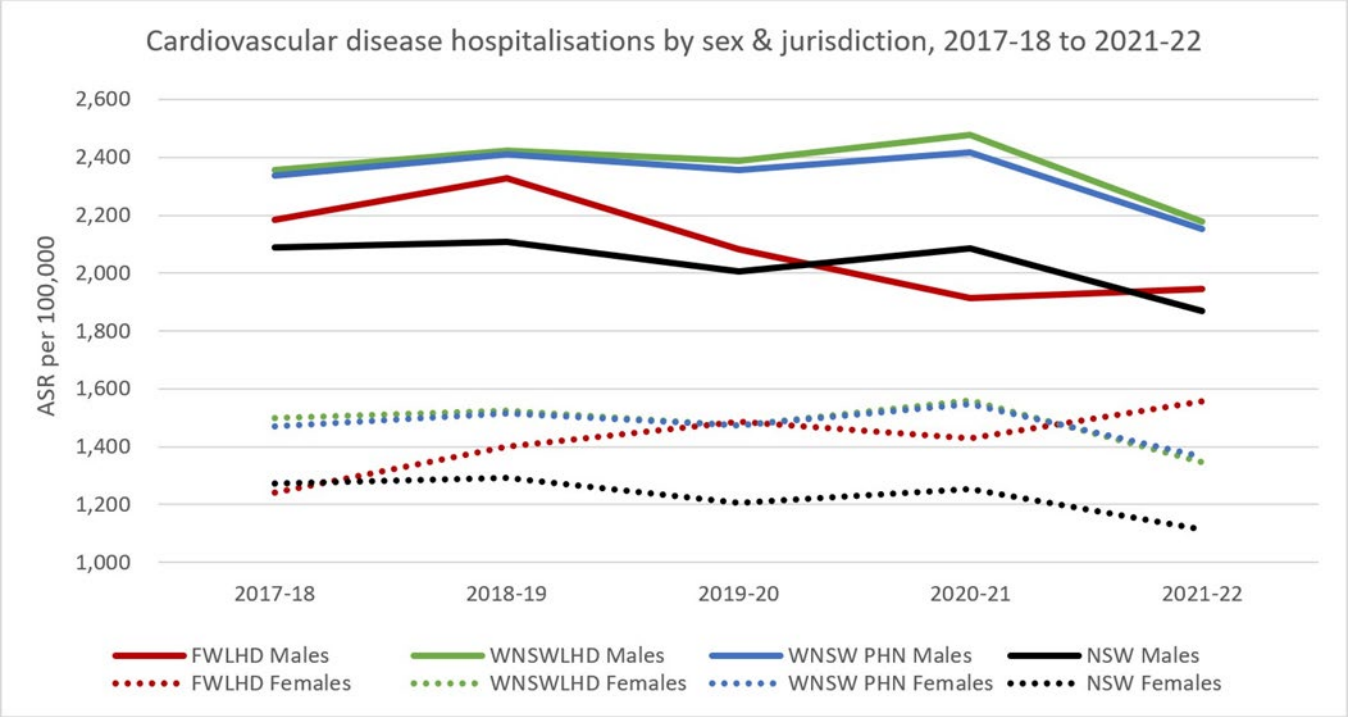



***Figure 5.3 Trends in all cardiovascular disease hospitalisations by sex and jurisdiction, 2017-18 to 2021-22 (financial years).***

ASR=age-standardised rate

*FWLHD rates may be artificially low due to hospitalisations for some residents occurring interstate.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

The average annual hospitalisation rates were highest for CHD among both WNSW PHN and NSW residents (Figure 5.4). The rate of CHD hospitalisations in WNSW PHN was between 2.6 and 5.4 times that of other CVD hospitalisations, indicating potential poor lifestyle factor management. In addition, hospitalisation rates for all types of CVD were higher for WNSW PHN than for NSW, with CHD, AFF, Stroke, HF and PVD, being higher by 21%, 12%, 16%, 18% and 5%, respectively. For each disease type, the hospitalisation rate in 2021-22 was lower than that in 2017-18 by 2-16% in WNSW PHN and by 5-15% for NSW.

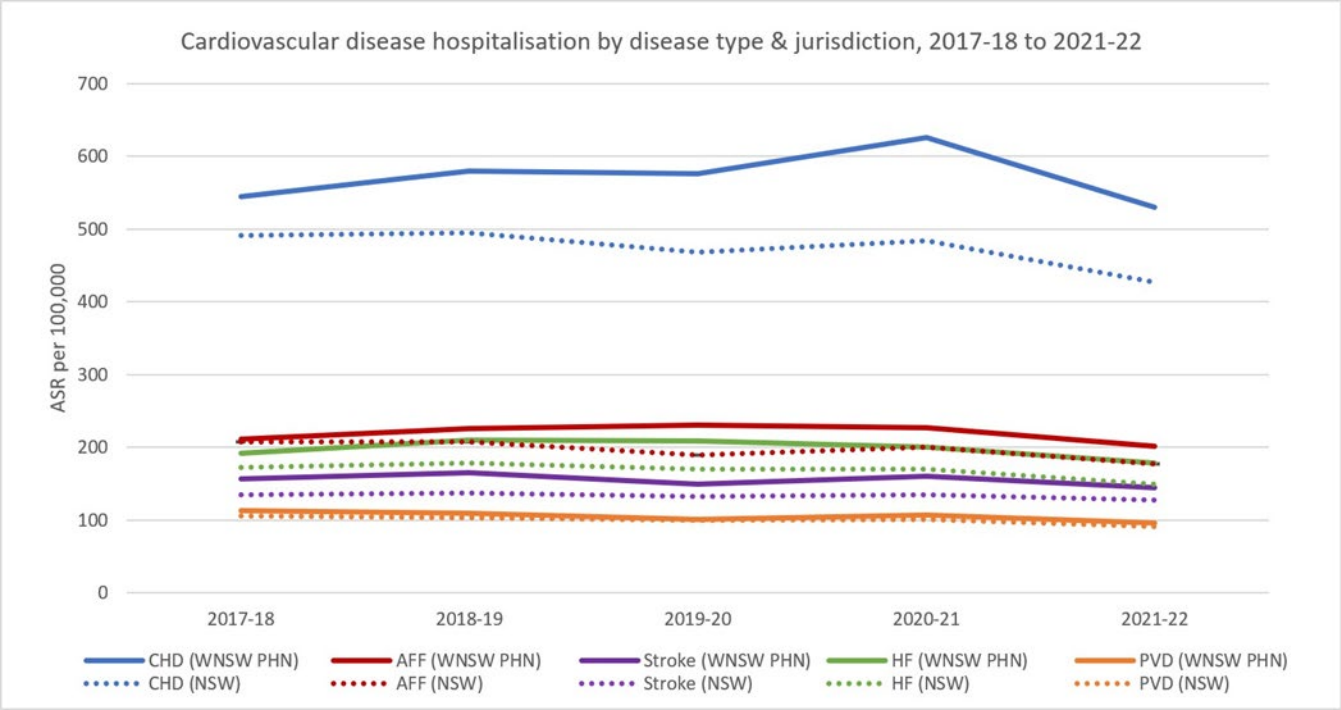



***Figure 5.4 Trends in cardiovascular disease hospitalisations by disease type and jurisdiction, 2017-18 to 2021-22 (financial years).***

ASR=age-standardised rate, CVD=cardiovascular disease, CHD=coronary heart disease, AFF=Atrial fibrillation, HF=heart failure, PVD=peripheral vascular disease.
Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2014-16 and 2018-20, the average biennial CVD hospitalisation rate for each WNSWLHD LGA was higher than that for NSW, except for Oberon where the rate was slightly lower by 2% (Figure 5.5, Table A.5.2 – see Appendix). The highest average biennial hospitalisation rates were observed in Walgett, Brewarrina and Cobar, where rates were 39-41% higher than that of NSW. Apart from Oberon, LGAs with the lowest average biennial hospitalisation rates included Bathurst and Cabonne with rates only 4-5% higher than that of NSW. Hospitalisation rates for FWLHD LGAs (Balranald, Broken Hill, Central Darling and Wentworth) may be artificially low due to some residents being hospitalised interstate.

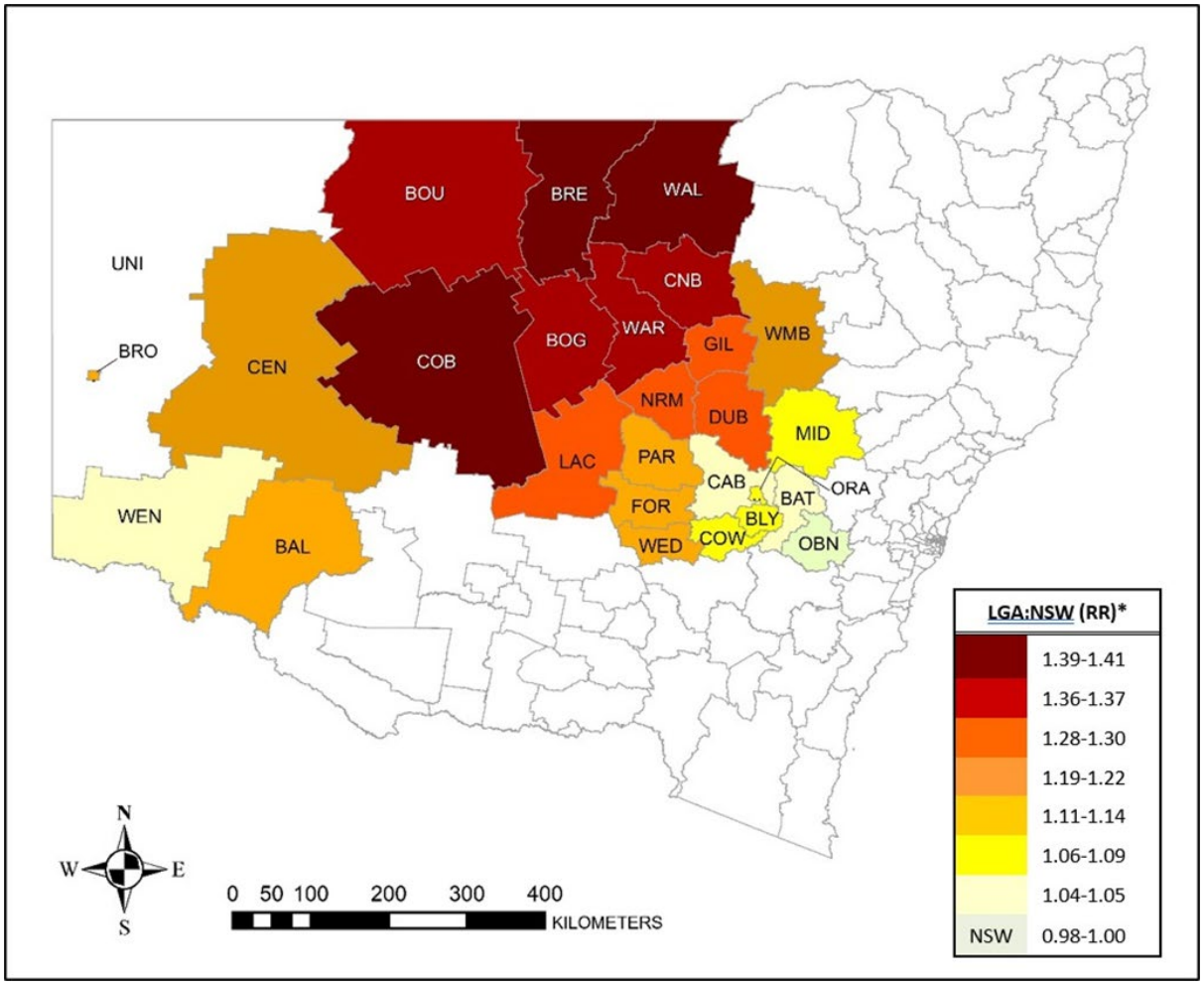



***Figure 5.5 The average biennial hospitalisation rates (age-standardised) of cardiovascular disease by local government area compared to NSW, 2014-16 to 2018-20.***

LGA=local government area, RR=rate ratio.

*RR (rate ratio)=The ratio of an LGA's average biennial age-standardised mortality rate to that of NSW. Rates for FWLHD LGAs may be artificially low due to some residents being hospitalised interstate.

UNI=Data for Unincorporated FW not available. See LGA Abbreviations.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Diabetes hospitalisations

WNSW PHN experiences high rates of diabetes related hospitalisations across both LHDs and all LGAs, particularly Walgett, Broken Hill, Oberon and Wentworth. This difference is more pronounced in the Far West than the Western. This likely relates to a greater shortage of primary care clinicians and community-based services in the far west, as well as the greater number of Aboriginal and Torres Strait Islander people living the region who experience higher rates of type II diabetes.

Between 2017-18 and 2021-22, the average annual rates of diabetes hospitalisations among residents of FWLHD, WNSWLHD and WNSW PHN were higher than that of NSW residents by 2.8 times, 41% and 54%, respectively (Figure 5.6). Over the same 5-year period, there was little change

in the hospitalisation rate for each jurisdiction except for FWLHD where diabetes hospitalisations in 2021-22 were lower than in 2017-18 by 36%. Though this still remains comparatively high.

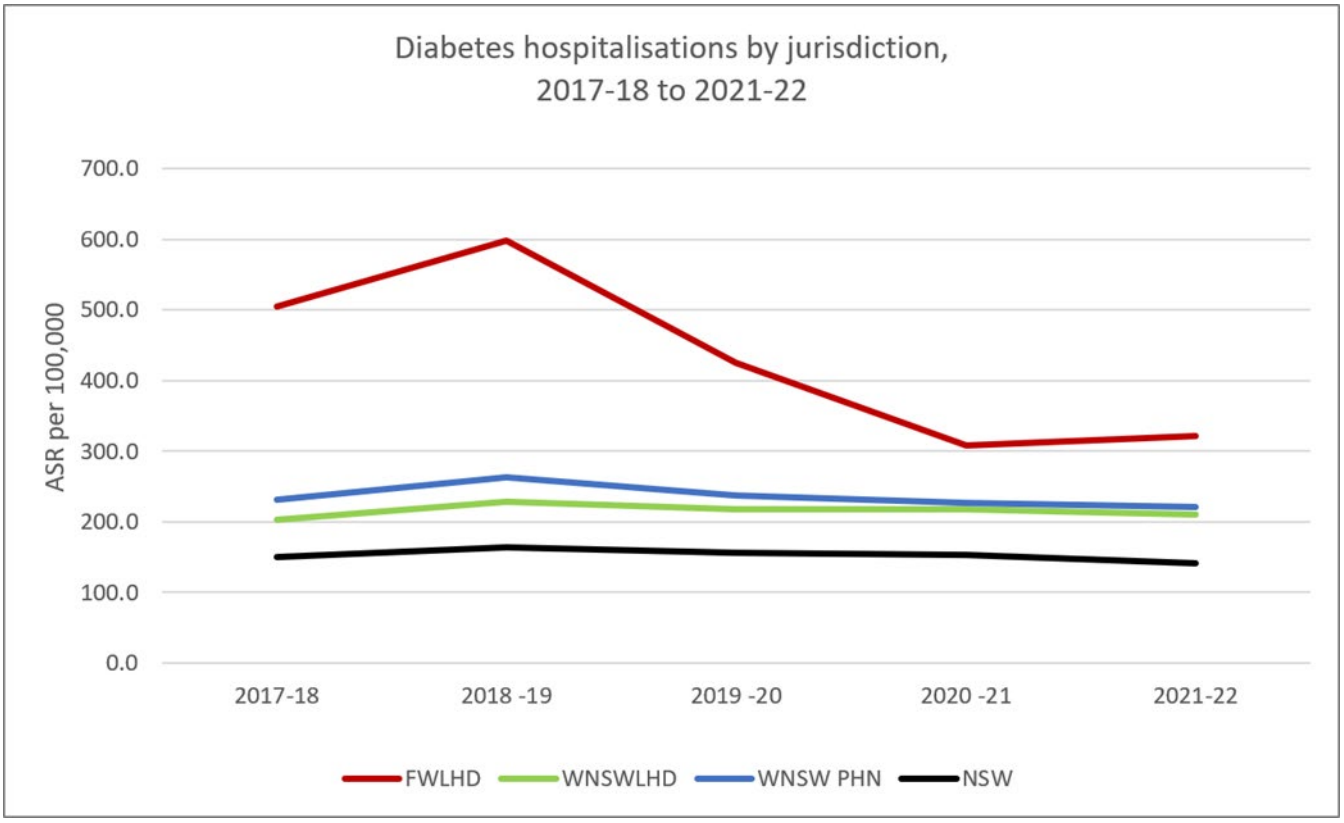



***Figure 5.6 Trends in diabetes-related hospitalisations^ by jurisdiction, 2017-18 to 2021-22.***

ASR=age-standardised rate

^Based on principal diagnosis.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

For 2020-21, reliable data on the rate of diabetes hospitalisations were available for 19 of the 27 LGAs in WNSW PHN (Figure 5.7; Table A.5.3 – see Appendix). For this same reporting period, the rate of diabetes hospitalisations for 18 LGAs were higher than that of NSW while one LGA, Orange, was equivalent to NSW. Walgett reported the highest rate of hospitalisations at more than 5 times that of NSW, while Broken Hill, Oberon and Wentworth followed with rates higher by approximately 3 times that of NSW. Apart from Orange, Coonamble and Mid-Western Regional reported the lowest rates, though still 15% and 25% higher than NSW, respectively.

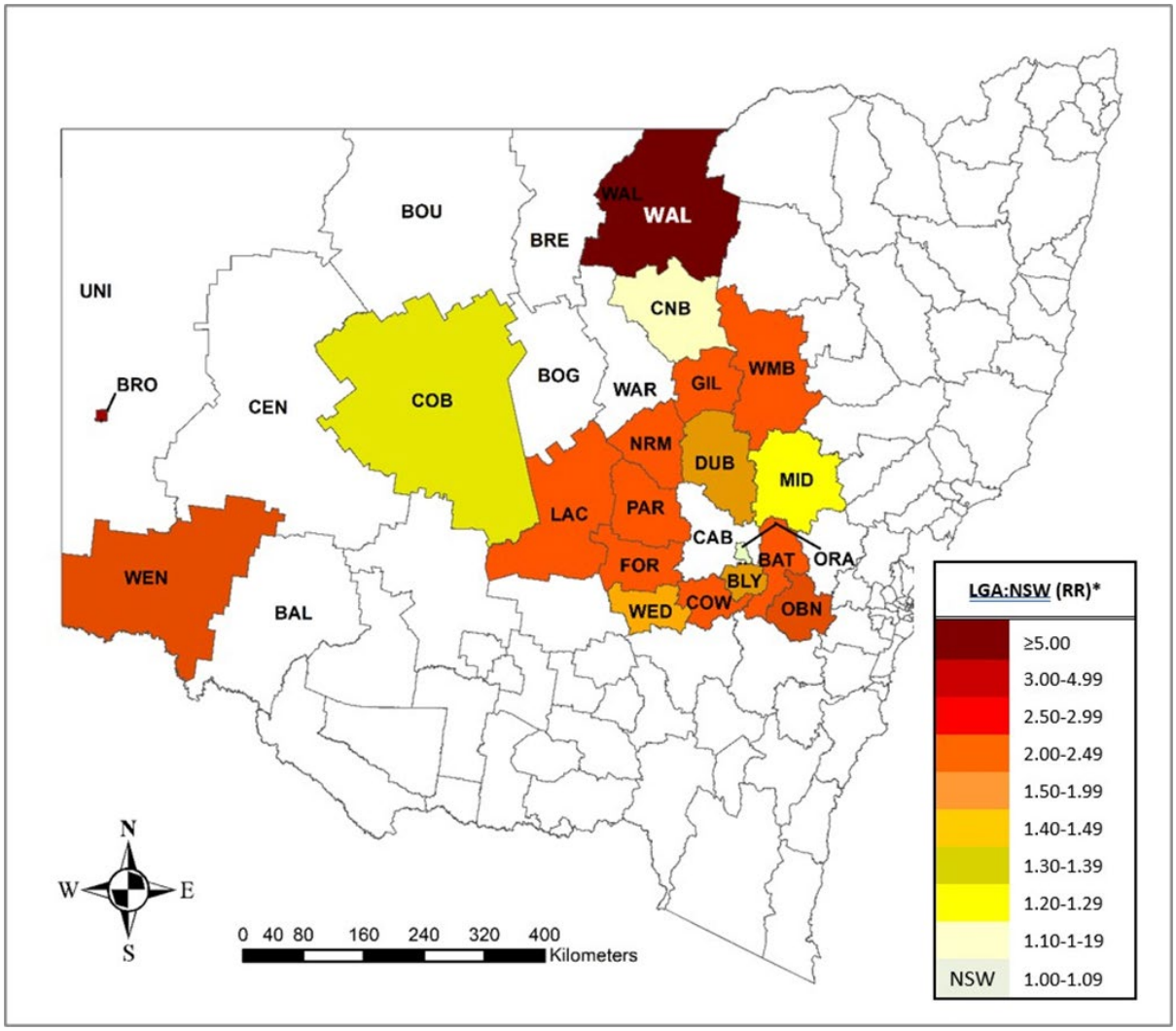



***Figure 5.7 Diabetes-related hospitalisation^ rates (age-standardised) by local government area compared to NSW, 2020-21.***

LGA=local government area, RR=rate ratio.

^Based on principal diagnosis.

*The ratio of LGA annual average mortality rate to NSW annual average mortality rate (rate ratio).

Note that data are not available for Balranald, Bogan, Bourke, Brewarrina, Cabonne, Central Darling, Unincorporated FW & Warren. See LGA Abbreviations.

Data source: PHIDU, 2023

## COPD hospitalisations

WNSW PHN region also has high rates of COPD related hospitalisations across both LHDs . For each financial year between 2016-17 and 2020-21, COPD hospitalisation rates were statistically significantly higher in all Western NSW jurisdictions than in NSW. In WNSW PHN and WNSWLHD, the average annual age-standardised rate of hospitalisations was 65% and 60% higher than that of NSW, respectively, while that for FWLHD was more than twice that of NSW (Figure 5.8).

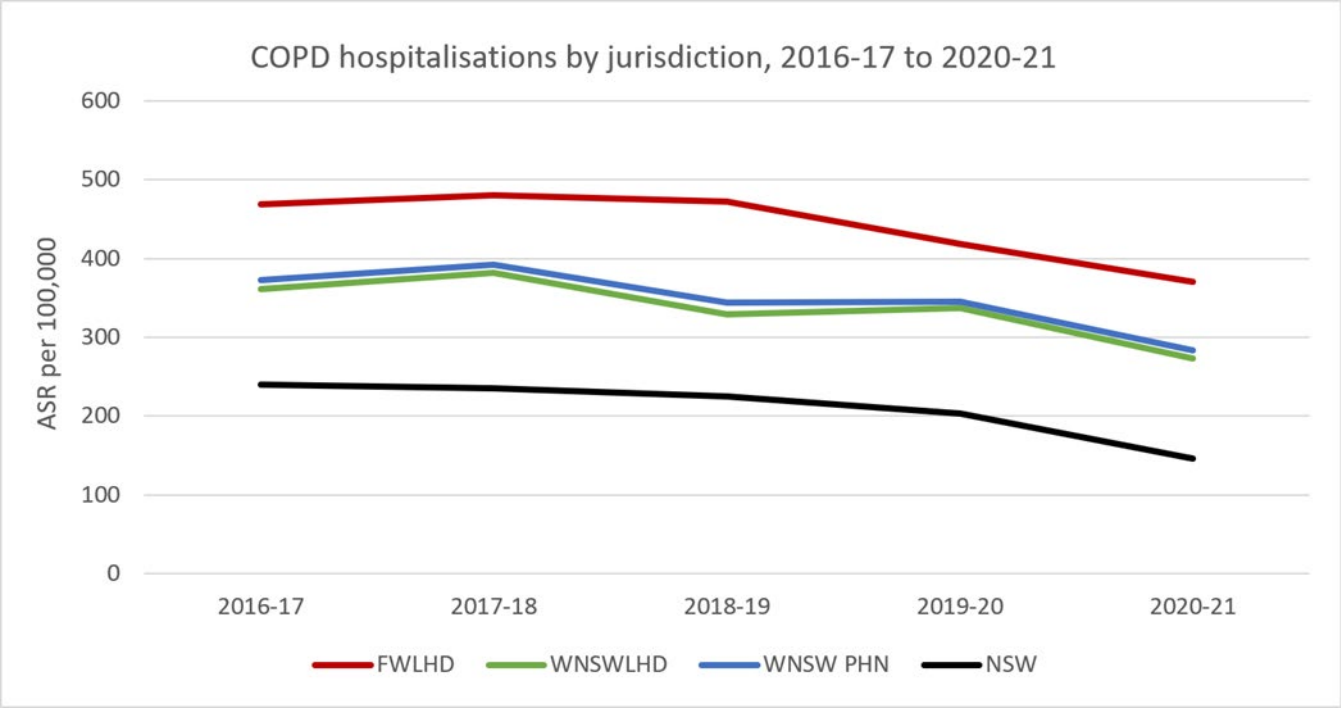



***Figure 5.8 Trends in COPD hospitalisations by jurisdiction, 2016-17 to 2020-21.***

COPD=Chronic obstructive pulmonary disease, ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2016-17 and 2020-21, the average annual hospitalisation rates for COPD among males was higher than among females by 2% for WNSWLHD, 9% for WNSW PHN, 17% for NSW and 75% for FWLHD (Figure 5.9). Previous research has found that sex differences in hospitalisation for COPD are linked to effects of smoking[7]. Compared to NSW males, COPD hospitalisation rates among males were higher in FWLHD by 3 times, in WNSW PHN by 88% and in WNSWLHD by 75%. For females, COPD hospitalisation rates were twice as high in FWLHD, WNSWLHD and WNSW PHN than in NSW.

[7] Source: https://journal.chestnet.org/article/S0012-3692(16)62316-4/fulltext

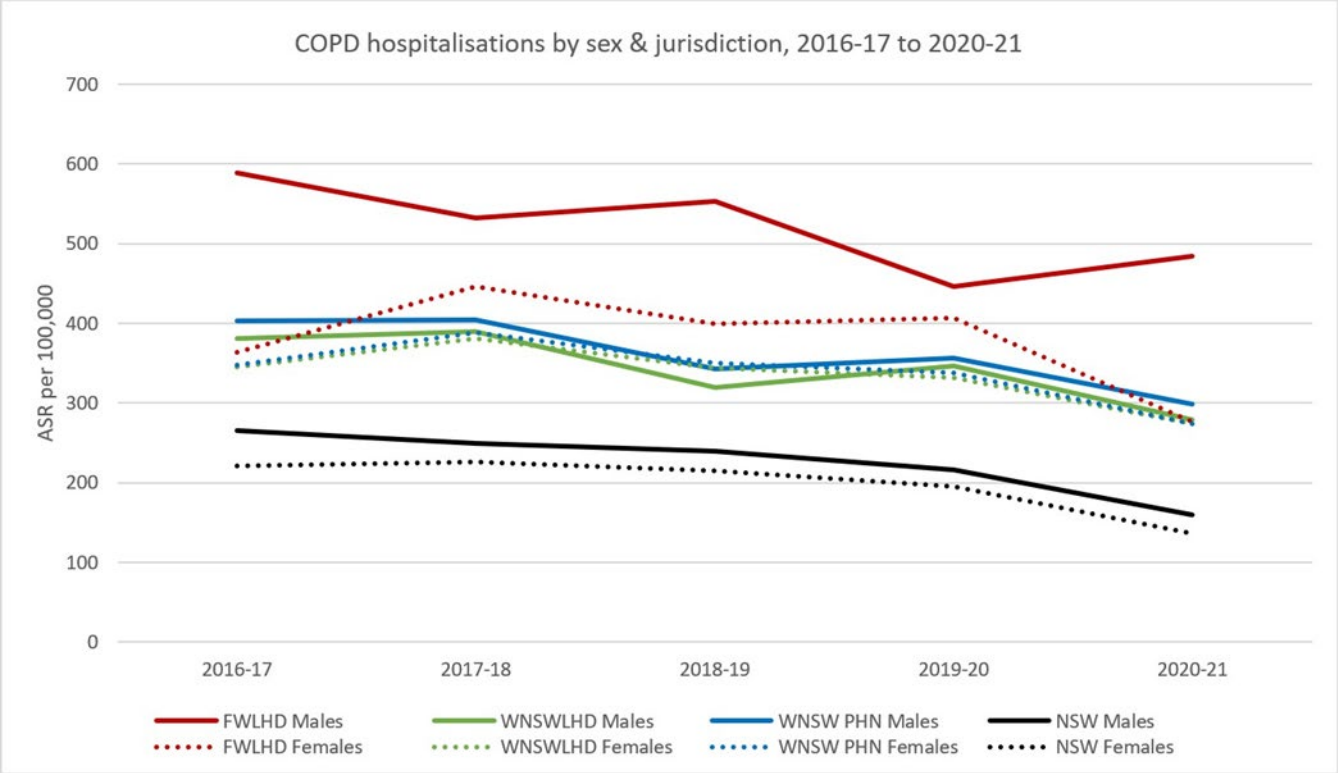



***Figure 5.9 Trends in COPD hospitalisations by sex and jurisdiction, 2016-17 to 2020-21.***

COPD=Chronic obstructive pulmonary disease, ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Dialysis Hospitalisations

Far West LHD experiences significantly high rates of dialysis related hospitalisations, again demonstrating more support services for management may be needed within the community. In NSW, the age-standardised rate of hospitalisation for dialysis in 2017-18 was 4301 per 100,000 compared to 5093 per 100,000 for Australia[8]. NSW has a target of 50% of dialysis to be conducted in the home[9]. In 2014, it was reported that 67% of dialysis conducted for WNSWLHD residents had occurred in the hospital system [ACI Renal Network 2014 – Report, NSW Dialysis Capacity Audit 2014[10], meaning there is further work to do in terms of community and home-based services to meet this target.

Between 2017-18 and 2021-22, the average annual rate of dialysis hospitalisations (based on principal diagnosis) for WNSW PHN was 3% higher than NSW and lower for WNSWLHD residents by 5% (Figure 5.10). By contrast, the hospitalisation rate for dialysis among FWLHD residents was 74%

[8] Source: AIHW, 2020. https://www.aihw.gov.au/reports-data/health-conditions-disability-deaths/chronic-kidney-disease/overview

[9] Source: ACI Renal Network 2019 https://aci.health.nsw.gov.au/networks/renal/about

[10] Source: https://www.aci.health.nsw.gov.au/networks/renal/resources

higher than that for NSW. Note that increases in hospitalisation rates over time presented here may be a reflection of service availability rather than a reflection of patient need.

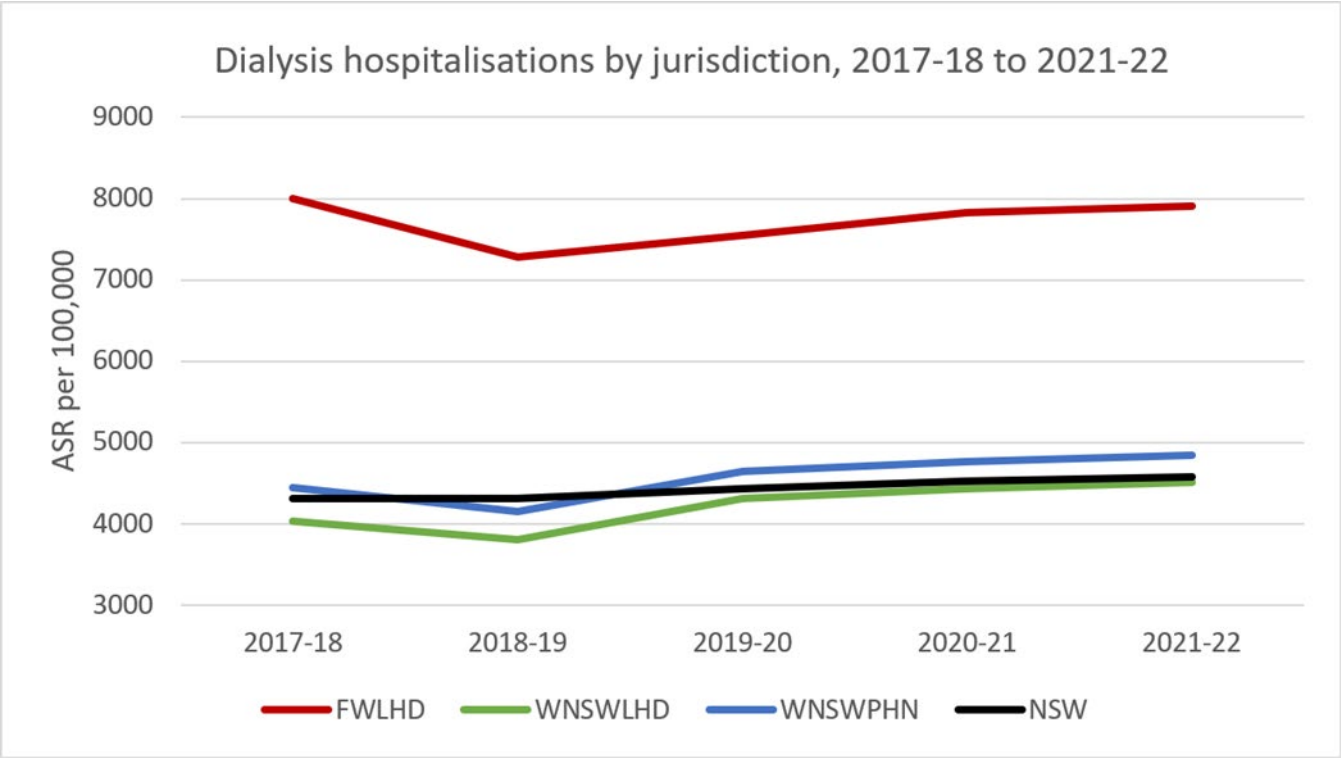



***Figure 5.10 Trends in dialysis-related hospitalisations by jurisdiction, 2017-18 to 2021-22.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

For the same period in each jurisdiction, the average annual rate of dialysis hospitalisations was higher among males than among females by 85% for NSW, and by a factor of 2.0 for WNSWLHD, 2.1 for WNSW PHN and 2.3 for FWLHD (Figure 5.11).

Compared to NSW males, dialysis hospitalisation rates were higher among FWLHD males by 84% and among WNSW PHN males by 6%, but lower among WNSWLHD males by 2%. Compared to NSW females, dialysis hospitalisation rates were higher among FWLHD females by 52% but lower among WNSWLHD and WNSW PHN females by 12% and 5%, respectively. The comparatively higher hospitalisation rates for in hospital dialysis for men may be due to a faster decline in kidney function and more frequent progression to kidney failure, often compounded by lifestyle behaviours[11], and a lack of accessible and appropriate community-based services.

[11] Source: https://www.nature.com/articles/s41581-023-00784-z

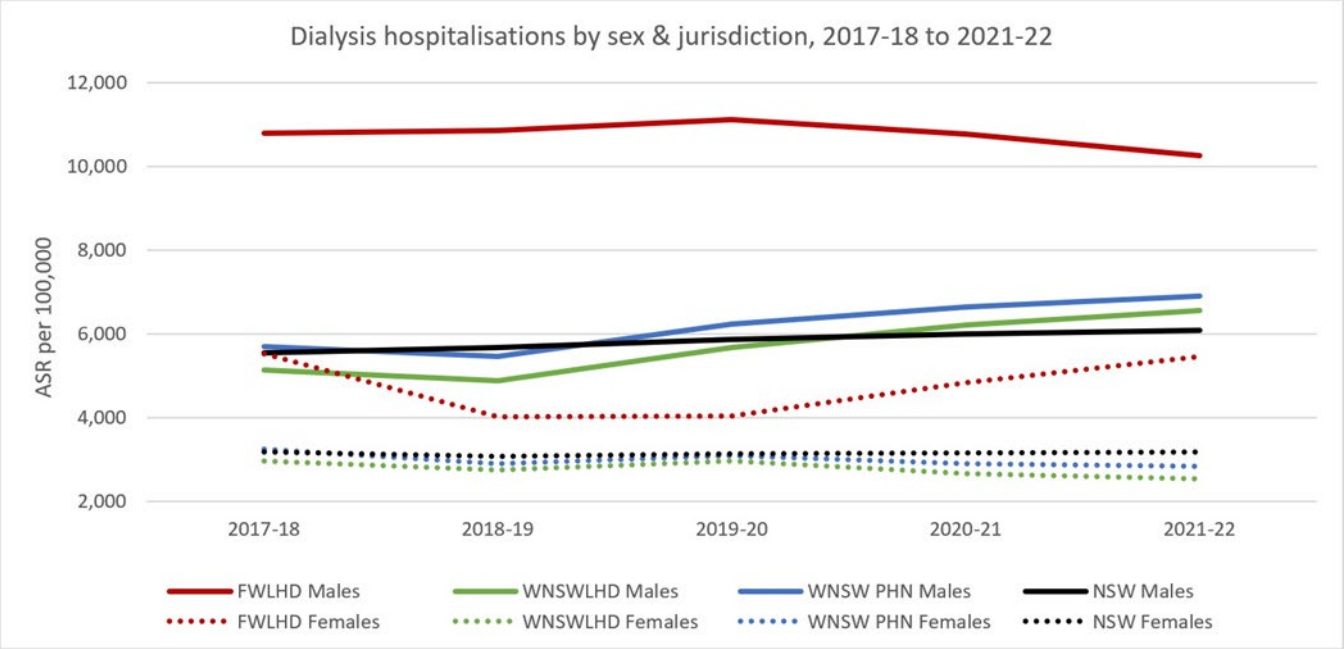



***Figure 5.11 Trends in dialysis-related hospitalisations by sex and jurisdiction, 2017-18 to 2021-22.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Chronic disease deaths

WNSW PHN has significantly high rates of chronic disease mortality, and a comparatively low median age of death. This diminishes life span, which causes substantial grief and loss within families and communities. These issues are further compounded in Aboriginal communities, due to the impact of the loss of Elders. Ischemic heart disease and diabetes are two of the largest contributors to the mortality gap between Aboriginal and Torres Strait Islander people and other people living in Australia. Chronic disease death rates are also significantly higher for males than females and in LGAs with smaller, rural and remote communities. This again demonstrates equity-based disparities within the community of WNSW and specific primary and secondary service opportunities to address these needs.

### Cardiovascular disease mortality

From 2016-2017 to 2020-2021, the average biennial mortality rate for CVD in FWLHD, WNSWLHD and WNSW PHN was higher than that for all NSW by 27.4%, 27.1% and 27.3%, respectively (Figure 5.12). However, compared to 2016-2017, CVD mortality rates in 2020-2021 decreased by 18% in WNSWLHD and 16% in WNSW PHN, while in FWLHD, the rate increased by 7%.

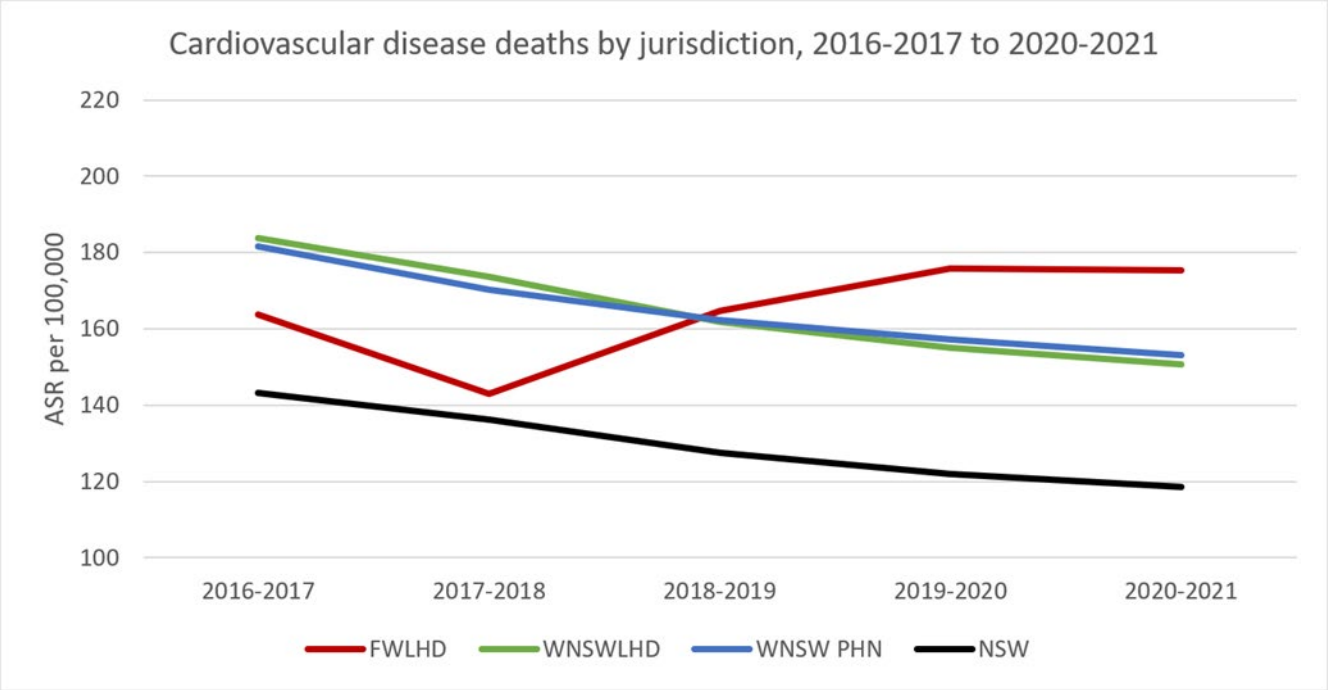



***Figure 5.12 Trends in cardiovascular disease death rates (age-standardised) by jurisdiction, 2016-2017 to 2020-2021 (calendar years).***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

The average biennial CVD mortality rate was higher among males than females by 50% for WNSW PHN and 49% for NSW (Figure 5.13). Compared to their NSW counterparts, mortality rates among WNSW PHN males and females were 90% and 26% higher, respectively. However, compared to 2016-2017, CVD mortality rates were lower in 2020-2021 by 13% and 15% for males in WNSW PHN and NSW, respectively, and 19% for females in both WNSW PHN and NSW.

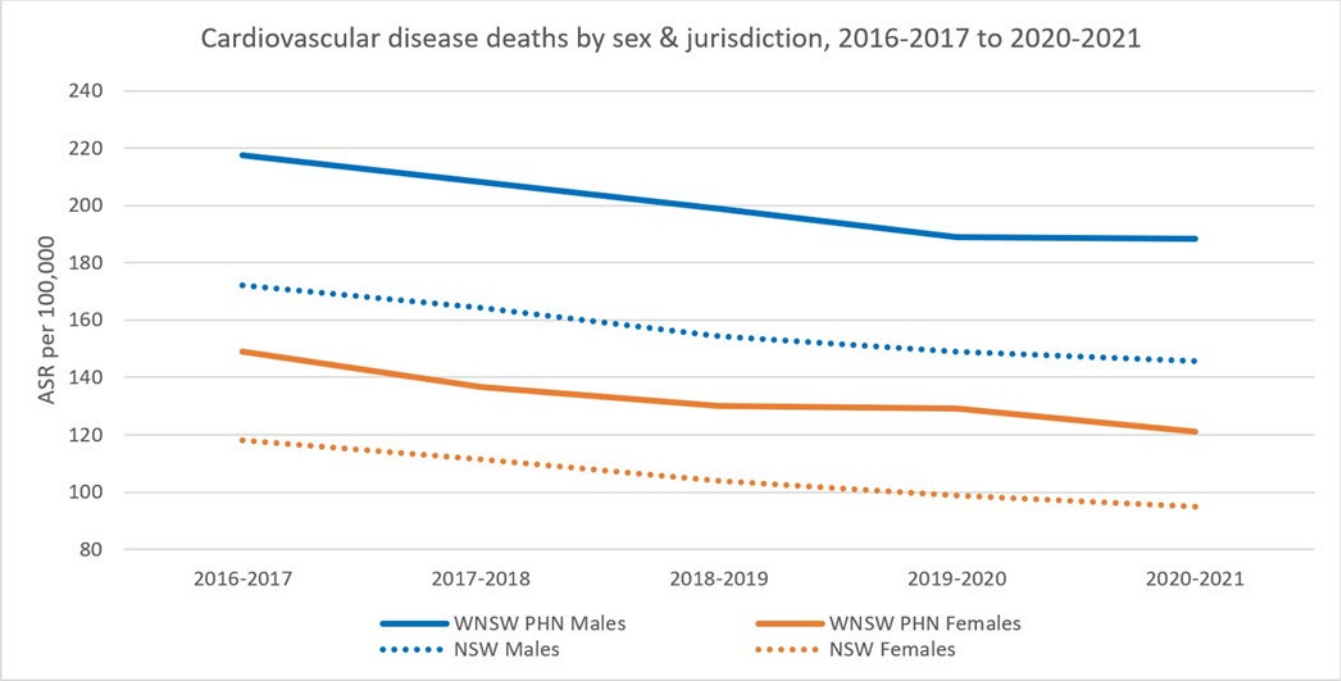



***Figure 5.13 Trends in cardiovascular disease death rates (age-standardised) by sex and jurisdiction, 2016-2017 to 2020-2021 (calendar years).***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Coronary heart disease (CHD) was the most common cause of CVD deaths in WNSW PHN with an average biennial rate of 66 deaths per 100,000 people (compared to 52 deaths per 100,000 for NSW) for the period 2016-2017 to 2020-2021 (Figure 5.14). Other common causes of CVD deaths in WNSW PHN included stroke, HF and PVD, with average biennial rates of 29.0, 12.7 and 6.6 deaths per 100,000 people, respectively. For the current reporting period, the average biennial death rates in WNSW PHN for CHD, stroke, HF and PVD were higher than in NSW by 27%, 12%, 44% and 21%, respectively. However, compared to 2016-2017, the biennial death rates in WNSW PHN for CHD, stroke, HF and PVD were lower in 2020-2021 by 19%, 17%, 21% and 27%, respectively.

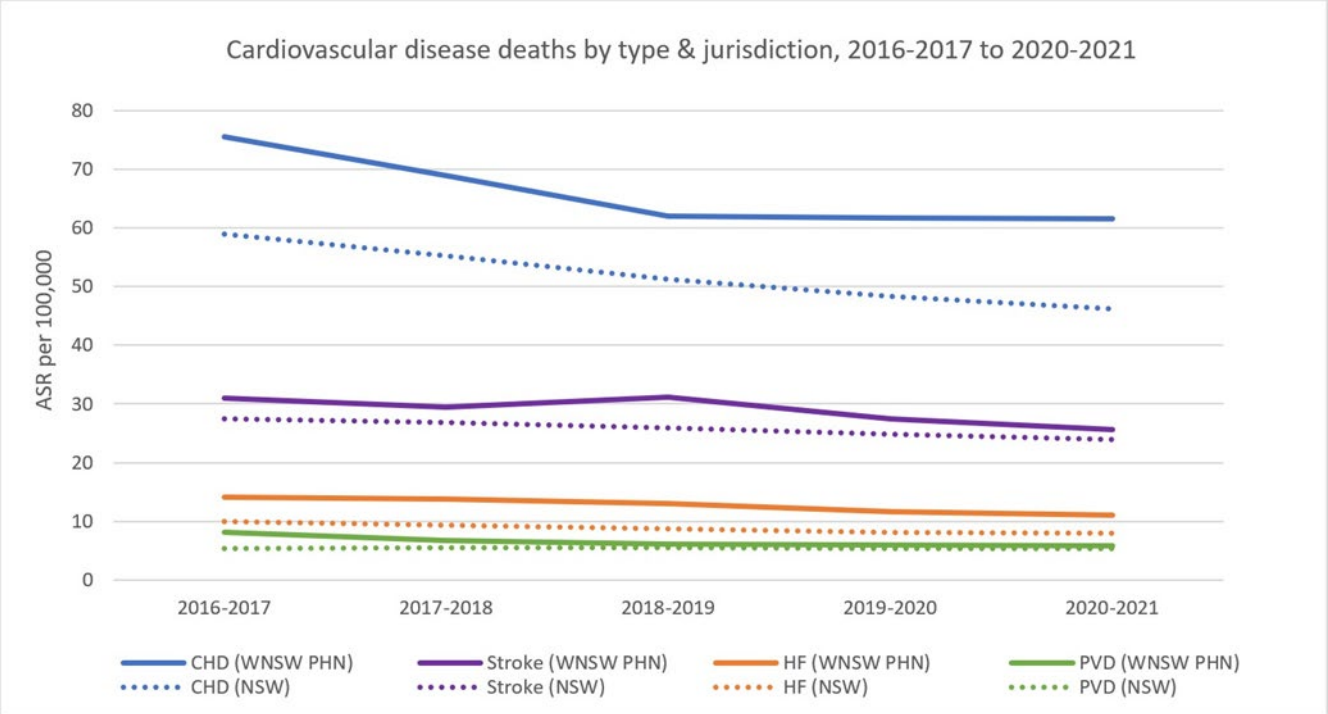



***Figure 5.14 Trends in cardiovascular disease death rates (age-standardised) by disease type and jurisdiction, 2016-2017 to 2020-2021 (calendar years).***

ASR=age-standardised rate, CHD=coronary heart disease, HF=heart failure, PVD=peripheral vascular disease.
Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2013-2014 and 2017-2018, all WNSW PHN LGAs had average biennial CVD death rates higher than that of NSW (Figure 5.15, Table A.5.1 – see Appendix). Broken Hill, Walgett and Parkes had the highest death rates being 22-23% higher than that of NSW. Oberon had the lowest death rate at 11% higher than NSW, followed by Orange at 14% higher than NSW.

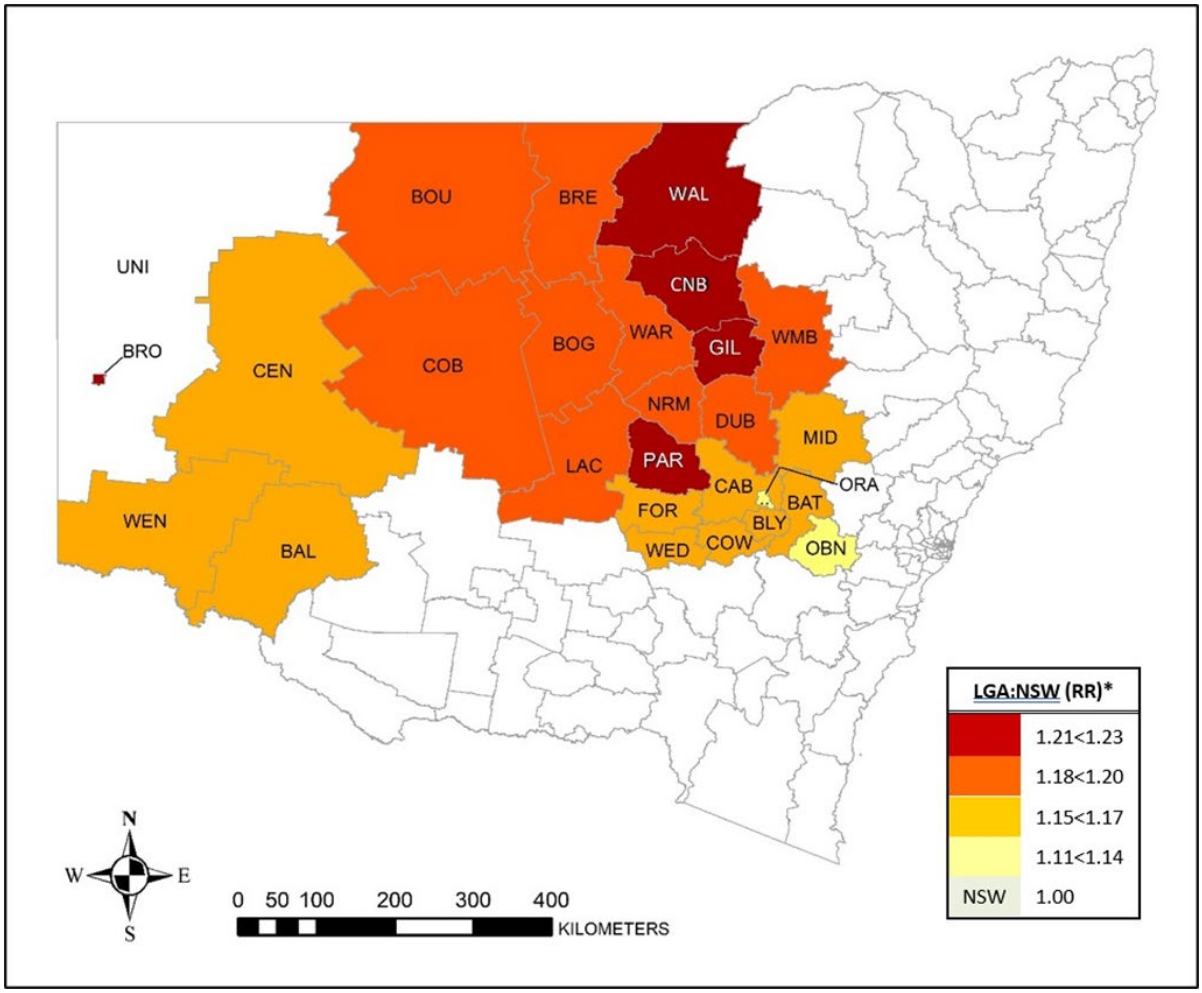



***Figure 5.15 The average biennial mortality rates (age-standardised) for cardiovascular disease by local government areas compared to NSW, 2013-2014 to 2017-2018.***

LGA=local government area, RR=rate ratio.

*RR (rate ratio)=The ratio of an LGA's average biennial age-standardised mortality rate to that of NSW. UNI=Data for Unincorporated FW not available.

See LGA Abbreviations.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Diabetes mortality

Between 2017 and 2021, the average annual rate of diabetes-related deaths was higher in both WNSW PHN and WNSWLHD than NSW by 46% and 43%, respectively (Figure 5.16). For the same period, the rate of diabetes-related deaths among males was substantially higher than among females by 83% for NSW, 72% for WNSWLHD and 70% for WNSW PHN (Figure 5.17). Furthermore, death rates among WNSWLHD and WNSW PHN males were 38% and 40% higher than among NSW males, respectively. For WNSWLHD and WNSW PHN females, death rates were 47% and 51% higher than among NSW females, respectively.

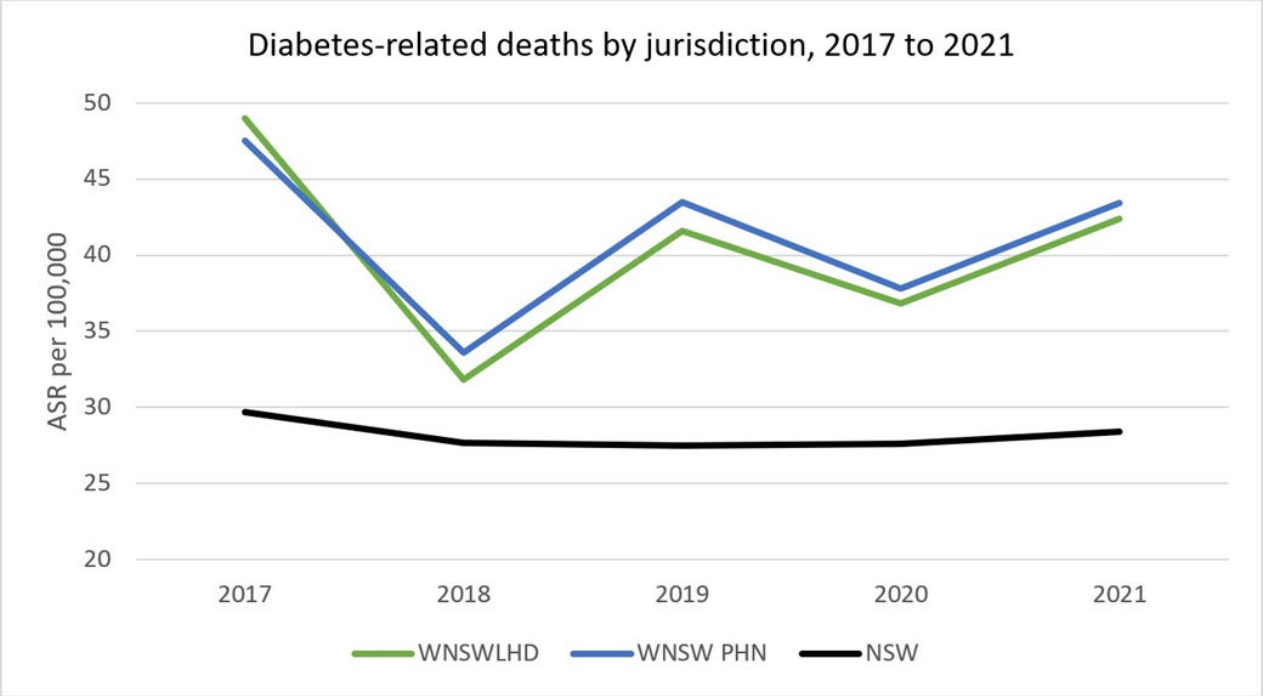



***Figure 5.16 Trends in diabetes-related deaths by jurisdiction, 2017 to 2021.***

ASR=age-standardised rate

NB. Data for FWLHD were excluded from analyses due to low number of deaths.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

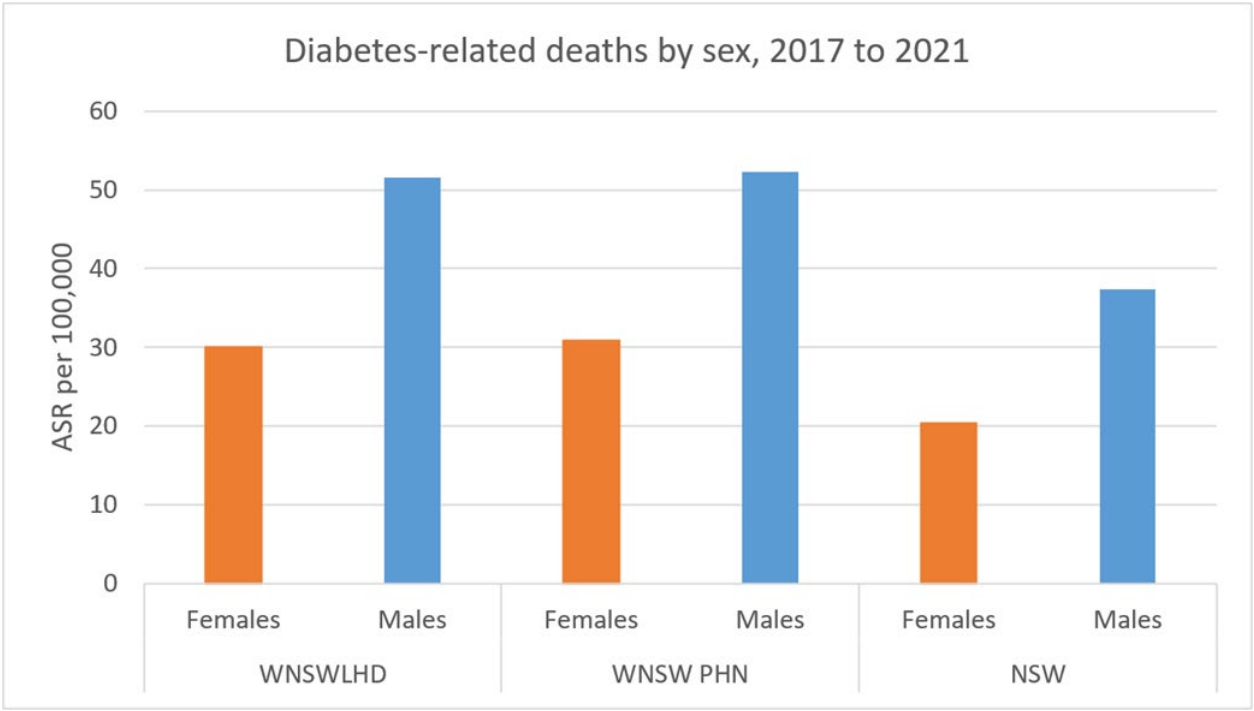



***Figure 5.17 Average annual rates of diabetes-related deaths by sex, 2017 to 2021 (calendar years).***

NB. Data for FWLHD were excluded from analyses due to low death numbers.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## COPD mortality

WNSW PHN experiences significantly high rates of deaths from COPD across all LGAs. Between 2013-2015 and 2017-2019, WNSW PHN reported the highest annual rates of COPD deaths of all NSW Primary Health Networks, with COPD accounting for 60% of all respiratory-related deaths in WNSW PHN.

Between 2016-2017 and 2020-2021, the average biennial mortality rate for COPD in WNSW PHN, WNSWLHD and FWLHD was higher than that for NSW by 75%, 77% and 64%, respectively (Figure 5.18).

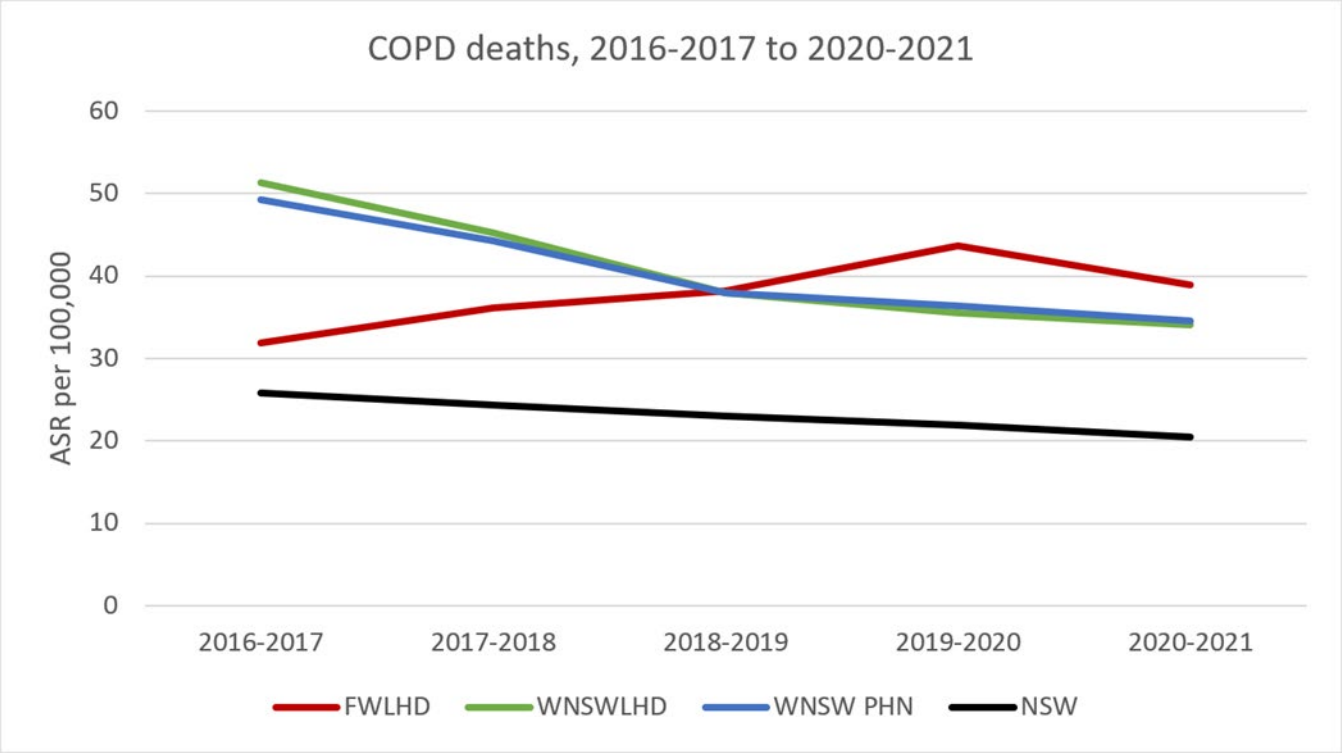



***Figure 5.18 Trends in COPD deaths by jurisdiction, 2016-2017 to 2020-2021 (calendar years).***

COPD=Chronic obstructive pulmonary disease, ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2016-2017 and 2020-2021, the average biennial rate of COPD deaths among males was higher than that among females by 38% for NSW, 34% for WNSW PHN, 29% for WNSWLHD and 98% for FWLHD (Figure 5.19). Compared to NSW males, the rate of COPD deaths was higher by 71% and 69% among WNSW PHN and WNSWLHD males, respectively, and higher by 90% among FWLHD males. Compared to NSW females, the rate of COPD deaths was higher by 76% among WNSW PHN females, 81% among WNSWLHD females and 32% among FWLHD females.

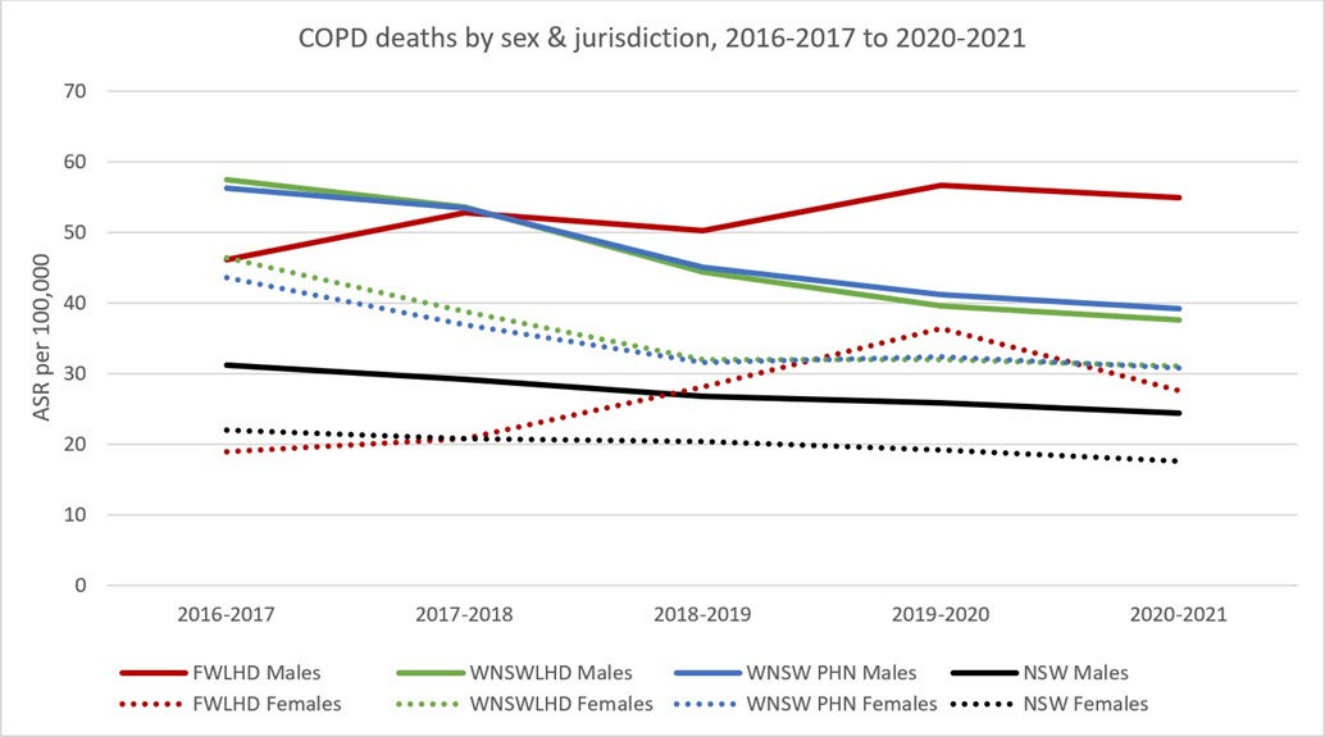



***Figure 5.19 Trends in COPD deaths by sex and jurisdiction, 2016-2017 to 2020-2021 (calendar years).***

COPD=chronic obstructive pulmonary disease, ASR=age-standardised rate

Data Source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2014-2015 and 2018-2019, the average biennial COPD mortality rate for each WNSW PHN LGA was greater than that for NSW (Figure 5.20; Table A.5.4 – see Appendix). For the reporting period, Dubbo Regional LGA had the highest mortality rate, being 72% greater than that for NSW, while Orange and Broken Hill reported the next highest mortality rates of 64% and 62% greater than NSW, respectively. Although Oberon had the lowest mortality rate, its rate was still 24% greater than that of NSW.

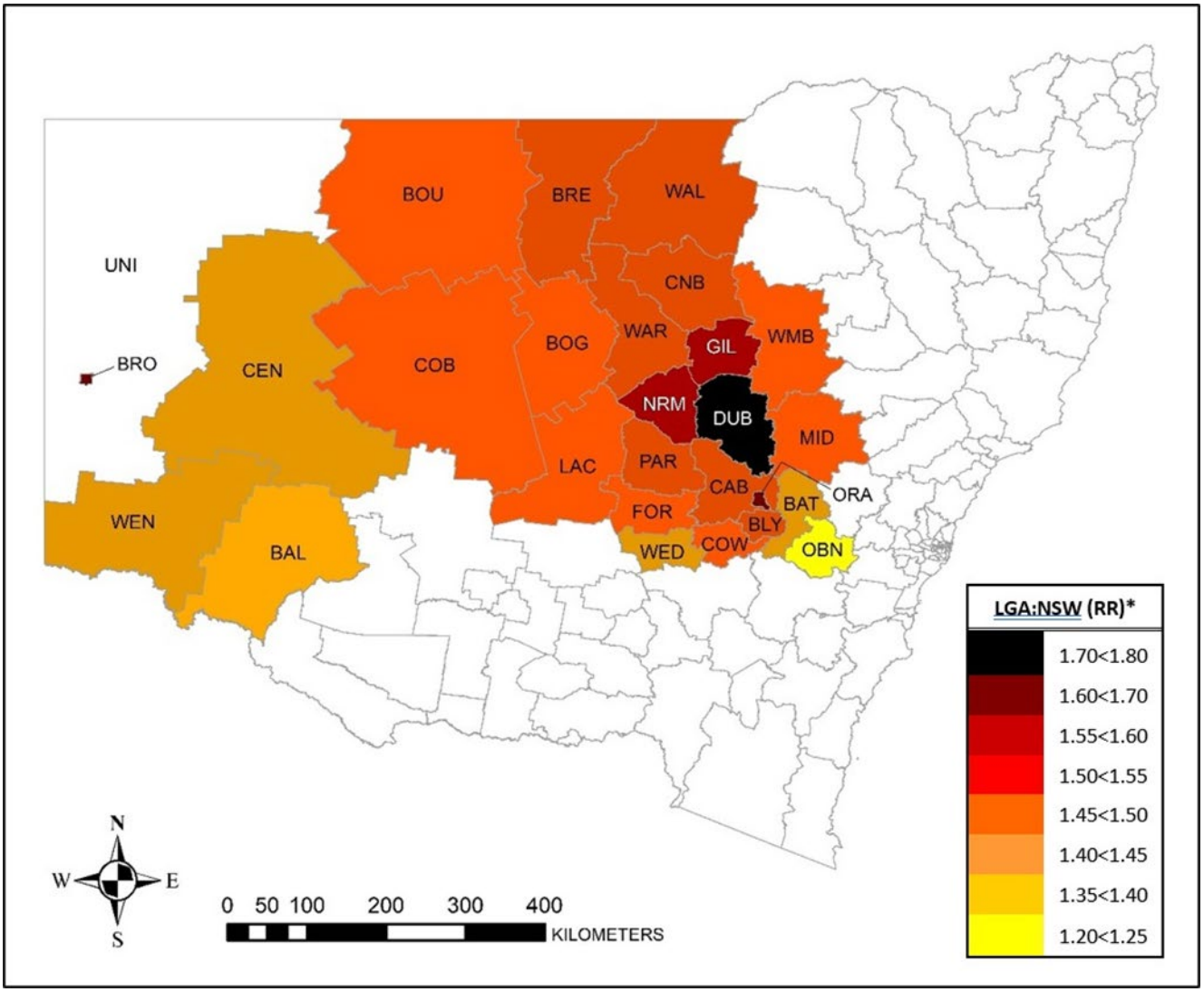



***Figure 5.20 Average biennial (calendar years) COPD death rates (age-standardised) by local government area compared to NSW, 2014-2015 to 2018-2019.***

LGA=local government area, RR=rate ratio, COPD=chronic obstructive pulmonary disease.

*Rate ratio (RR)=The ratio of an LGA's average biennial mortality rate to that of NSW. Note that data are not available for Unincorporated FW.

See LGA Abbreviations.

Data Source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Chronic disease management services

Following diagnosis, the most effective chronic disease management is proactive, structured, coordinated and long term. This requires the support and skilled contributions of a multidisciplinary health care team, which may include general practitioners, Aboriginal Health workers, diabetes educators, dietitians, optometrists, podiatrists, physiotherapists, endocrinologists, dentists and psychologists. Consultations highlighted overwhelming gaps in the region in implementation of this best practice approach.

GPs are typically the central point of chronic disease management, having leading roles in care planning, establishing team care arrangements, referrals, care coordination and patient education. A patient's ability to access Medicare subsidised allied health and specialist care is also often contingent on the GP. The severe GP shortage across WNSW PHN, including lack of regular GPs and use of locums (see Chapter 14: Health Workforce, Service Mapping and Market Analysis), therefore has substantial impacts on the delivery of effective and affordable coordinated chronic disease management.

Even when a chronic disease management plan and team care arrangement are in place, they can be challenging to implement. There is a lack of nursing and allied health workforce in the region, including practice nurses, physiotherapists, dieticians and diabetes educators, to deliver care under GP led care plans. The primary care and general practice survey found that 63% of providers reported limited chronic disease services available to refer patients to. Longer wait times for specialist appointments also occur, because these roles are not often locally filled and use a fly in fly out model which means specialists are not readily available. This means the community is missing out on opportunities for earlier intervention or truly multidisciplinary care. There were also some reports in community and clinician consultation of travel to Sydney required for specialist appointments, causing increased cost, logistical challenges and family and routine disruptions. The long wait times and travel required for tests and scans were also reported during consultations as a barrier to proactive and effective chronic disease management.

Patient education is another important role in chronic disease management that often falls to the GP. This is compounded by the lack of access to diabetes educators in the community. Consultations also highlighted an opportunity for capacity building of primary care clinicians within general practice to better manage chronic disease, and that there was a need for dedicated funding to support this important role in building capacity of providers and organisations.

The availability of complementary services and facilities is also lacking in the region. For example, consultation reported residents in some small and/or remote communities face challenges in adhering to exercise prescription for managing chronic conditions due to the absence of local exercise facilities. It was also reported that people facing financial hardship struggle to prioritise attending allied health services, such as exercise therapy, due to the competing demands of basic living expenses. 60% of providers in the primary care and general practice survey reported that cost of living and other similar factors prevent their patients from taking steps to manage their health. These issues compound, reducing people's ability to effectively manage their chronic condition and likely lead to exacerbation and disease progression.

Care coordination services are also lacking in the region, with an identified lack of care navigator positions and services. It was reported that many individuals struggle to navigate the healthcare system effectively due to its complexity, often requiring additional support to access the services they need for chronic disease management and effectively navigate the system. Without these services people managing chronic conditions, particularly diabetes, cardiovascular disease and respiratory conditions, face significant challenges during care transitions between hospitals, general practices, and community providers. This creates gaps in treatment plans, medication errors, missed follow-ups, higher readmission rates, and ultimately poorer health outcomes.

Several system integration issues were highlighted during consultations as barriers to the implementation of best practice multidisciplinary chronic disease management in the community.

This includes poor communication between multidisciplinary team members, with reports that the distance and lack of communication and collaboration between service providers means it can cause significant delays in GPs receiving information from specialists. There is a lack of ability to share patient files and needed information is often not available in MyHealth record. This results in a lack of up-to-date medical history, medication lists and pathology results, additional time spent chasing information, and poorly coordinated care.

Consultations highlighted that various supporting functions and communities need to work together, including clinicians and non-clinical workforce, social support, transport services and the community. During consultation, clinicians highlighted that interventions should not just focus on one aspect of workforce. Instead, cross-sectoral initiatives are required, with the community at the centre. Stakeholders emphasised that collaboration and relationships need to be strengthened in order to make meaningful improvements in chronic disease outcomes, with local government councils identified as a key stakeholder for collaboration.

Low levels of health literacy of people with chronic diseases and their family or caregivers results in difficulties understanding medical information, treatment regimens, and the importance of self-management. This can lead to medication non-adherence and poor management of health. Consultations emphasised that health literacy is not just important for patients, but also for families and carers so they can help patients through the challenges of accessing services and self-management. The challenges of changing habits that are ingrained within the culture of the community were also acknowledged. Social pressures to engage in harmful behaviors, particularly smoking, other drugs and alcohol, prevent effective chronic disease management. This also relates to complexities of mental health issues and other behavioral considerations.

Well supported management of chronic disease is crucial to health and wellbeing outcomes in Aboriginal communities across the region. Consultations highlighted the importance of well supported self-management, patient trust and engagement, the inclusion of family in care and disease management and the involvement of Aboriginal Health workers in care delivery. A number of communities across the region reported high numbers of recent premature deaths due to poorly managed chronic disease. These deaths had significant impacts on the wellbeing of the communities due the loss of Elders and relentless cycles of grief within communities. Greater access and quality of care was highlighted as a critical priority for Aboriginal people and communities in WNSW PHN.

Temporary services and reallocation of funding within the region were raised as concerns during consultations due to their impacts on stability of services and provision of long-term chronic disease management and prevention in communities. During consultations it was reported that some communities previously had services for chronic disease management, resulting in improved management of disease for patients in these locations. However, when funding was reprioritized, services were moved to other locations due to prioritisation of health issues. This shifting of services then leaves patients in the region without the needed long-term services, creating a cycle of unmet need in communities. When designing new chronic disease services, this should be a consideration.

Social and community facilities, such as public pools, that support early intervention programs were also raised as crucial to supporting patient management and were identified as vulnerable to changes in funding support. Frequent service withdrawal leads to community distrust with the sector.

The cumulative effect of these issues means that people in communities that have low access to preventative and chronic disease management services are likely to have delays in diagnosis, poorly managed conditions, greater reliance on emergency departments and hospital admissions for treatment (as seen in the hospitalisation data below), reduced quality of life and premature death. Solutions in the future should focus on lifestyle approaches to prevention and remission, and long-term solutions which are community driven. Management of chronic conditions by clinicians will not be adequate unless all systems work together and support chronic disease prevention and management through lifestyle changes.

# Chapter 6. Notifiable Conditions

| Chapter 6. Notifiable Conditions# | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| Influenza rate (cf. NSW) | 2017-2021 | *66% lower* | *23% lower* | *27% lower* | *Not applicable* |
| *Chlamydia rate (cf. NSW) | 2017-2021 | *21% lower* | *21% lower* | *21% lower* | *Not applicable* |
| *Gonorrhoea rate (cf. NSW) | 2017-2021 | *74% lower* | *79% lower* | *78% lower* | *Not applicable* |
| Lead rate (cf. NSW) | 2017-2021 | *81.9 x higher* | *5.6 x higher* | *12.8 x higher* | *Not applicable* |
| Pertussis rate (cf. NSW) | 2017-2021 | *84% lower* | *27% lower* | *32% lower* | *Not applicable* |
| Cryptosporidiosis rate (cf. NSW) | 2017-2021 | *62% lower* | *78% higher* | *64% higher* | *Not applicable* |
| Giardiasis rate (cf. NSW) | 2017-2021 | *62% lower* | *12% higher* | *5% higher* | *Not applicable* |
| Q Fever rate (cf. NSW) | 2017-2021 | *4.7 x higher* | *7.3 x higher* | *7.0 x higher* | *Not applicable* |

cf=compared to

# Consider the potential for reduced transmission due to COVID lockdowns.

*NB. Low rates of chlamydia and gonorrhoea could be accounted for by low testing rates.

## Notifiable conditions

The *Public Health Act 2010* lists a series of infectious diseases and population specific conditions that require notification to local public health units. Data recorded in notifiable conditions databases capture only clinically confirmed cases; that is, cases that have been diagnosed based on pathology results and/or clinical signs and symptoms consistent with the condition. Accordingly, notified cases largely represent newly acquired conditions rather than pre-existing conditions, and represent only those that have been tested for. Therefore, the data presented here may not indicate the full burden of each condition within the community.

## Influenza

Between 2017 and 2021, the average annual notification rate of influenza was lower in Western NSW jurisdictions than in NSW by 66% in FWLHD, 23% in WNSWLHD and 27% in WNSW PHN (Figure 6.1). Note that notification rates in 2020 and 2021 were very low and likely to reflect low transmission rates due to lockdowns during the COVID-19 pandemic.

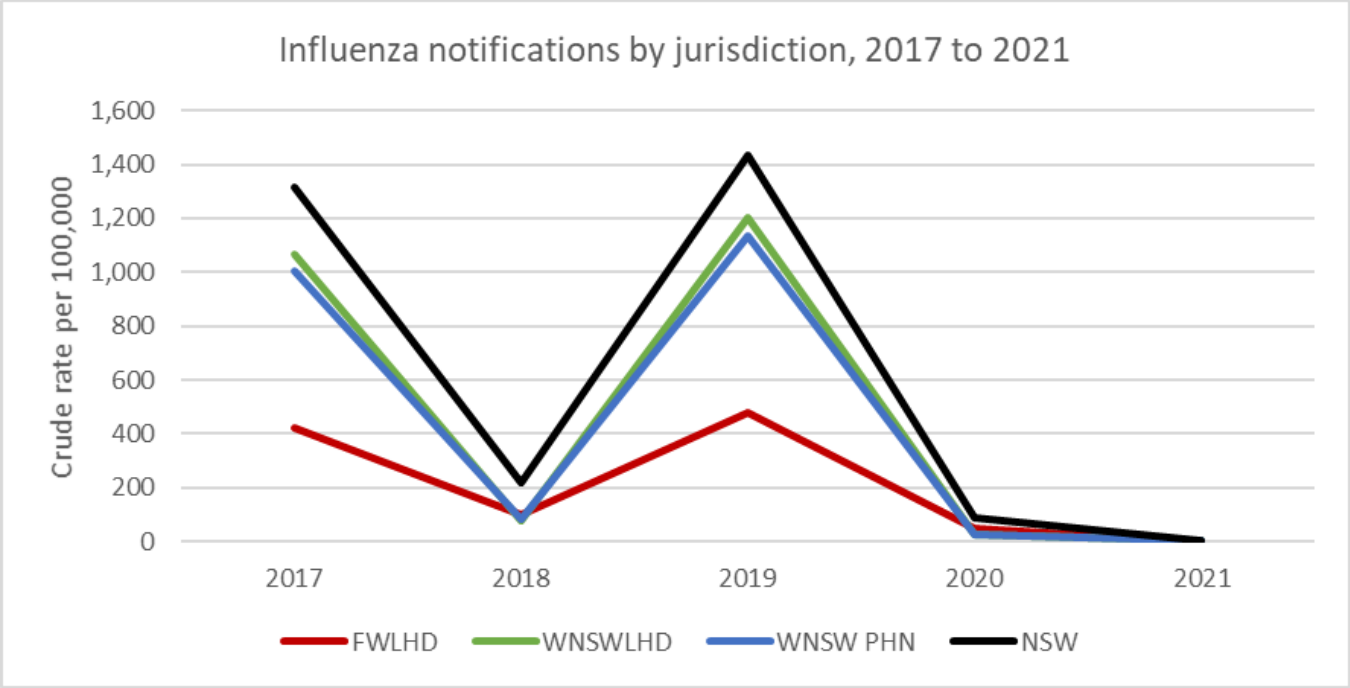



***Figure 6.1 Influenza notifications by jurisdiction, 2017 to 2021.***

Data source: NSW Health Infectious Diseases Data https://www.health.nsw.gov.au/Infectious/Pages/data.aspx (Accessed 5 May 2022)

## Chlamydia & gonorrhoea

Chlamydia and gonorrhoea are both sexually transmitted infections caused by the bacteria *Chlamydia trachomatis and Neisseria gonorrhoeae*, respectively. Left untreated, each infection can lead to complications such as pelvic inflammatory disease and infertility. [1], [2]

Between 2017 and 2021, the average annual notification rates for chlamydia were substantially higher than that for gonorrhoea (Figure 6.2). Compared to rates of gonorrhoea, chlamydia was 3.0 times higher in NSW, 9.1 times higher in FWLHD and 11.3 times higher in WNSWLHD. The average annual rate of notifications for chlamydia and gonorrhoea in FWLHD, WNSWLHD and WNSW PHN were lower than that for NSW by approximately 20% and 75%, respectively. Note that these lower rates in both conditions may reflect a lower incidence or a lower testing rate for each disease.

[1] NSW Health Communicable Diseases Factsheet Chlamydia (Last updated 1 July 2012)

[2] NSW Health Communicable Diseases Factsheet Gonorrhoea (Last updated 1 July 2012)

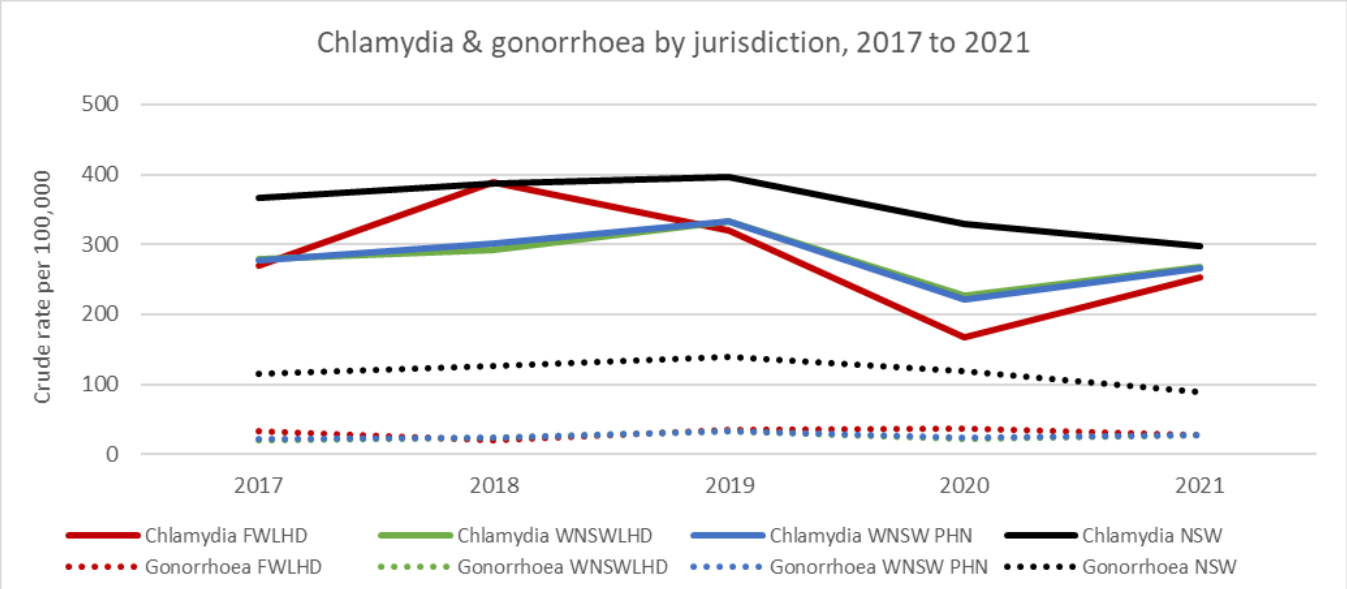



***Figure 6.2 Trends in chlamydia and gonorrhoea notifications by jurisdiction, 2017 to 2021.***

Data source: NSW Health Infectious Diseases Data https://www.health.nsw.gov.au/Infectious/Pages/data.aspx (Accessed 5 May 2022)

## Lead

Blood lead levels above 5µg/dL indicate exposure to higher-than-average background lead levels and the potential for poor health outcomes. Because exposure to high lead levels affects physical and cognitive development, young children are most at risk of poor health outcomes[12]. WNSW PHN communities generally report higher lead levels than other communities in NSW, particularly those of Broken Hill due to lead mining activities. Accordingly, blood lead levels are closely monitored among residents, particularly that of young children.

Between 2017 and 2021, the average annual notification rate of high blood lead levels was greater than that of NSW by 6 times in WNSWLHD, 13 times in WNSW LHN and 82 times in FWLHD (Figure 6.3). However, it should be noted that because young children in FWLHD often record blood levels higher than 5µg/dL and are over-sampled compared to other age groups, notification rates are likely to be artificially high in this jurisdiction.

[12] Source: https://www.health.nsw.gov.au/Infectious/controlguideline/Pages/lead.aspx#

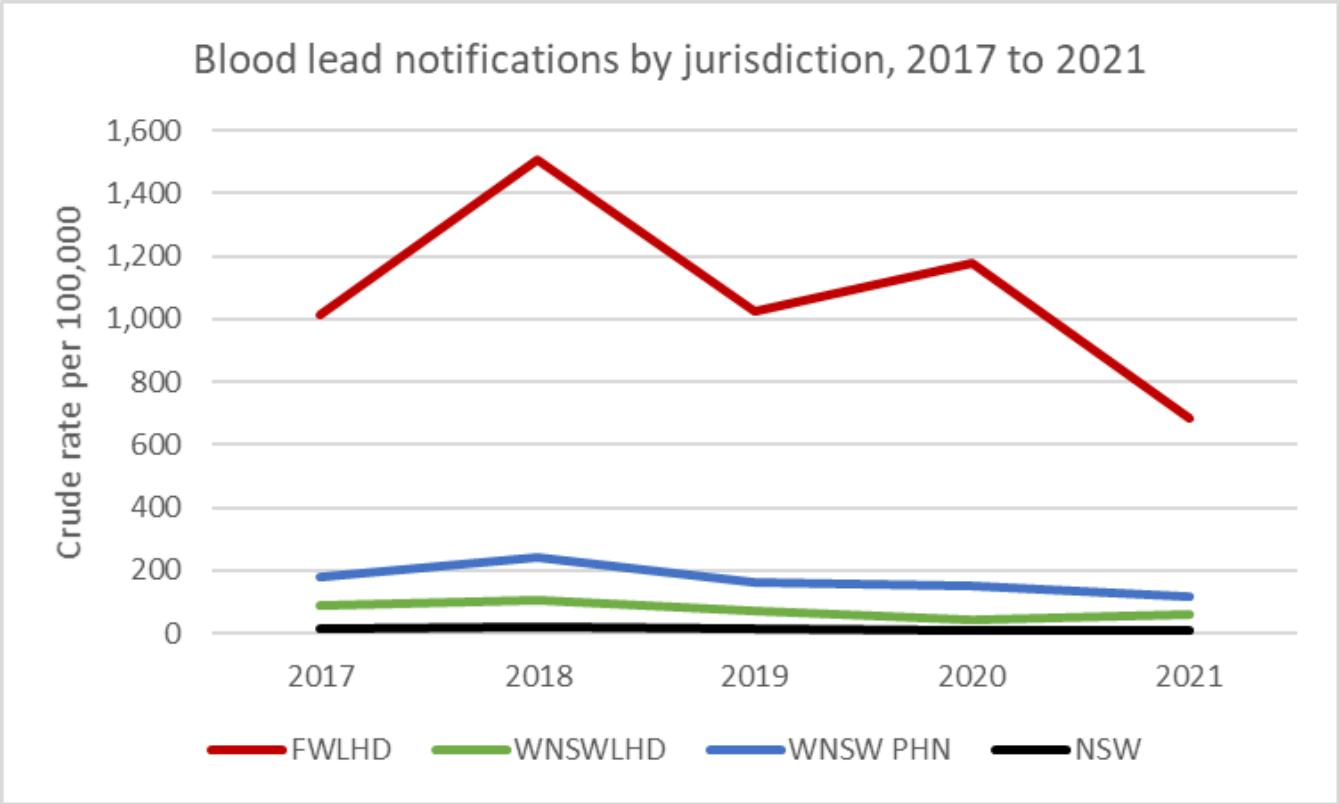



***Figure 6.3 Trends in lead notifications by jurisdiction, 2017 to 2021.***

Data source: NSW Health Infectious Diseases Data https://www.health.nsw.gov.au/Infectious/Pages/data.aspx (Accessed 5 May 2022)

### Hepatitis C

Data for Hepatitis C are restricted and no longer available in this document.

### Pertussis

Pertussis, or whooping cough, is a respiratory disease caused by the *Bordetella pertussis* bacterium. It can affect people of all ages but is most serious among infants[13]. Between 2017 and 2021, the average annual pertussis notification rates in Western NSW jurisdictions were lower than in NSW by 84% in FWLHD, 27% in WNSWLHD and 32% in WNSW PHN (Figure 6.4). Note that notification rates in 2020 and 2021 were very low and likely to reflect low transmission rates due to lockdowns during the COVID-19 pandemic.

[13] Source: NSW Health Communicable Diseases Factsheet Pertussis (Last updated 3 June 2019)

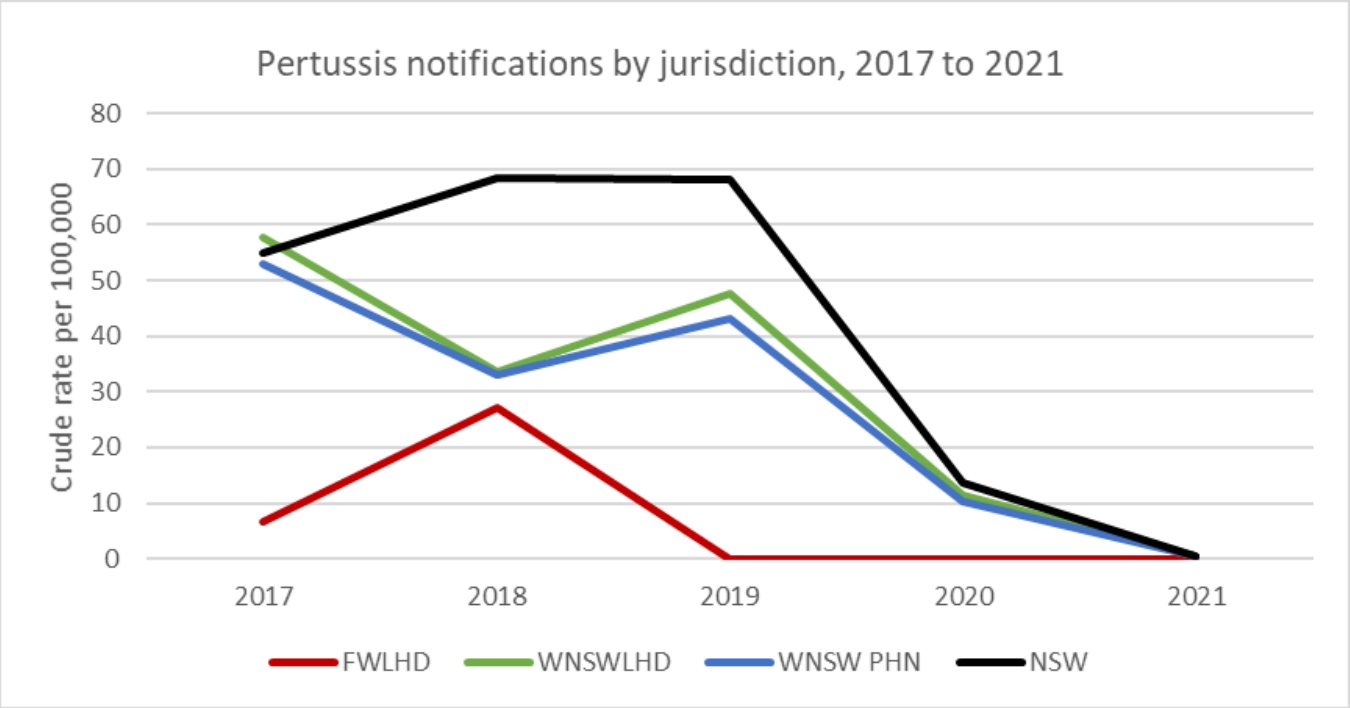



***Figure 6.4 Trends in pertussis notifications by jurisdiction, 2017 to 2021.***

Data source: NSW Health Infectious Diseases Data https://www.health.nsw.gov.au/Infectious/Pages/data.aspx (Accessed 5 May 2022)

## Cryptosporidiosis & giardiasis

Cryptosporidiosis and giardiasis are two types of gastroenteritis and are of significance for rural locations. They are caused by swallowing the *Cryptosporidium* or *Giardia* parasite and result in watery diarrhoea and stomach cramps. The parasite is found in the faeces of humans and animals and is commonly spread from person-to-person, contaminated drinking water, swimming pools and spas, and through handling animals. Cryptosporidiosis can also occur from ingesting unpasteurised dairy products [14, 15].

Between 2017 and 2021, giardiasis was notified more frequently than cryptosporidiosis by between 2.8 and 4.4 times. The average annual rate of cryptosporidiosis and giardiasis in WNSWLHD was greater than that for NSW by 78% and 12%, respectively (Figure 6.5). In FWLHD, however, rates for both infectious diseases were lower than in NSW by more than 60%. This result for FWLHD may be an indication of insufficient testing rather than a reflection of low prevalence in the community.

[14] NSW Health Communicable Diseases Factsheet Cryptosporidiosis (Last updated 23 March 2017).
[15] NSW Health Communicable Diseases Factsheet Giardiasis (Publication date 14 May 2018).

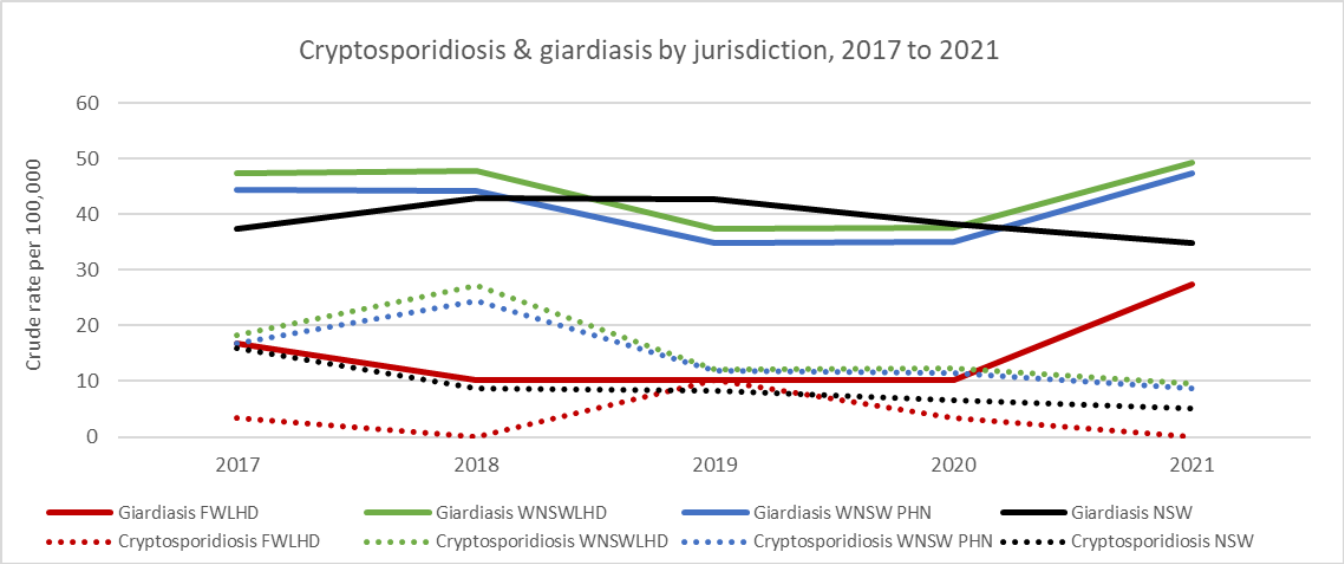



***Figure 6.5 Trends in notifications for cryptosporidiosis and giardiasis by jurisdiction, 2017 to 2021.***

Data source: NSW Health Infectious Diseases Data https://www.health.nsw.gov.au/Infectious/Pages/data.aspx (Accessed 5 May 2022)

## Q fever

Q fever is a severe flu-like illness caused by the *Coxiella burnetii* bacterium. It is spread mostly by stock animals through their faeces, urine, milk and birthing products and is therefore of significance for rural areas. People most at risk of acquiring the disease are those working on farms, in abattoirs and in veterinarian practices[16]. Between 2017 and 2021, the average annual notification rate of Q fever was higher in Western NSW jurisdictions than in NSW by 4.7 times in FWLHD, 7.3 times in WNSWLHD and 7.0 times in WNSW PHN (Figure 6.6).

[16] Source: NSW Health Communicable Diseases Factsheet Q Fever (Last updated 19 July 2019)

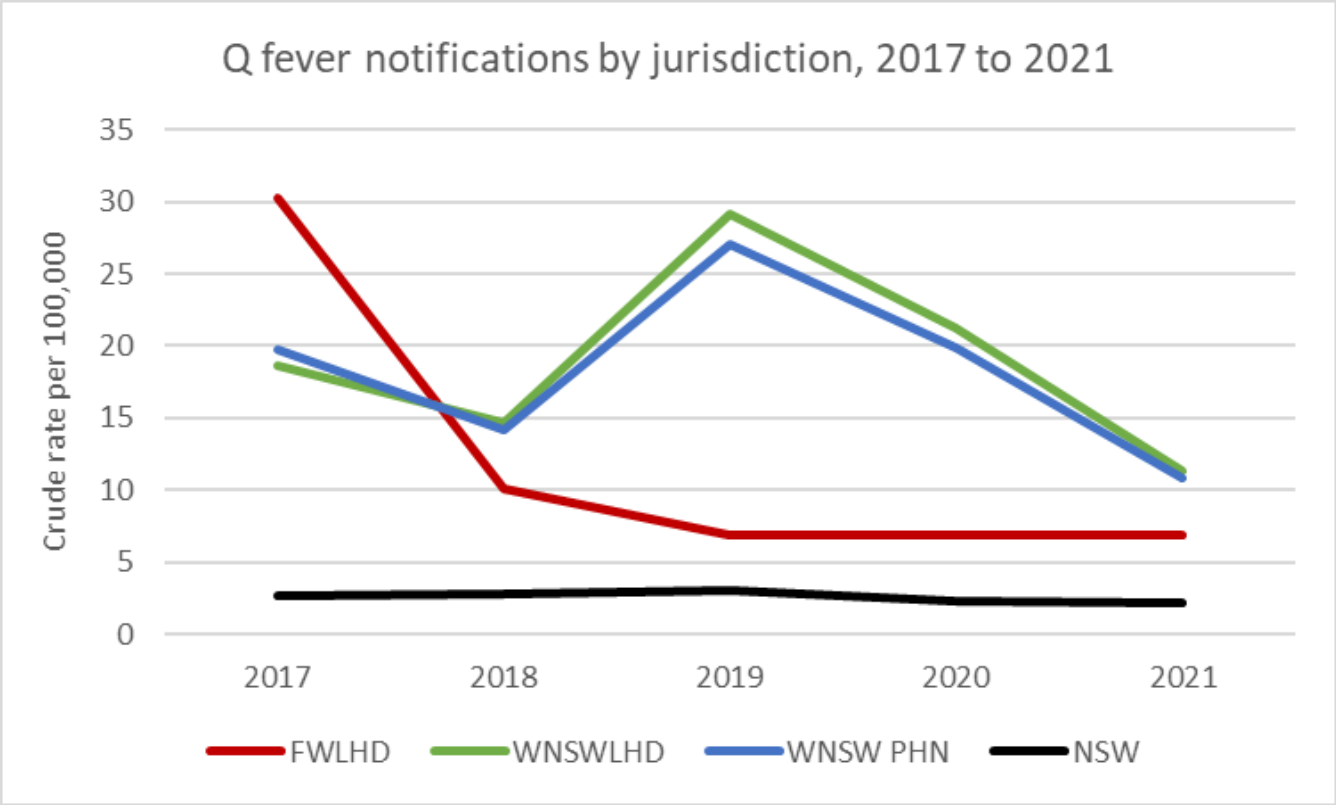



***Figure 6.6 Trends in Q fever notifications by jurisdiction, 2017 to 2021.***

Data source: NSW Health Infectious Diseases Data https://www.health.nsw.gov.au/Infectious/Pages/data.aspx (Accessed 5 May 2022)

# Chapter 7. Injury & Poisoning

## Summary

| Chapter 7. Injury & Poisoning | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| Death rate (cf. NSW) | 2016-2021 | *Not available* | *47% higher* | *53% higher* | *Not applicable* |
| Death rate, males (cf. females) | 2016-2021 | *Not available* | *2.5 x higher* | *2.6 x higher* | *2.4 x higher* |
| Leading causes of death | 2017-2021 | *Not available* | *Suicide/self-harm & motor vehicle crashes* | | ***See below* |
| Hospitalisation rate (cf. NSW) | 2017/18-2021/22 | *10% higher* | *6% higher* | *6% higher* | *Not applicable* |
| Hospitalisation rate, males (cf. females) | 2017/18-2021/22 | *32% higher* | *52% higher* | *50% higher* | *40% higher* |
| Leading causes of hospitalisation | 2017/18-2021/22 | | *Falls & motor vehicle crashes* | | |
| Fall-related hospitalisation rate (65+) | 2017/18-2021/22 | *13% lower* | *26% lower* | *25% lower* | *Not applicable* |

### Mortality (injury &/or poisoning as the underlying cause)

Between 2016-2017 and 2020-2021, the average biennial death rate per 100,000 population due to injury and/or poisoning (as underlying cause), was higher than that in NSW by 47% in WNSWLHD and 53% in WNSW PHN (Figure 7.1). At each biennial time point for the reporting period, injury and poisoning death rates in WNSWLHD and WNSW PHN were statistically significantly higher than that in NSW.

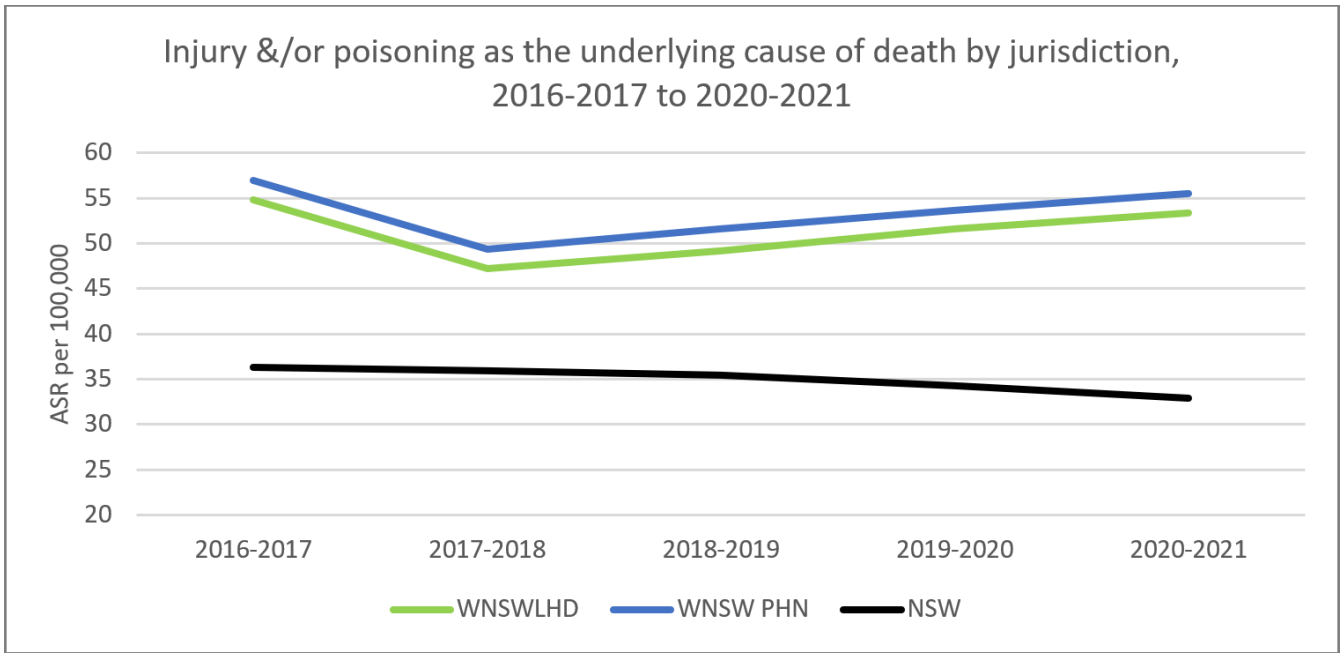



***Figure 7.1 Trends in biennial death rates due to injury &/or poisoning as the underlying cause by jurisdiction, 2016-2017 to 2020-2021.***

ASR=age-standardised rate

NB. Data not available for Far West LHD.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2016-2017 and 2020-2021, the average biennial death rate due to injury and/or poisoning as the underlying cause, was higher among WNSWLHD and WNSW PHN males than among NSW males by 47% and 55%, respectively (Figure 7.2). The death rate was similar for females, with rates among WNSWLHD and WNSW PHN females being higher than that of NSW females by 40% and 44%, respectively.

At each biennial time point for the reporting period, death rates among males and females in WNSWLHD and WNSW PHN were statistically significantly higher than their NSW counterparts, except for Western NSW females in 2017-2018 (Figure 7.2).

For the same reporting period, the average biennial death rate due to injury and/or poisoning among males was higher than among females by 2.5 times (WNSWLHD), 2.6 times (WNSW PHN) and 2.4 times (NSW) (Figure 7.2). Again, at each biennial time point, and in each jurisdiction, male death rates were statistically significantly higher than that of their female counterparts.

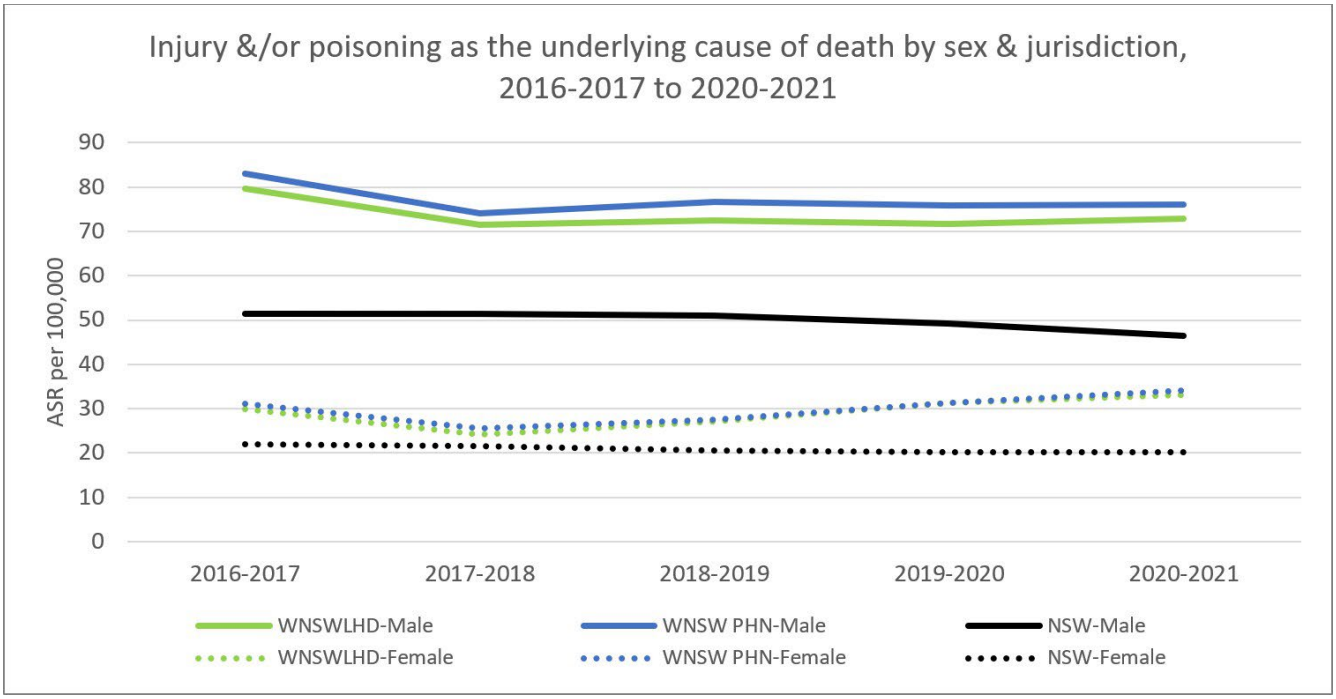



***Figure 7.2 Trends in death rates due to injury &/or poisoning as the underlying cause by sex & jurisdiction, 2016-2017 to 2020-2021.***

ASR=age-standardised rate

NB. Data not available for Far West LHD.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2013-2015 and 2017-2019, the average triennial death rate due to injury and/or poisoning was highest in Broken Hill, with a rate higher than that of NSW by 62% (Figure 7.3; Table A.7.1 – see Appendix). LGAs with the next highest rates included Wentworth, Walgett and Bourke, with rates being greater than that of NSW by 49%, 48% and 47%, respectively. By comparison, Oberon, Bathurst and Mid-Western Regional LGAs reported the lowest death rates at 19%, 33% and 33% higher than that of NSW, respectively.

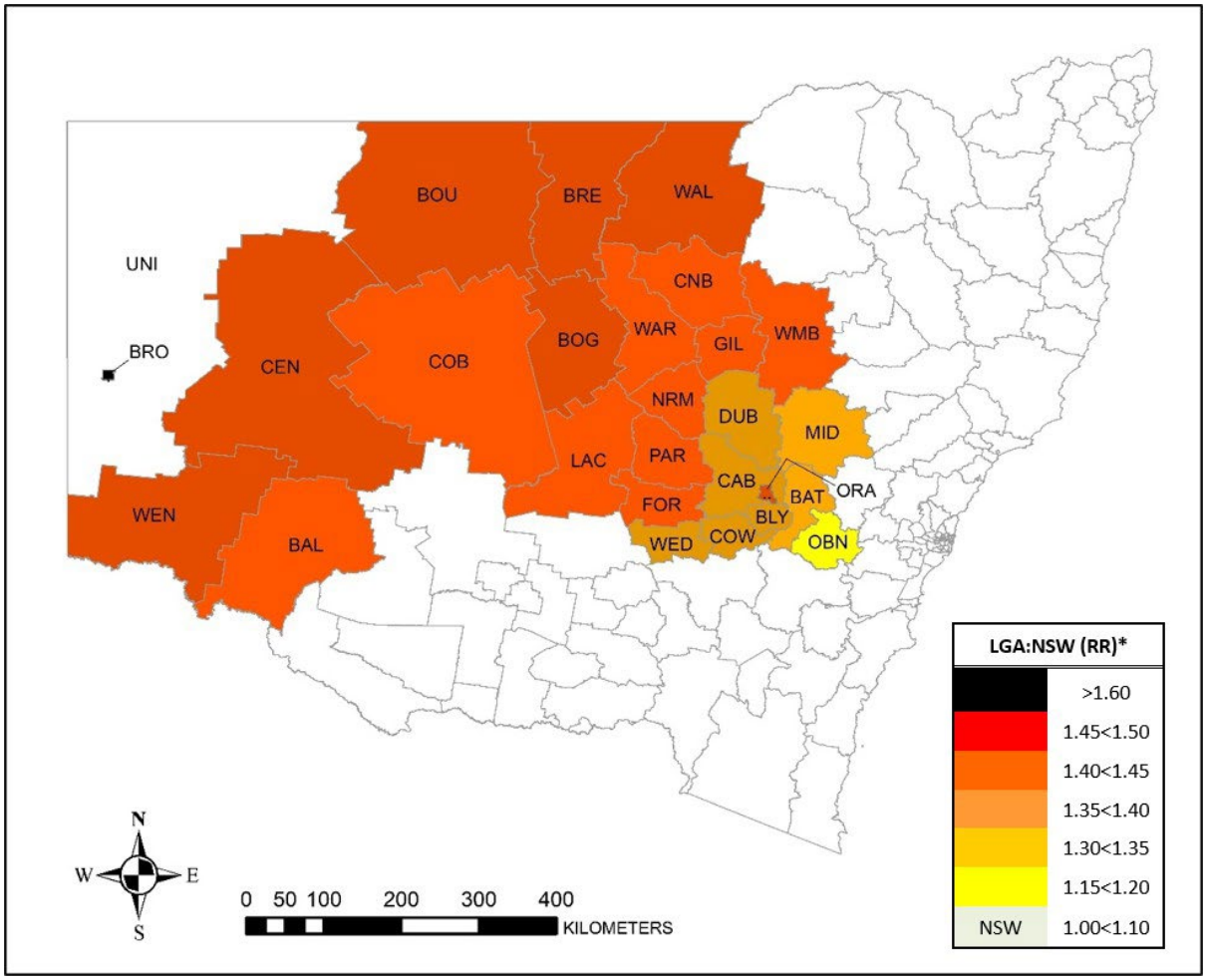



***Figure 7.3 Average biennial mortality rate (age-standardised) due to injury and/or poisoning by local government area compared to NSW, 2013- 2015 to 2017-2019.***

LGA=local government area, RR=rate ratio.

*The ratio of LGA average biennial age-standardised mortality rate to that of NSW (rate ratio). See LGA abbreviations.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Leading causes of injury &/or poisoning deaths

For the five-year period from 2017 to 2021, suicide/self-harm was the most commonly occurring cause of injury and/or poisoning death, accounting for approximately 28% of all injury and/or poisoning deaths for each jurisdiction (Figure 7.4). The second most commonly occurring cause was 'falls', accounting for approximately 20% of all injury and/or poisoning deaths for each jurisdiction.

However, when considering rates per population, suicide/self-harm was statistically significantly higher in WNSWLHD and WNSW PHN than in NSW, by 46% and 53%, respectively (Figure 7.5). The cause of the next highest rate of injury and/or poisoning in Western NSW was 'motor vehicle crash injury', with the rate for both WNSWLHD and WNSW PHN being statistically significantly higher than that of NSW by 2.7 times (Figure 7.5). Falls were the third highest cause in Western NSW, with the rate being approximately 25% higher than in NSW.

Between 2017 and 2021, Western NSW males were more than 4 times more likely to die of suicide/self-harm than their female counterparts and more than 50% more likely than NSW males, with these results being statistically significant (Figure 7.6). While Western NSW females were 20-25% more likely to die of suicide/self-harm than NSW females, these results were not statistically significant.

For the same reporting period, the rate of motor vehicle crash deaths among Western NSW males was more than 3 times that of Western NSW females and 2.7 times that of NSW males (Figure 7.6). Similarly, the rate of motor vehicle crash deaths among Western NSW females was more than 2.5 times that of NSW females. All results for motor vehicle crash deaths were statistically significant.

Deaths due to falls among Western NSW males were higher than that for both Western NSW females and NSW males by 37-38% and 12-13%, respectively; however, these results were not statistically significant (Figure 7.6). Similarly, deaths due to falls among Western NSW females were 30-32% higher than that for NSW females, but not significantly so.

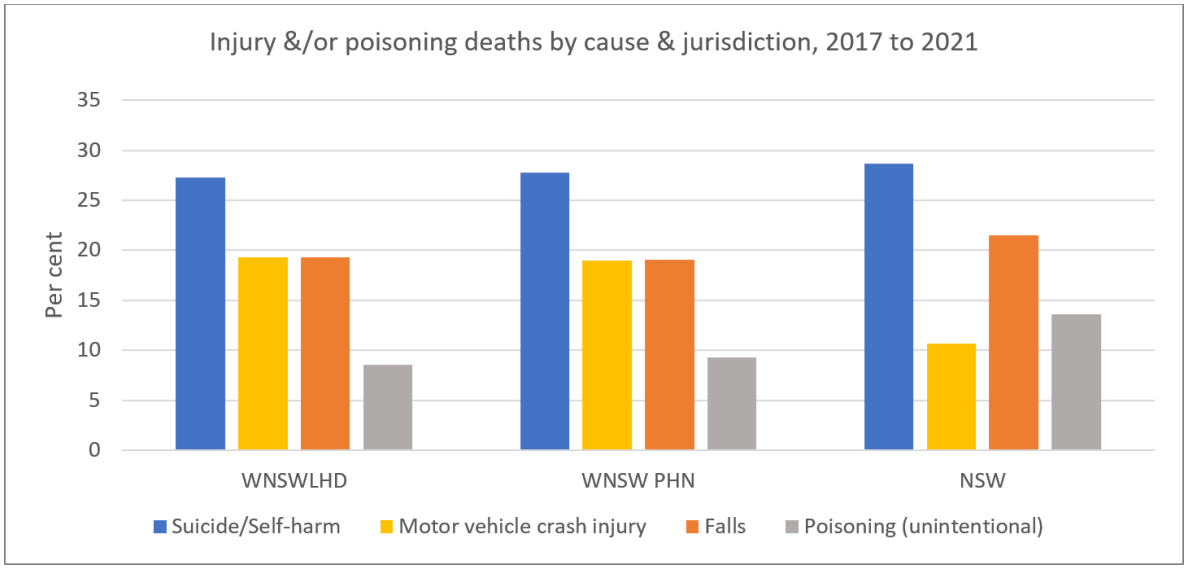



***Figure 7.4 Most commonly occurring injury &/or poisoning deaths as the underlying cause by jurisdiction, 2017 to 2021.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

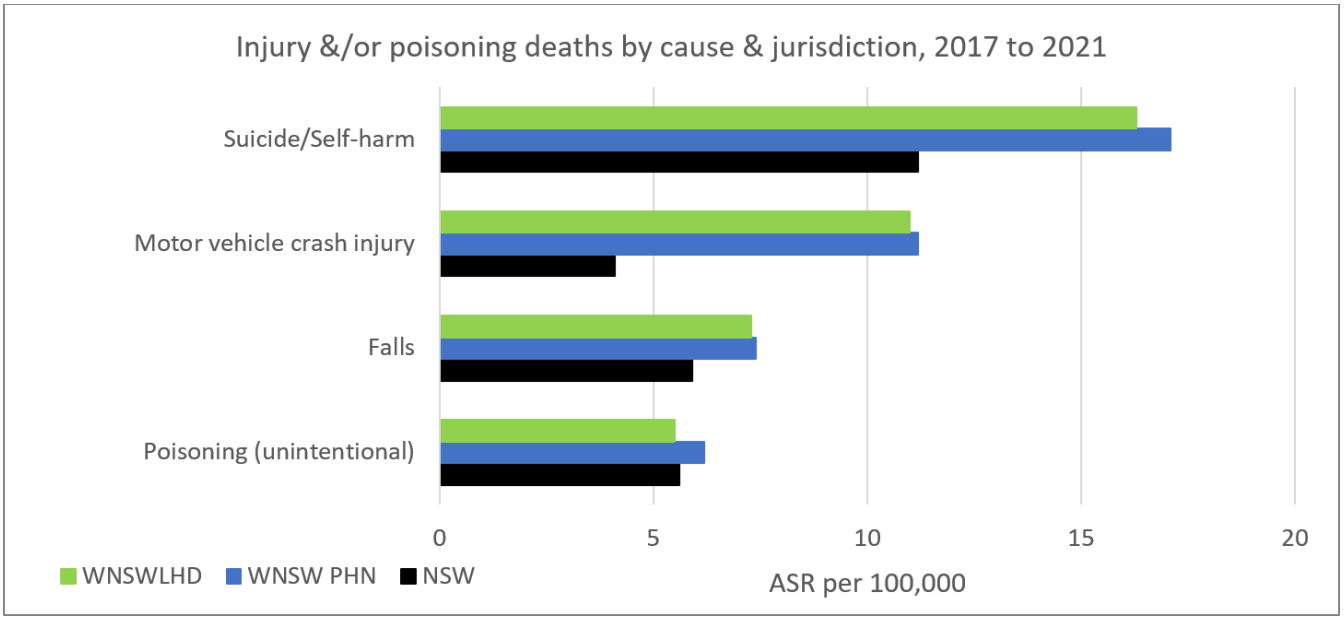



***Figure 7.5 Injury &/or poisoning deaths by leading cause & jurisdiction, 2017 to 2021.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

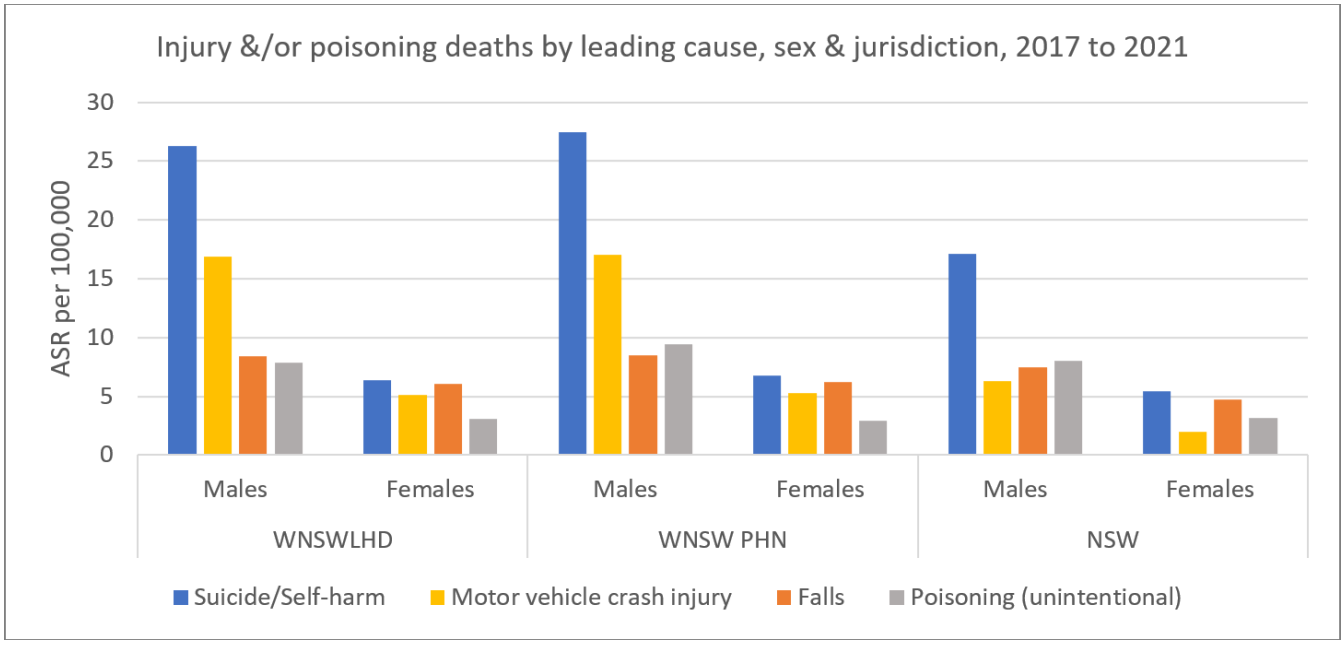



***Figure 7.6 Injury &/or poisoning deaths by leading cause, sex & jurisdiction, 2017 to 2021.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Hospitalisations (injury &/or poisoning)

Between 2017-18 and 2021-22, the rate of injury and/or poisoning hospitalisations in Western NSW was higher than that in NSW by 10% for FWLHD and 6% for both WNSWLHD and WNSW PHN (Figure 7.7). For FWLHD, rates were statistically significantly higher than that for NSW in each financial year except for 2018-19. Rates for WNSWLHD and WNSW PHN were significantly higher than for NSW only for the first three years of the reporting period. Compared to 2017-18, hospitalisation rates in 2021-22 were lower in all jurisdictions by up to 7%, except for FWLHD where rates were slightly higher by 2%.

For the same reporting period, injury and/or poisoning hospitalisation rates among males were higher than among females by 32% for FWLHD, 52% for WNSWLHD, 50% for WNSW PHN and 40% for NSW (Figure 7.8). For each jurisdiction at each reporting year, rates among males were significantly higher than their female counterparts, except for FWLHD males in 2019-20.

Compared to their NSW counterparts, rates among Western NSW males were 7-10% higher; rates among WNSWLHD and WNSW PHN females were slightly higher than NSW by 1-2%, but higher by 14% for FWLHD females (Figure 7.8). Rates for FWLHD females were significantly higher than for NSW females at each time point except for 2018-19. Rates for WNSWLHD and WNSW PHN males were significantly higher than for NSW males at each time point except for 2020-21. Compared to 2017-18, hospitalisation rates in 2021-22 were slightly lower for each sex and jurisdiction except for FWLHD where rates were slightly higher by 2% for both males and females.

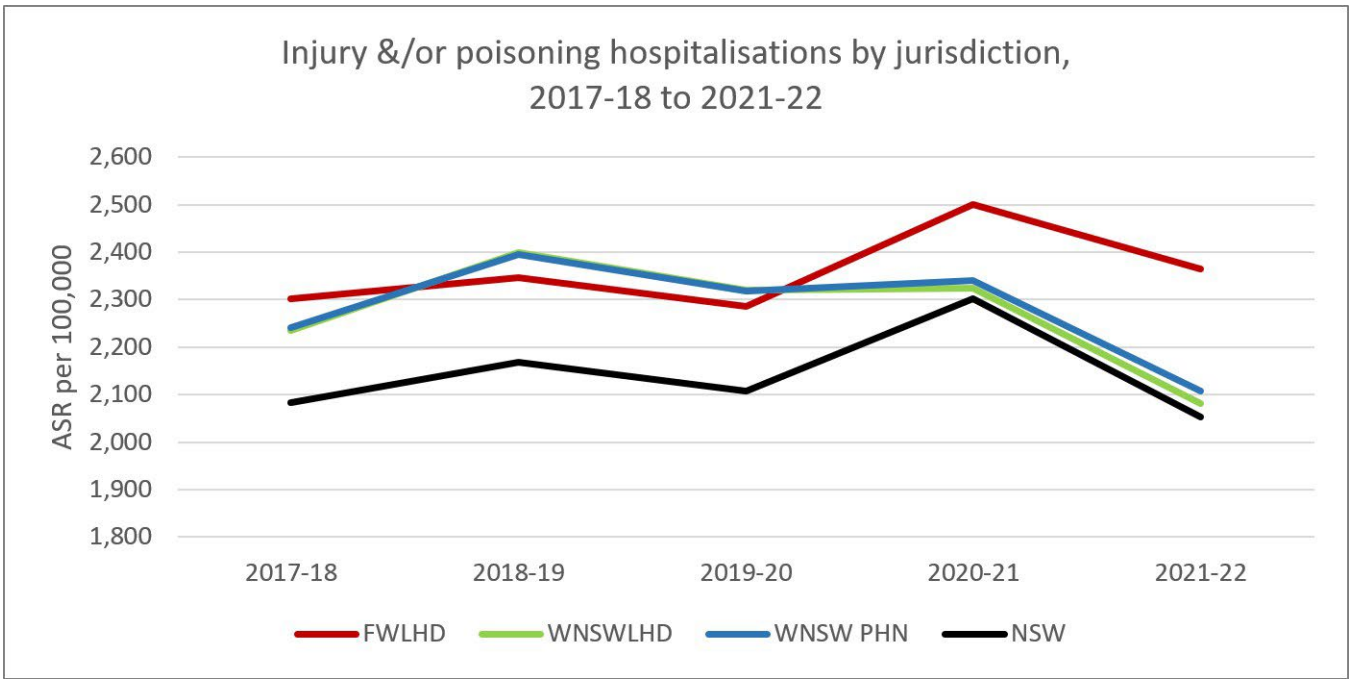



***Figure 7.7 Trends in injury &/or poisoning hospitalisations by jurisdiction, 2017-18 to 2021-22.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

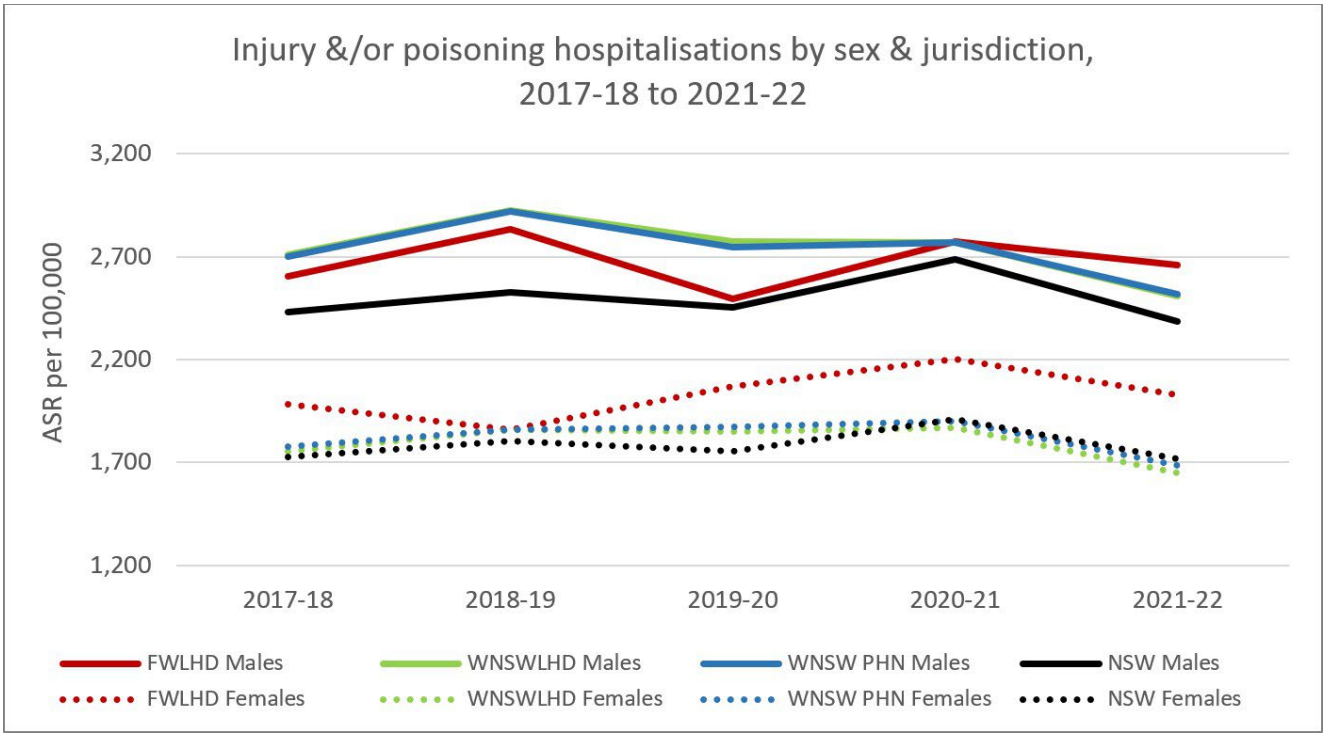



***Figure 7.8 Trends in injury &/or poisoning hospitalisations by sex & jurisdiction, 2017-18 to 2021-22.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2014-15 and 2018-19, the average annual injury and poisoning hospitalisation rates for WNSW PHN LGAs were highest for Bourke and Walgett at 30% and 27% higher than that of NSW, respectively (Figure 7.9; Table A.7.2 – see Appendix). Parkes recorded the lowest rate at 9% lower than that of NSW. Rates in Warrumbungle Shire, Gilgandra and Narromine were similar to that of NSW.

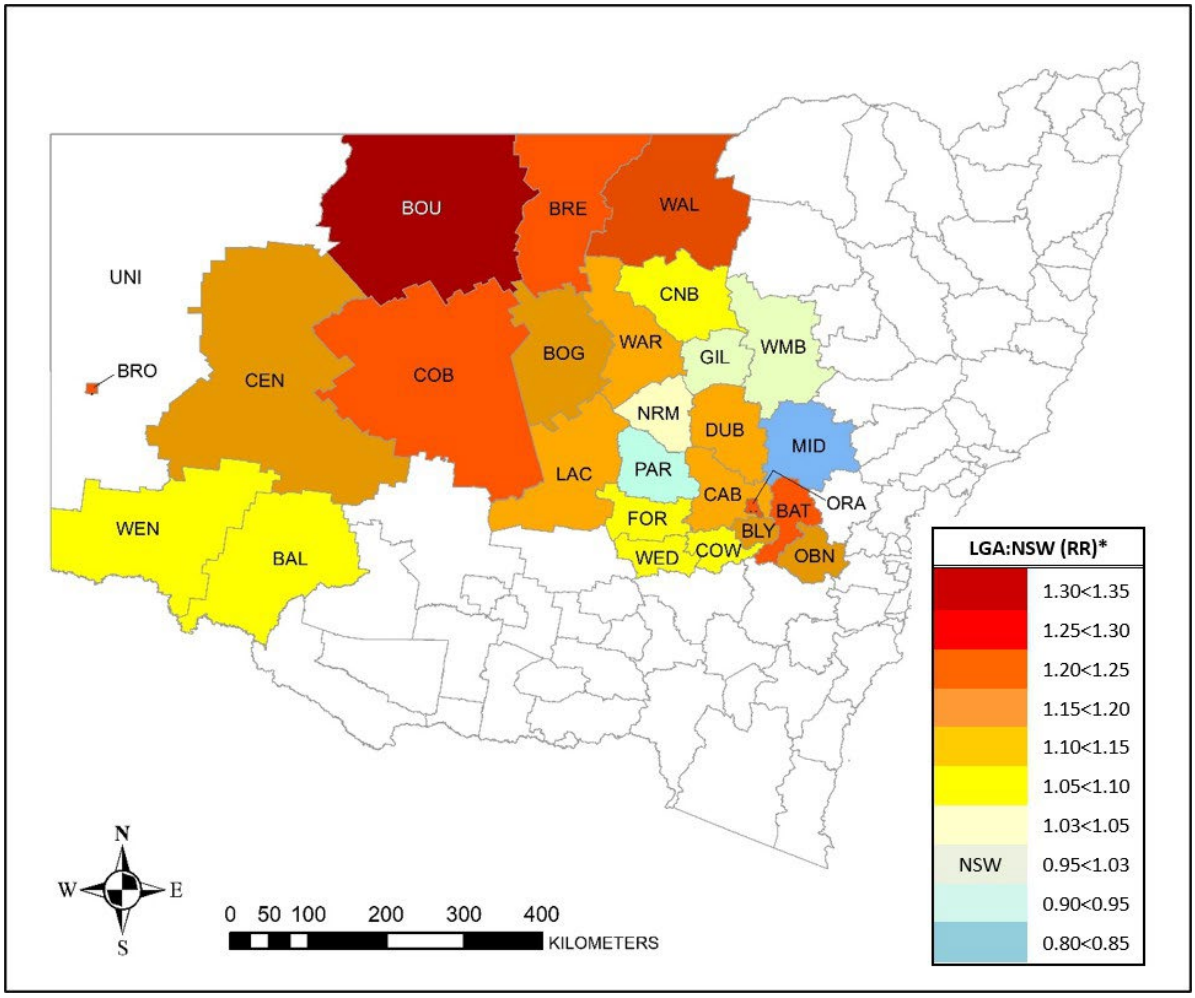



***Figure 7.9 Average annual injury &/or poisoning hospitalisation rates (age-standardised) by local government area compared to NSW, 2014-15 to 2018-19.***

LGA=local government area, RR=rate ratio.

*The ratio of LGA annual average age-standardised hospitalisation rate to that of NSW (rate ratio). See LGA abbreviations.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Leading causes of injury &/or poisoning hospitalisations

Between 2017-18 and 2021-22, falls were the most common injury and/or poisoning hospitalisation across all jurisdictions, with NSW reporting the highest rate, followed by FWLHD (Figure 7.10). Rates were lowest for WNSWLHD and WNSW PHN and were significantly lower than that of NSW by 15% and 14%, respectively.

The second most common cause of injury and/or poisoning hospitalisation was motor vehicle crash injury, with the rates in Western NSW jurisdictions being significantly higher than that in NSW by 76% (FWLHD), 60% (WNSWLHD) and 61% (WNSW PHN) (Figure 7.10). The third most common cause was suicide/self-harm with rates being significantly higher than that for NSW in FWLHD by 2.3 times and WNSW PHN by 30%. Rates in WNSWLHD were higher than NSW by 19%, but not significantly. While hospitalisations due to interpersonal violence was the least common of the top 6 causes, Western NSW rates were higher than that for NSW by 97% (FWLHD), 42% (WNSWLHD) and 47% (WNSW PHN). Of the five years of data, the results for four of those years were significantly higher than that of NSW.

For the same reporting period in each jurisdiction, falls were the most common cause of injury hospitalisation for both sexes (Figure 7.11). The rate of hospitalisations due to falls was higher among males than females for each jurisdiction by 2-3%, except for FWLHD where the female rate was higher by 4%. However, all Western NSW jurisdictions reported rates lower than that of NSW for both males and females.

The second most common causes of injury and/or poisoning hospitalisation for Western NSW were motor vehicle crash for males and suicide/self-harm for females (Figure 7.11). This result for males differed to that of NSW where cutting/piercing injuries were the second most common cause. Western NSW males were 96% (FWLHD), 70% (WNSWLHD) and 72% (WNSW PHN) more likely to be hospitalised for motor vehicle crash than NSW males, while Western NSW females were 2.2 times (FWLHD), 17% (WNSWLHD) and 26% (WNSW PHN) more likely to be hospitalised for suicide/self-harm than NSW females.

The third most common cause of injury and/or poisoning hospitalisation among Western NSW females was motor vehicle crash, where rates were higher than that of NSW females by 25% (FWLHD), 36% (WNSWLHD) and 35% (WNSW PHN) (Figure 7.11). For Western NSW males, cutting/piercing injury was the third highest cause of injury and/or poisoning hospitalisation, with rates higher in WNSWLHD and WNSW PHN than NSW by 27% and 24%, respectively but slightly lower in FWLHD by 2%.

While suicide/self-harm was not among the top 3 causes of injury and/or poisoning hospitalisation for males of all jurisdictions, the rates among Western NSW males were higher than that of NSW males by 2.6 times (FWLHD), 23% (WNSWLHD) and 36% (WNSW PHN) (Figure 7.11). Similarly, while interpersonal violence among Western NSW females was not among the top 3 causes, rates were higher than for NSW females by 3.3 times (FWLHD), 57% (WNSWLHD) and 73% (WNSW PHN).

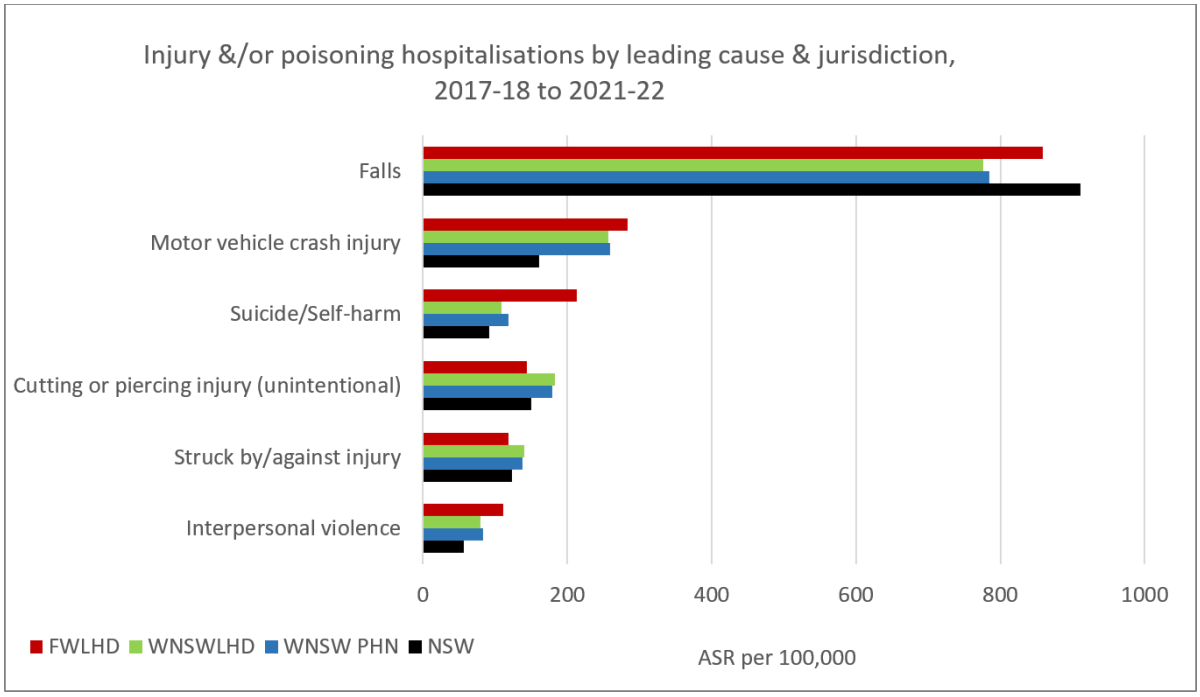



***Figure 7.10 Injury &/or poisoning hospitalisations by leading cause & jurisdiction, 2017-18 to 2021-22.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

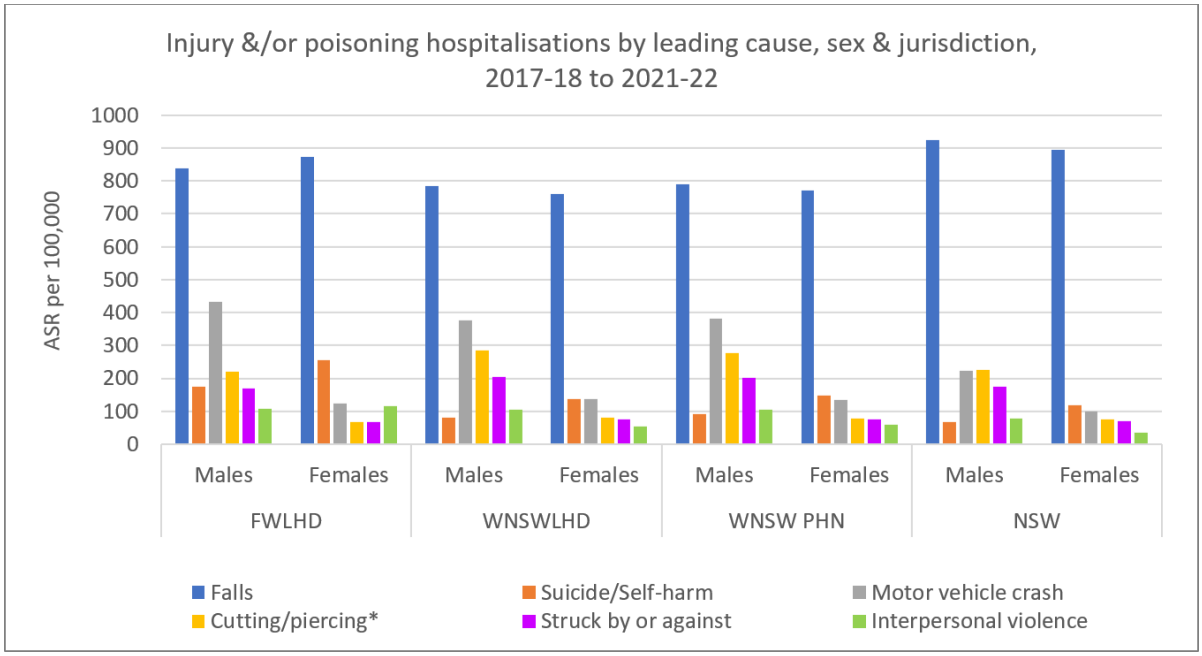



***Figure 7.11 Injury &/or poisoning hospitalisations by leading cause, sex & jurisdiction, 2017-18 to 2021-22.***

ASR=age-standardised rate

*Unintentional

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Fall-related hospitalisations (older people)

Between 2017-18 and 2021-22, the average annual rate of fall-related hospitalisations in older people (65+ years) was lower in WNSW PHN than in NSW by 25% (Figure 7.12). Of the Western jurisdictions, FWLHD reported the highest fall rate with the average annual rate being higher than that of WNSWLHD by 20%. Compared to 2017-18, fall-related hospitalisation rates in 2021-22 were higher for all jurisdictions by between 1-3%.

Average annual fall-related hospitalisations were also higher among females than males across all jurisdictions (i.e. by 12-16%) (Figure 7.13). Compared to 2017-18, rates of fall-related hospitalisations in 2021-22 among males were higher by 4-5% in all jurisdictions except FWLHD where rates were slightly lower by 1%. Conversely, rates among females were slightly lower by 1% in all jurisdictions except FWLHD where rates were higher by 3%.

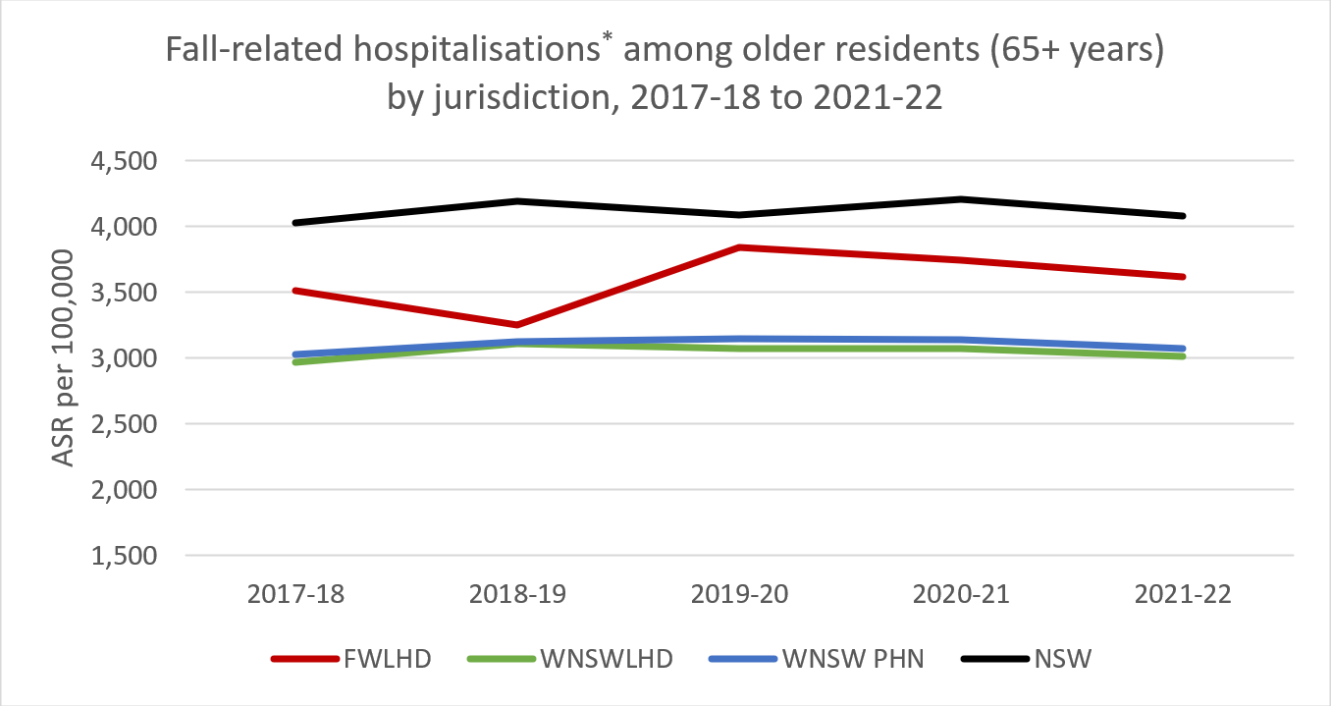



***Figure 7.12 Trends in fall-related hospitalisations for residents aged 65+ years by jurisdiction, 2017-18 to 2021-22.***

* Fall as principal diagnosis or first external cause diagnosis ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

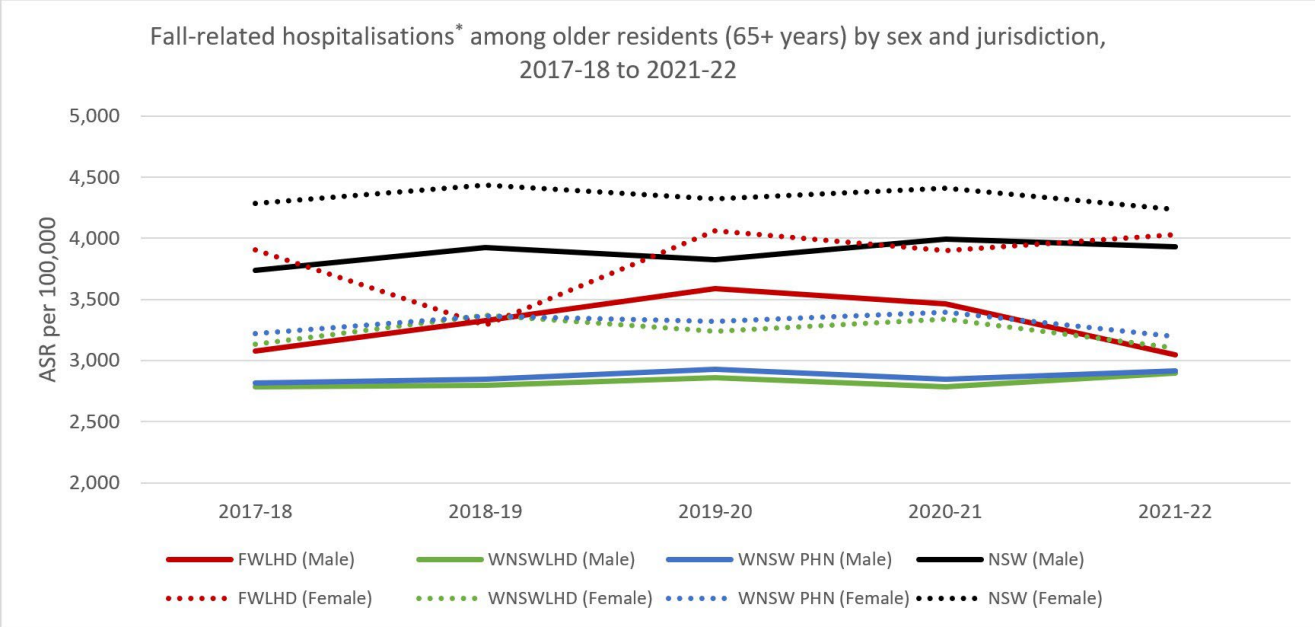



***Figure 7.13 Trends in fall-related hospitalisations for residents aged 65+ years by sex and jurisdiction, 2017-18 to 2021-22.***

* Fall as principal diagnosis or first external cause diagnosis ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

# Chapter 8. Alcohol & Illicit Drugs

## Summary

| Ch.8. Summary | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| **Alcohol** | | | | | |
| Exceeds consumption guidelines (cf. NSW) | 2021-2023 | *25% higher* | *13% higher* | *15% higher* | *NApp* |
| Alcohol-attributable mortality rate (cf. NSW) | 2016-2021 | *86% higher* | *33% higher* | *38% higher* | *NApp* |
| Mortality rate, males (cf. females) | 2016-2021 | *3.3 x higher* | *2.2 x higher* | *2.3 x higher* | *2.0 x higher* |
| ED presentation rate (cf. NSW) | 2018-2023 | *2.1 x higher* | *13% higher* | *22% higher* | *NApp* |
| Hospitalisation rate (cf. NSW) | 2017-2022 | *Similar* | *20% lower* | *18% lower* | *NApp* |
| **Illicit Drugs** | | | | | |
| Non-medical use of cannabis (cf. NSW) | 2018-2023 | *34% lower* | *22% lower* | *23% lower* | *NApp* |
| ED presentations (Regional versus metro) | 2018-2023 | *Oxycodone* | *Regional 38% higher than metro* | | |
| | | *Methamphetamine* | *Metro 37% higher than regional* | | |
| | | *Heroin* | *Metro 3.0 x higher than regional* | | |
| | | *Codeine & Fentanyl* | *Metro & regional results are similar* | | |

Cf.=compared to, ED=Emergency Department, NApp=Not applicable, Metro=metropolitan

Alcohol and other drug use affects many individuals, families and communities across the WNSW PHN region. The impacts of excess alcohol consumption and other drug use can be seen in the WNSW health data including increased ED presentations and mortality for the region. These impacts were also evident in feedback in many of the consultations conducted with services providers, clinicians and community.

Alcohol and other drugs were identified in consultations as both driving and exacerbating health issues for people in the region, as well as being used to alleviate distress and to self-manage mental and emotional health issues when people could not access services or were reluctant to engage with services for support. High costs of living, poverty, and housing instability exacerbate these access issues, leaving many unable to afford consistent healthcare or specialist treatments. Family and domestic violence is also a significant concern across the region, affecting not only victims but also increasing the likelihood of substance misuse as a coping mechanism.

These highlight the need for improved access to mental health, alcohol and other drug detoxification, and rehabilitation programs across the region and greater outreach to services which help people to address alcohol and other drug misuse.

Alcohol and other drug use in Aboriginal communities was described in consultations as a complex issue involving layers of grief, intergenerational trauma, and disconnection from Country. It was suggested that these issues are compounded by structural inequalities and socioeconomic divides and deepened by the justice system's punitive approach, which often criminalises alcohol and other drug related behaviours without addressing the underlying trauma and mental health needs of affected individuals.

Illicit drugs such as methamphetamine, marijuana and opioids were raised during consultations as significant concerns for many communities. Issues that were raised included methamphetamine being transiently present in some communities and more accessible to people in those communities. Prescription opioid addiction was highlighted as a significant concern across the region. Marijuana (Yarndi), chroming and vaping were raised as the most significant illicit drug concerns for children

and young people, although it was also reported that methamphetamine use, and alcohol consumption were growing concerns in adolescents.

The prevalence of addictive behaviours, including gaming and gambling, was also raised as a significant concern for many communities in the region. Gambling was considered a contributor to mental health, AOD use and financial distress. It was considered an issue that was rarely openly spoken about. Wilcannia was mentioned as an example of a small community that has high rates of gambling addiction and local gambling expenditures. Children and young adults were considered particularly vulnerable to developing addictive patterns of reward seeking when exposed to gaming that is programmed to exploit reward processing pathways. It was suggested that risky behaviours take hold early in life, often as coping mechanisms for stress, isolation, boredom and disengagement with community and family.

## Alcohol

Alcohol consumption is widespread in Australia in private settings and as part of many social and cultural activities. More than 20% of adults drink in excess of current NHMRC guideline recommendations. Excessive consumption of alcohol can increase the risk of injury, chronic disease, cancer and is one of the leading causes of preventable death in Australia[17].

Consultation revealed that cultural and social pressures surrounding alcohol play a significant role, with drinking often ingrained as a social norm, further amplified by limited social activities. In some small rural and remote communities, the pub is often the primary or only location for socialising or gathering, creating an environment where drinking is normalised and accepted as an integral part of social engagement.

Alcohol consumption in excess of the guidelines in WSNW PHN is significantly higher than in NSW. In 2021 and 2022, rates were substantially higher in FWLHD than in WNSW LHD, however between 2022-2023 there was a significant reduction in alcohol consumption in excess of guidelines in FW LHD. Rates of alcohol consumption in excess of the guidelines is higher among Aboriginal people compared to non-Aboriginal people in NSW (data was not available for WNSW PHN in the reporting period).

Males in WNSW PHN have significantly higher rates of alcohol consumption than females. Males in the region also have higher rates of alcohol related ED presentations. These rates are particularly high in males in FWLHD. Young men in the region were identified as experiencing significant barriers to access for mental health and alcohol and other drug services due to stigma and reluctance to seek help. Alcohol and other drug use was suggested as a coping mechanism for mental and emotional health issues and when people were unable or reluctant to seek support making this cohort particularly vulnerable to the health and social impacts of excessive alcohol consumption.

Alcohol attributed deaths were higher in all LGAs across the region compared to NSW, highlighting the significant impacts of alcohol consumption on the individuals and communities across the region. Premature death in the region has been raised frequently in consultations as having lasting impacts on communities, particularly when they are frequent in small and Aboriginal communities.

[17] Source: Evaluating the evidence on the health effects of alcohol consumption. https://www.nhmrc.gov.au/sites/default/files/documents/attachments/Alcohol/1-evidence-evaluation-report.pdf

## Alcohol consumption

### Consumption exceeding guidelines

The NHMRC Guideline 1 (2020) recommends that in order to reduce the risk of harm from alcohol-related disease or injury, healthy men and women should consume no more than 10 standard drinks per week *and* no more than 4 standard drinks on any one day. Note that both criteria must be met.

Between 2021 and 2023, the proportion of adults consuming alcohol in excess of the NHMRC Guideline 1 (2020)^ was higher in all Western jurisdictions than in NSW by 25% (FWLHD), 15% (WNSW PHN) and 13% (WNSWLHD) (Figure 8.1). At the time of this report, information on excess alcohol consumption by Aboriginal status was not available for Western NSW jurisdictions, but was available for NSW state, where excess consumption was slightly higher by 8% among Aboriginal than non-Aboriginal adults (Figure 8.2).

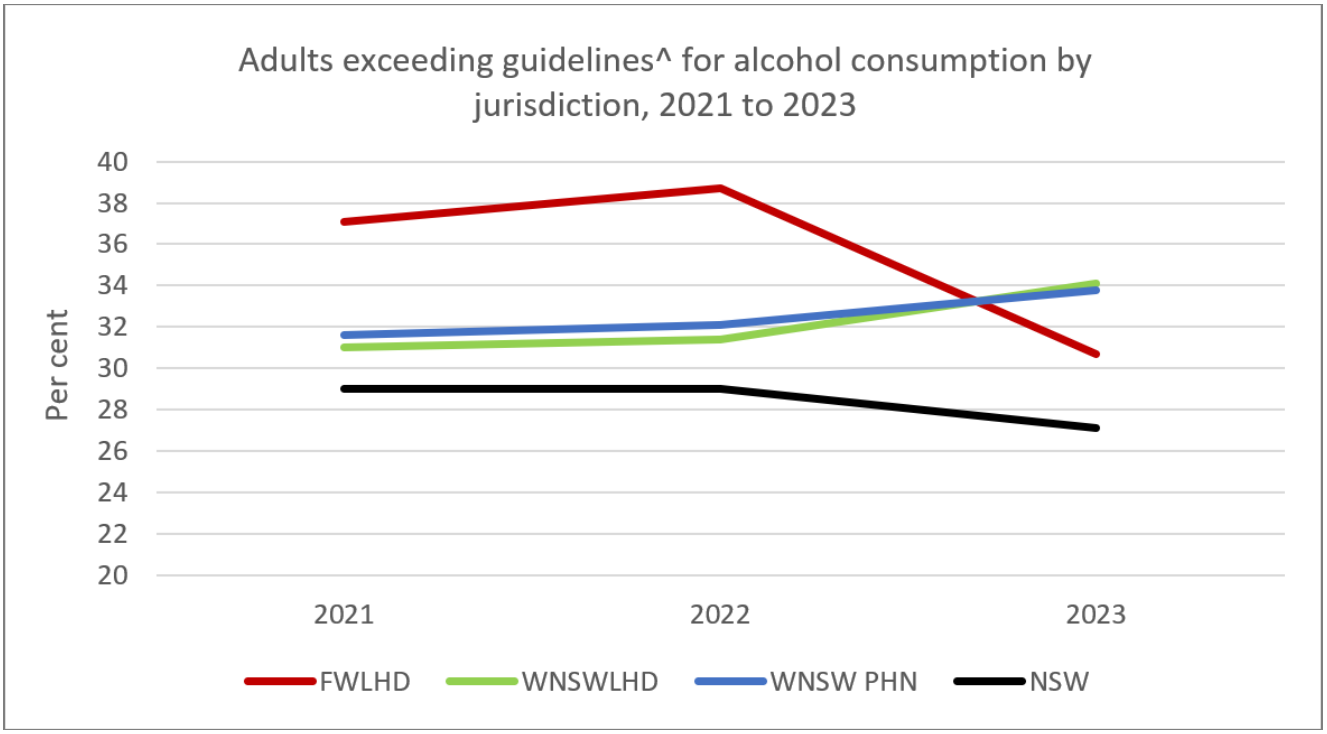



***Figure 8.1 Trends in alcohol consumption that exceed the guidelines by jurisdiction, 2021 to 2023.***

^No more than 10 standard drinks per week *and* no more than 4 standard drinks on any one day for healthy men and women. Both criteria must be met.

NB. Only three years of data available.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

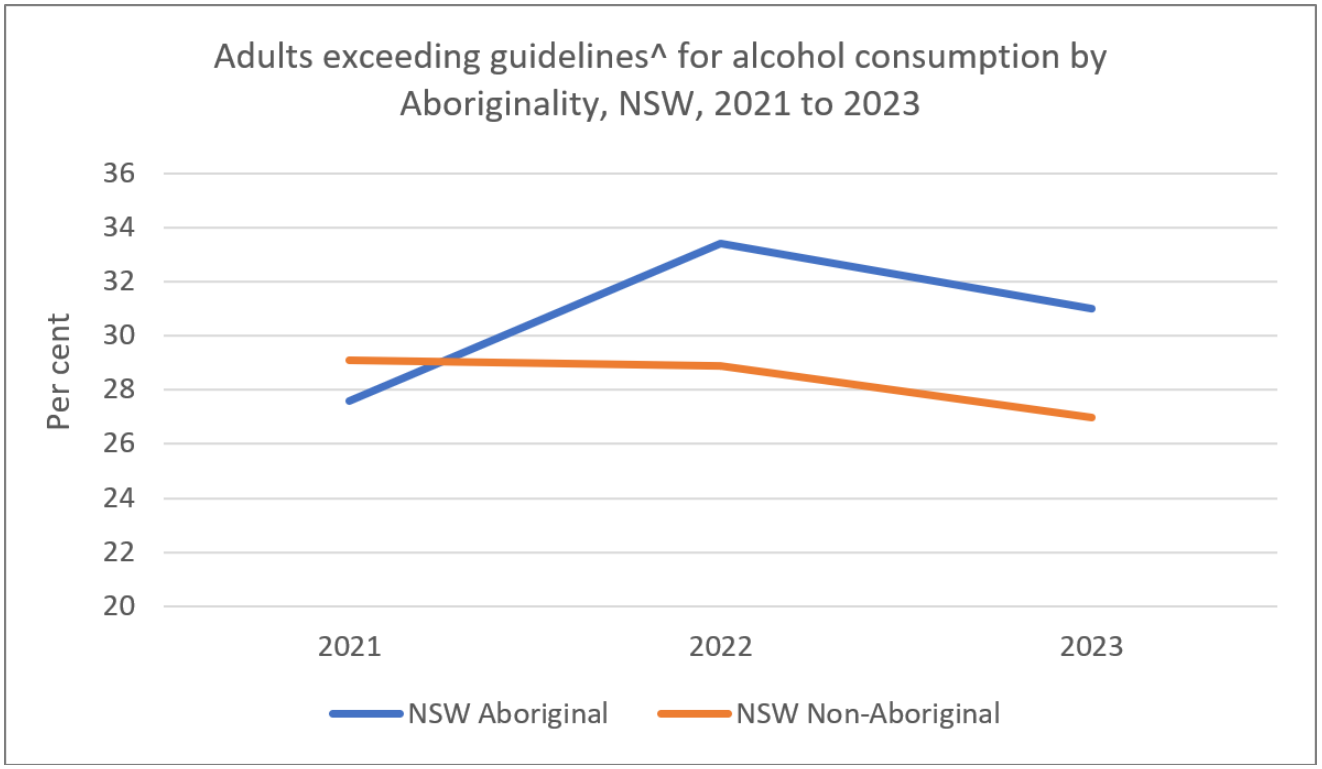



***Figure 8.2 Trends in alcohol consumption that exceed the guidelines by Aboriginality, NSW, 2021 to 2023.***

^No more than 10 standard drinks per week and no more than 4 standard drinks on any one day for healthy men and women. Both criteria must be met.

NB. Only three years of data available.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Daily consumption by gender

No alcohol consumption is considered completely safe or risk-free. The Department of Health & Ageing, Australian Government, states that "the less you drink, the lower your risk of harm"[18]. Data indicating alcohol consumption that exceeds NHMRC Guideline 1 (2020) by gender are not currently available. While daily consumption of alcohol is not a measure of harm, it nonetheless provides a comparison between male and female drinking behaviours.

Between 2018-2019 and 2022-2023, the proportion of females consuming alcohol on a daily basis in FWLHD, WNSWLHD and WNSW PHN was 3%, 11% and 10% higher, respectively, than that of NSW females, while that for males was 42%, 58% and 56% higher, respectively, than that of NSW males (Figure 8.3).

[18] https://www.health.gov.au/topics/alcohol/about-alcohol

For the same reporting period, the proportion of males consuming alcohol on a daily basis was twice that of females in NSW and nearly three times that of females in WNSW (Figure 8.3).

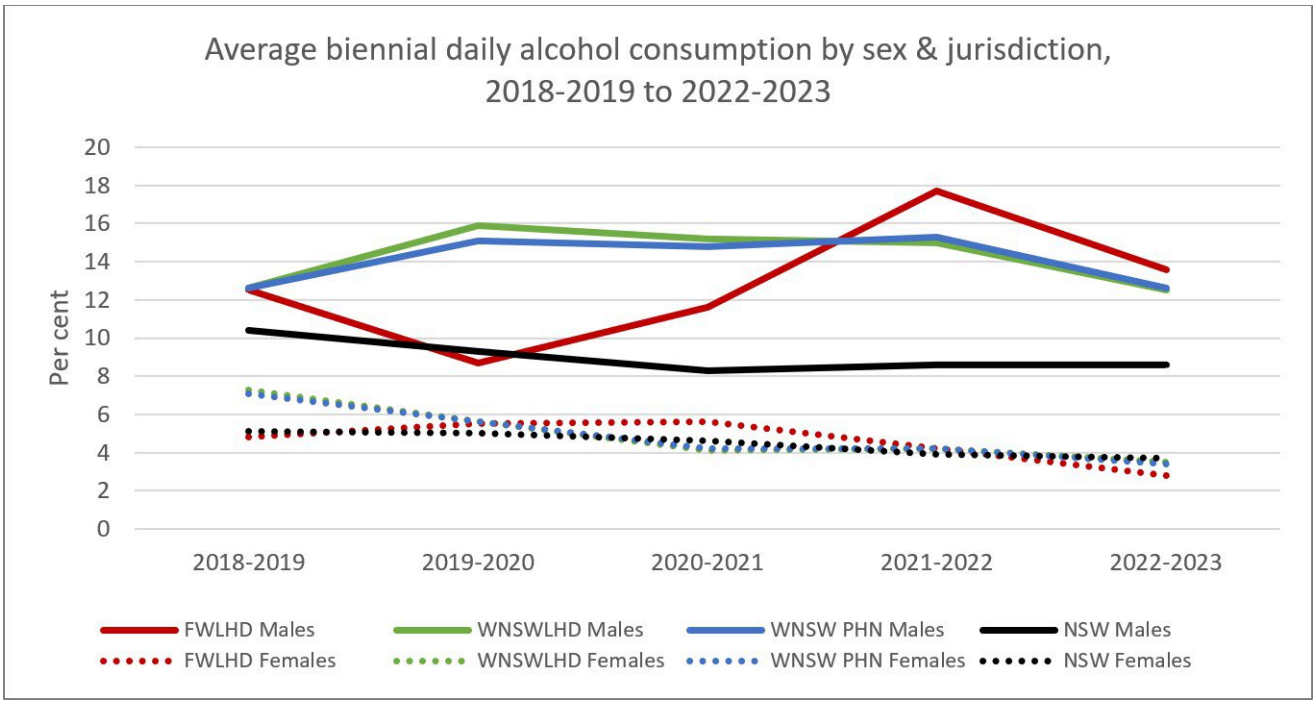



***Figure 8.3 Trends in average biennial daily alcohol consumption by sex and jurisdiction, 2018-2019 to 2022-2023.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Mortality

Between 2016-2017 and 2020-2021, the average biennial rate of alcohol-attributable deaths was highest for FWLHD and greater than that of NSW by 86% (Figure 8.4). The rates for both WNSWLHD and WNSW PHN were higher than that of NSW by approximately 33% and 38%, respectively. Compared to 2016-17, rates in 2020-21 were lower in all jurisdictions by 17% (FWLHD), 12% (WNSWLHD), 13% (WNSW PHN) and 9% (NSW).

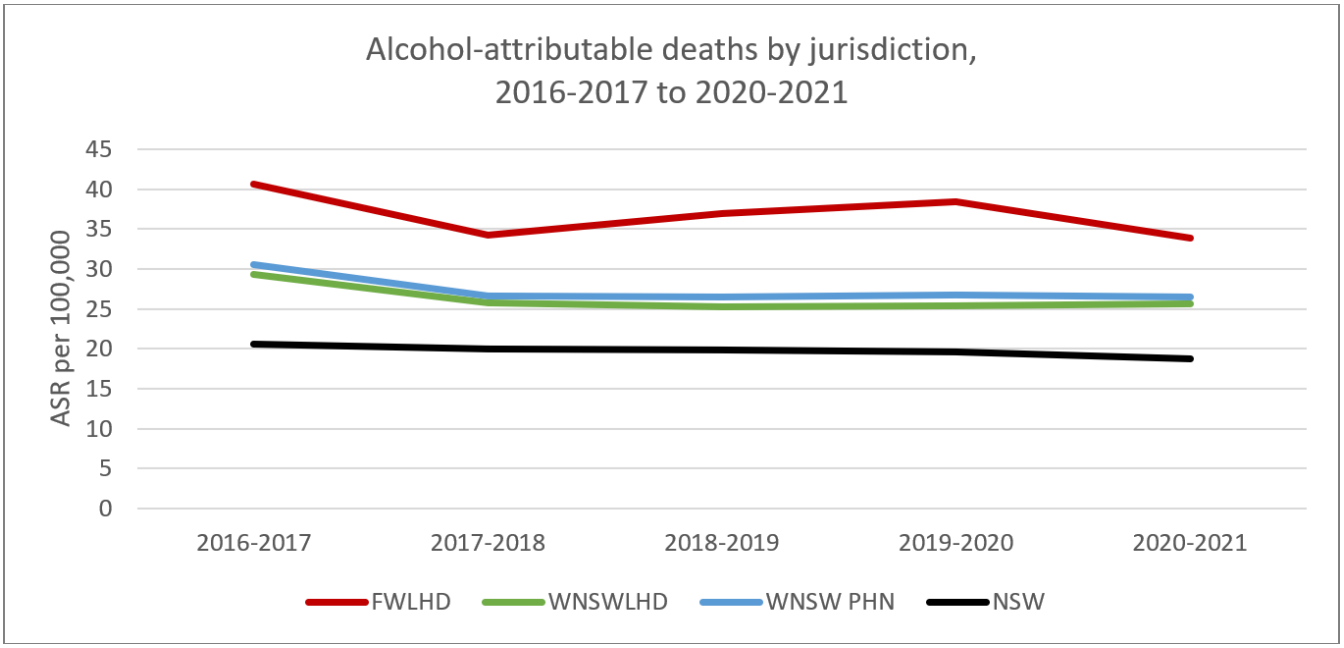



***Figure 8.4 Trends in alcohol-attributed death rates (age-standardised) by jurisdiction, 2016-2017 to 2020 -2021.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

For the same reporting period and across all jurisdictions, the average biennial rate of alcohol-attributable deaths was 2-3 times higher among males than females. Indeed, compared to females, rates among males were higher by 3.3 times in FWLHD, 2.2 times in WNSWLHD, 2.3 times in WNSW PHN and 2.0 times in NSW (Figure 8.5).

Compared to NSW males, rates of alcohol-attributable deaths among FWLHD males were 2.1 times higher, and 40% higher for both WNSWLHD and WNSW PHN males. Compared to NSW females, average biennial rates among FWLHD, WNSW PHN and WNSWLHD females were higher by 30%, 26% and 25%, respectively (Figure 8.5).

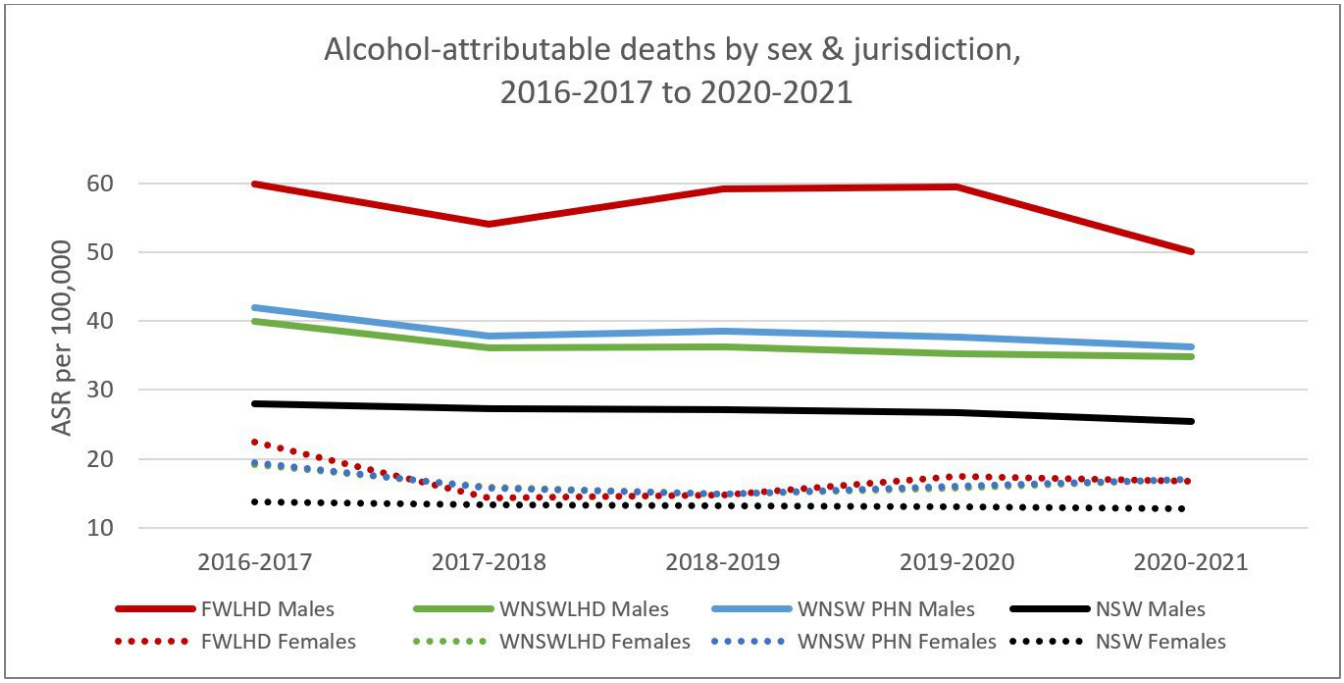



***Figure 8.5 Trends in average biennial alcohol-attributable death rates (age-standardised) by sex and jurisdiction, 2016-2017 to 2020-2021.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2016-2017 and 2020-2021, the average biennial alcohol-attributable death rates were higher in all WNSW PHN LGAs than in NSW (Figure 8.6; Table A.8.1 – see Appendix). Broken Hill reported the highest death rate being 32% higher than that of NSW. Oberon reported the lowest death rate but still higher than NSW by 9%.

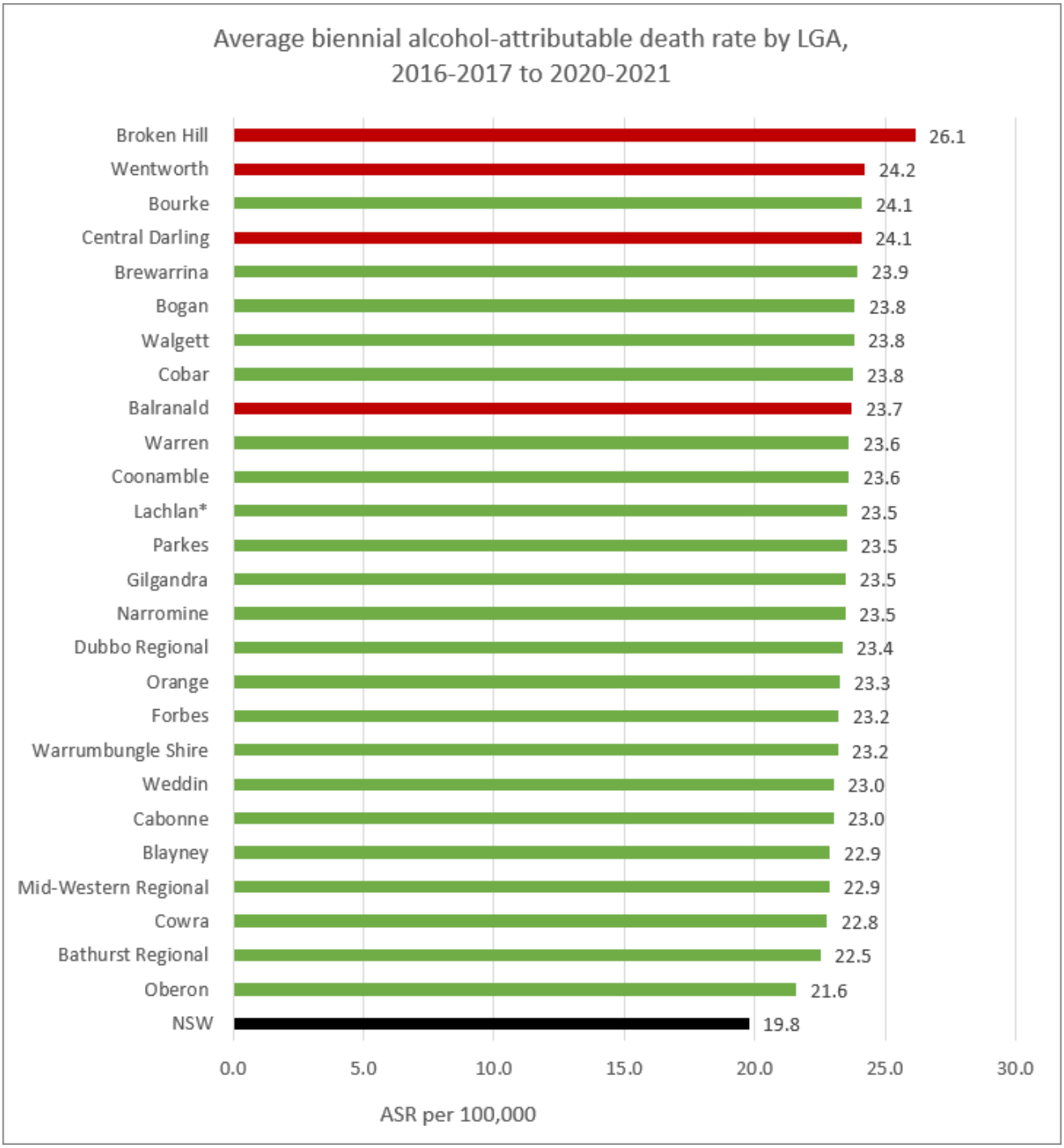



***Figure 8.6 Average biennial alcohol-attributable death rate (age-standardised) by local government area, 2016-2017 to 2020-2021.***

LGA=local government area Far West LHD LGAs Western NSW LHD LGAs

*Includes Western NSW & Murrumbidgee LHD portions Data not available for Unincorporated FW ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Emergency department presentations: Alcohol-related

Between 2018-19 and 2022-23, the average annual rate of emergency department (ED) presentations due to alcohol problems* within WNSW PHN was 22% greater than that for NSW (Figure 8.7). For FWLHD and WNSWLHD the rate was greater than that of NSW by 2.1 times and 13%, respectively.

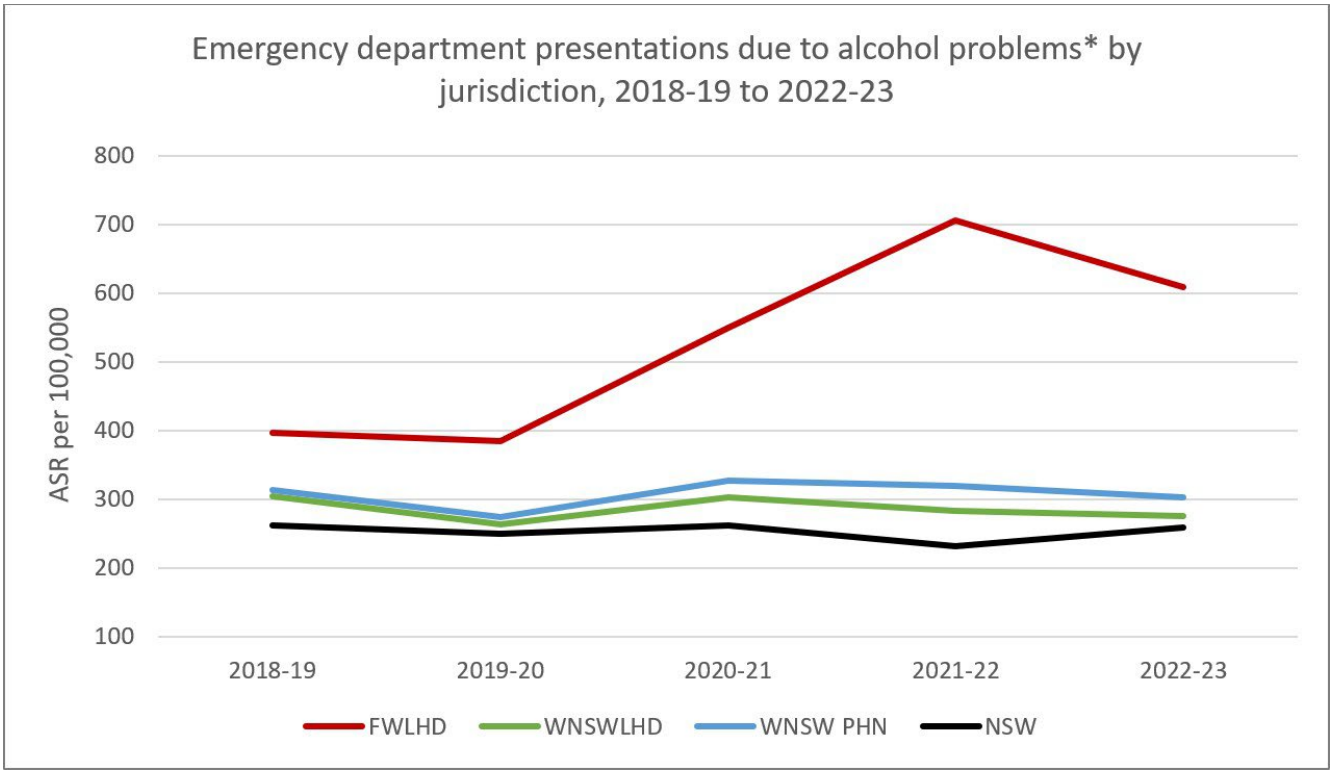



***Figure 8.7 Trends in emergency department presentation rates (age-standardised) due to alcohol problems* by jurisdiction, 2018-19 to 2022-23.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2018-19 and 2022-23, the average annual rate of alcohol-related ED presentations among males was higher than among females by 42% in WNSWLHD, 57% in WNSW PHN and 69% in NSW (Figure 8.8). However, for FWLHD, rates among males were three times that of females.

For the same period, alcohol-related ED presentation rates were higher among Western NSW males than among NSW males by 5% (WNSWLHD), 18% (WNSW PHN) and 2.5 times (FWLHD) (Figure 8.8). For Western NSW females, rates were higher than among NSW females by 26% (WNSWLHD), 27% (WNSW PHN) and 41% (FWLHD).

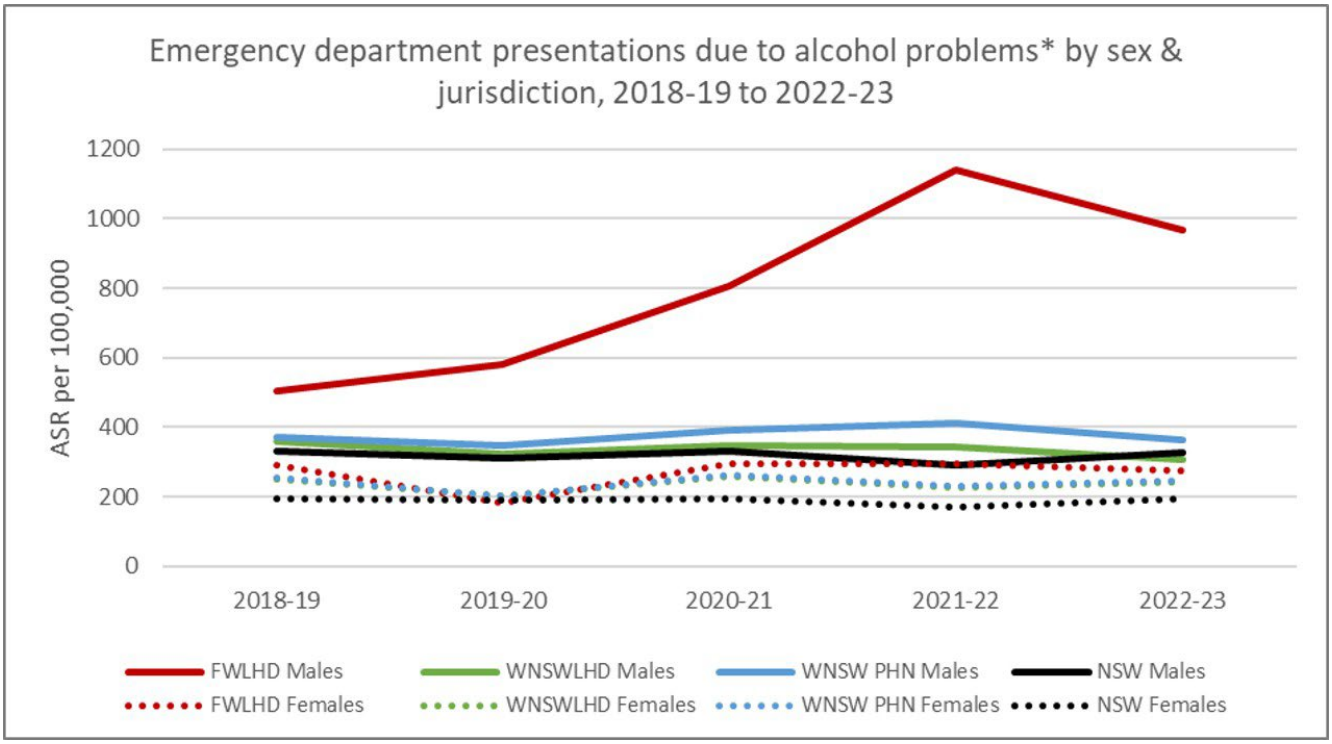



***Figure 8.8 Trends in emergency department presentation rates (age-standardised) due to alcohol problems* by sex & jurisdiction, 2018-19 to 2022-23.***

ASR=age-specific rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

* "This indicator includes acute intoxication and chronic alcohol problems and is estimated to identify only about 24% of all alcohol-related ED presentations because many are either coded as other problems (e.g. injury), or patients leave before diagnosis and treatment occur (Indig et al. 2008). A review of 1,000 presentations from this category found that 54% were for acute alcohol intoxication, 12% for chronic alcohol problems where the person was intoxicated, 14% for chronic alcohol problems and 21% could not be classified."

https://www.healthstats.nsw.gov.au/#/indicator?name=-beh-alc-ed&location=NSW&view=Trend&measure=DSTRate&groups=Sex&compare=Sex&filter=Sex,Males,Females,Persons
(Accessed 15 May 2024)

## Hospitalisations

### Alcohol-attributable hospitalisations

Between 2017-18 and 2021-22, the average annual rate of alcohol-attributable hospitalisations among WNSWLHD and WNSW PHN residents was lower than that among NSW residents by 20% and 18%, respectively (Figure 8.9). However, for FWLHD, alcohol-attributable hospitalisation rates were similar to that of NSW.

At the time of this report, alcohol-attributable hospitalisation rates by Aboriginality were available only for NSW and not for Western NSW jurisdictions. Between 2017-18 and 2021-22, the average annual alcohol-attributable hospitalisation rates among Aboriginal residents of NSW were nearly twice that of non-Aboriginal residents (Figure 8.10).

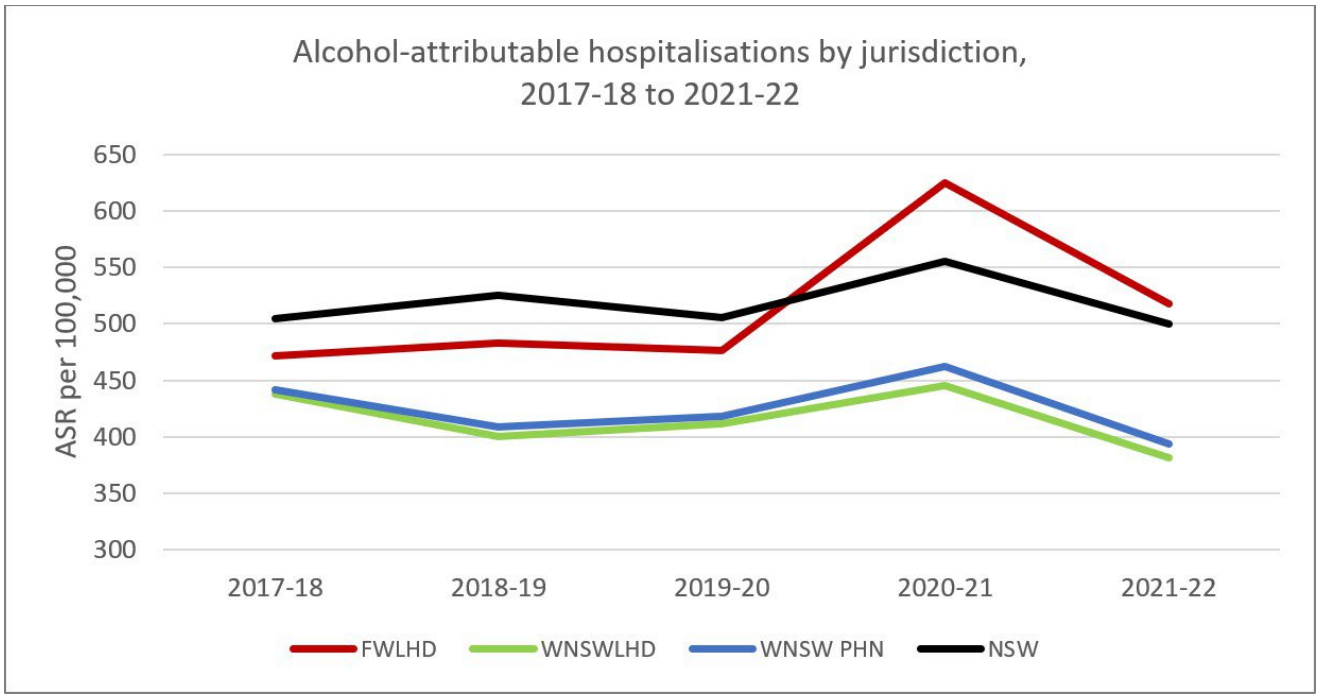



***Figure 8.9 Trends in alcohol-attributable hospitalisation rates (age-standardised) by jurisdiction, 2017-18 to 2021-22.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

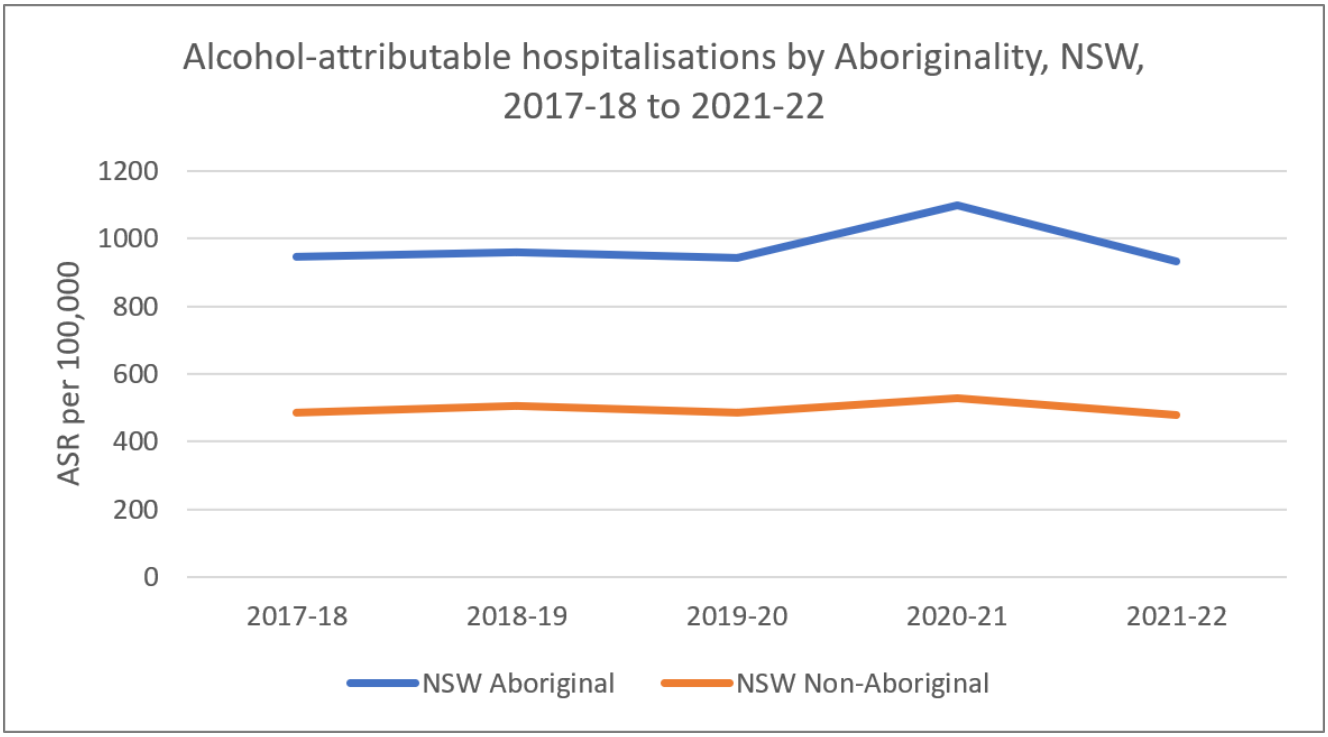



***Figure 8.10 Trends in alcohol-attributable hospitalisation rates (age-standardised) by Aboriginality, NSW, 2017-18 to 2021-22.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Alcohol related mortality and ED presentation rates are significantly high in the region with lower rates of hospitalisations. This suggests there are gaps in services that support people to manage excess alcohol consumption in the community leading to people presenting to ED for help.

Consultations suggested that workforce skills and capacity in cultural sensitivity and trauma-informed care are lacking, resulting in inconsistent and sometimes inappropriate care for Aboriginal people in the region. Additionally, low health literacy, previous negative experiences, racism and the stigma associated with seeking alcohol and other drug services deter individuals from accessing support.

In 2023, episodes of care recorded in the AODT N/MDS were highest for alcohol as the principal drug of concern (1328.20 per 100,000 population). This was followed by amphetamines (867.20 per 100,000 population), cannabis (486.50 per 100,000 population) and heroin (175.80 per 100,000 population).

Males in the region received 63.37% of the episodes of care, females received 35.83% of episodes of care and gender was not stated for 0.81% of episodes.

In WSNW PHN, Aboriginal people received 45.9% of episodes of care and non-aboriginal people received 51.0 % of episodes. This was significantly different to proportions in Australia overall, in which 18% of episodes were delivered to Aboriginal people and 79.3% were delivered to non-Aboriginal people.

Adults aged 20-49 years received the majority of episodes of care in WNSW PHN. People aged 30-39 years received the most episodes, making up 30.0%, followed by 20-29 years with 26.2% of episodes and 40-49 years 22.25% of episodes. This reinforces consultation feedback that young adults in the region are struggling with a multitude of stressors and using alcohol and other drugs to cope and seek relief.

Non-residential treatment was the most common setting for services to be delivered accounting for 81% of episodes of care delivered. Residential treatment accounted for 13.25% of episodes and treatment delivered at home made up 4.84% of episodes of care.

AOD Services delivered in an appropriate setting was raised in consultation frequently. Some feedback suggested that more residential treatment facilities were needed to support community members to detox and rehabilitate away from social and environmental factors that expose them to triggers for their alcohol and drug use. Other feedback indicated that greater support for in-home and in-setting detoxification and rehabilitation was needed to support people in the community.

The majority of episodes of care were for counselling, with 386 episodes per 100,000 population, followed by Assessment only with 288 episodes per 100,000. The high rates of episodes for assessment only may indicate the lack of available services to refer into. Other reasons include reluctance of the patient to engage with or continue care and unsuitable assessment of the patient for the available services.

The most common source of referral is from the patient or family, accounting for 41.4% of referrals. The next most common source was from health services (31.4%) followed by corrections (16.2%). Outreach to communities to support people in seeking help and reducing barriers due to stigma was raised in consultations as an important element of support for people with alcohol and other drug use issues.

## Illicit drugs

Illicit drug use affects individuals, families and the broader Australian community and is a significant contributor to health issues, including overdose incidents, injury and death. There is a high rate of comorbidity with mental health conditions as well as social impacts such as violence, crime and trauma[19].

Mental health and alcohol and other drug use issues are closely intertwined, with many individuals presenting at emergency departments due to combined mental health and substance use crises. Overdose incidents, particularly with substances like nitazines, were reported as a growing concern during consultations. The prevalence of domestic and family violence is also a significant concern, affecting not only victims but also increasing the likelihood of substance misuse as a coping mechanism.

Drug use, including methamphetamine, fentanyl, prescription opioid and marijuana, were discussed in consultations as common across the region, partly due to local manufacture of amphetamines in some communities and easy access through local networks and neighboring towns.

Consultations suggested that children and young people in these regions often turn to drug use as a coping mechanism for boredom, isolation, and limited opportunities for employment. There was concern that addictive behaviours were being established early and then continuing into adulthood.

The broader social determinants of health - employment, housing stability, and community cohesion - are critical to understanding AOD use in the region. It was reported in consultations that the post-COVID employment landscape has left many reliant on government payments, with limited motivation to re-enter the labour market due to low wages relative to benefits. Poor housing quality, lack of employment opportunities, and minimal recreational infrastructure create a cycle of hopelessness, where individuals feel they have little to look forward to or aspire to achieve. This pervasive sense of despair for some people fuels alcohol and other drug use as a temporary escape from chronic socio-economic stressors.

It was reported that prescription medications, particularly opioids and fentanyl, are widely misused across the region. In consultation with clinicians, it was reported that some GPs do not prescribe schedule 4 or schedule 8 medication due to past experiences of aggressive and abusive behaviours from patients. It was also added that some pharmacies will not stock these medications because of similar concerns about safety. It was suggested that this misuse is often exacerbated by the lack of local drug and alcohol services, leading some individuals to self-medicate. Another perspective that clinicians raised was that people who required schedule 4 or schedule 8 medication to manage chronic pain or other medical conditions were facing discrimination and difficulties accessing the medication due to the hesitancy of some GPs to prescribe it and pharmacies to supply it.

Lack of alcohol and other drug services in many of the rural and remote communities mean that individuals with drug dependencies must travel long distances for support, if they access support at all. This can be particularly difficult for Aboriginal people if they are required to leave community and Country to receive treatment.

[19] Source: AIHW https://www.aihw.gov.au/reports/illicit-use-of-drugs/illicit-drug-use)

Consultations highlighted the high correlation between trauma and drug use and a pressing need for trauma-informed care within health and justice systems. Emphasizing harm minimization, early intervention, and culturally sensitive support to help reduce reliance on drug use as a coping mechanism.

### Emergency department presentations

Note that data for illicit drug harm is available only by regional and metropolitan LHDs and not by individual LHD, PHN or LGA.

Between 2018-19 and 2022-23, the average annual rate of unplanned emergency department presentations for oxycodone was higher in regional LHDs than metropolitan LHDs by 38% (Figure 8.11). In metropolitan LHDs, presentation rates for methamphetamine were higher than in regional LHDs by 37%, while that for heroin was higher by more than 3 times. There was little difference between metropolitan and regional presentation rates for codeine and fentanyl.

At the end of the reporting period (2022-23), all illicit drug-related ED presentation rates were lower than at the beginning (2018-19), except for methamphetamine in metropolitan LHDs (Figure 8.11).

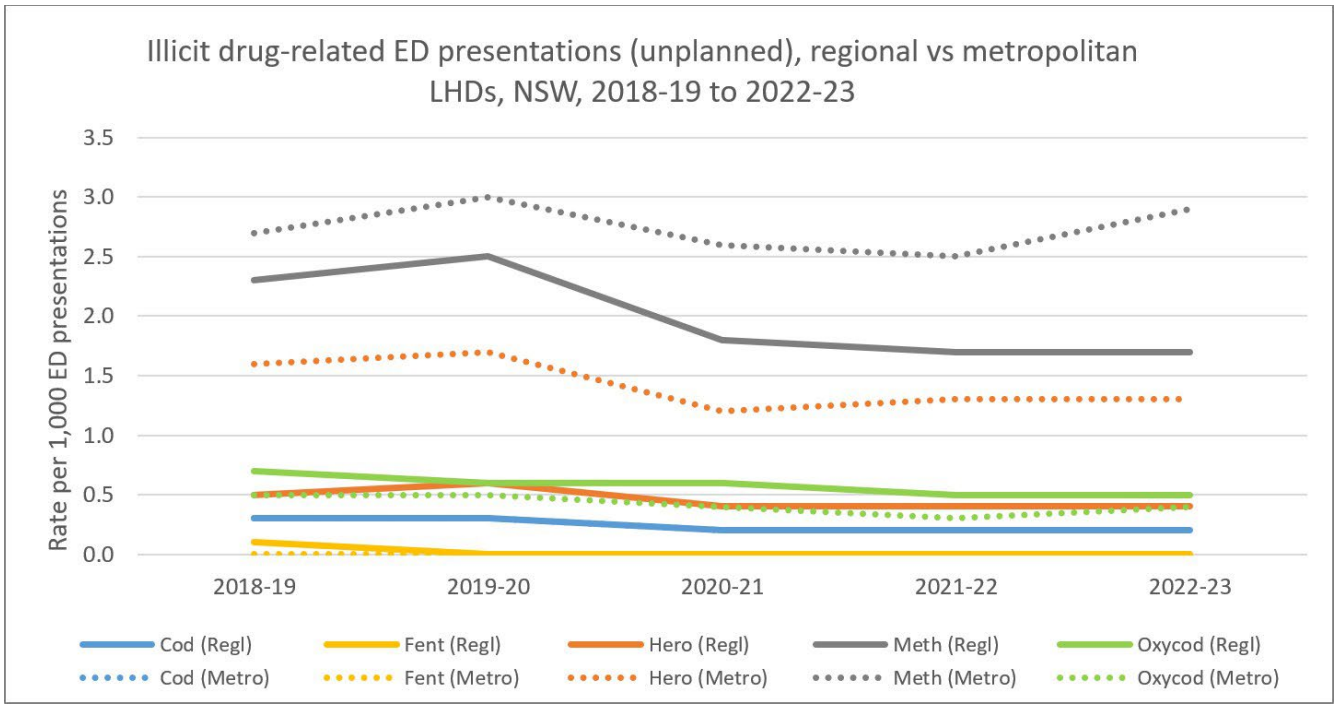



***Figure 8.11 Trends in illicit drug-related emergency department presentations (unplanned), regional vs metropolitan LHDs, NSW, 2018-19 to 2022-23.***

ED=emergency department, LHD=local health district, Cod=Codeine, Fent=Fentanyl, Hero=Heroin, Meth=Methamphetamine, Oxycod=Oxycodone, Regl=regional, Metro=metropolitan
NB. Rates are expected to be an underestimate of actual rates due to data coding practices.
Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2018-19 and 2022-23, of the five drug-related ED presentations identified in Figure 8.12, the most commonly occurring presentation was for methamphetamine (Met), with that in regional LHDs slightly higher than in metropolitan LHDs by 6% (i.e. 60% vs 57%). Oxycodone-related presentations were the second most commonly occurring in regional LHDs (18%), being twice that of metropolitan LHDs (8%). Codeine and fentanyl-related presentations were also higher in regional than in metropolitan LHDs by 49% and 2.3 times, respectively. Only heroin-related presentations in regional LHDs were lower than that of metropolitan LHDs, that is by 53%.

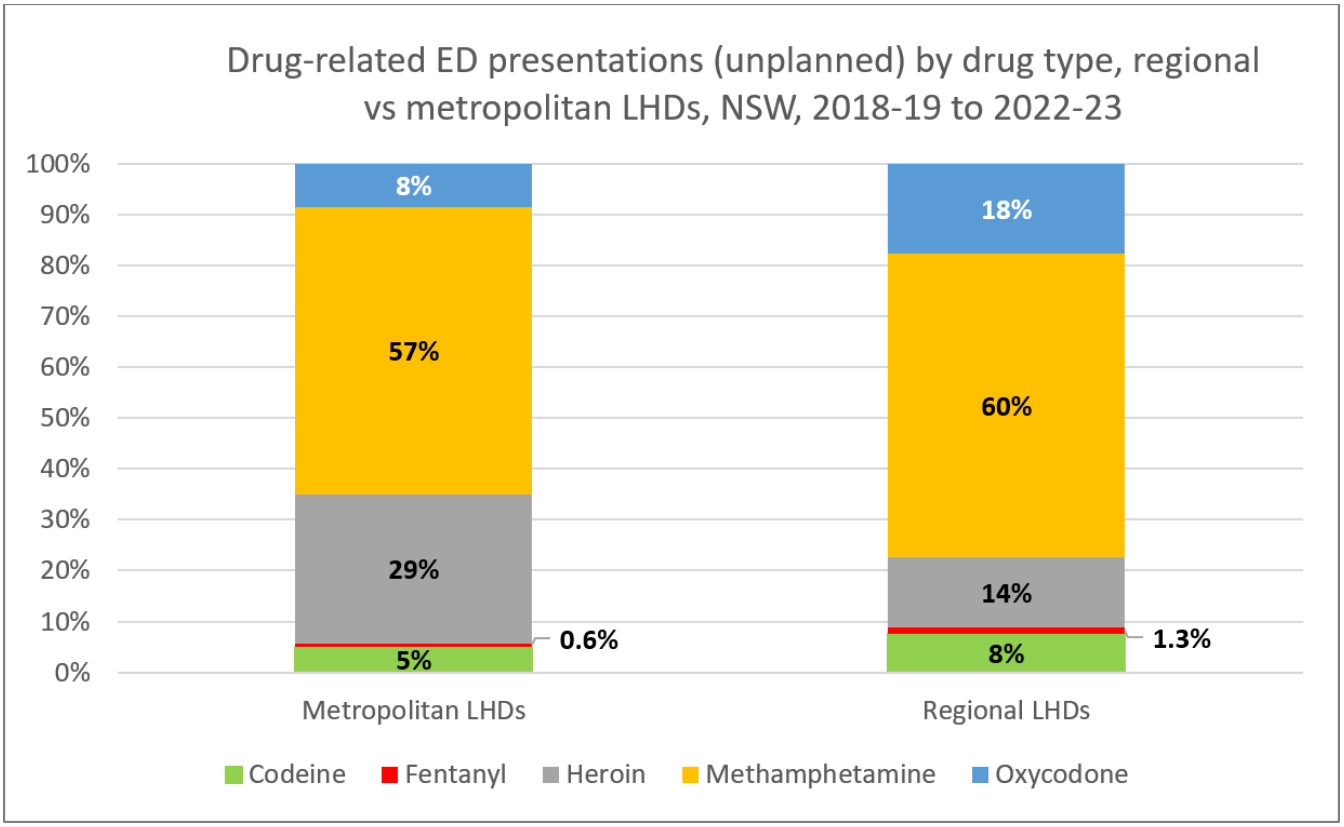



***Figure 8.12 Illicit drug-related emergency department presentations (unplanned) by drug type, regional vs metropolitan LHDs, NSW, 2018-19 to 2022-23.***

ED=emergency department

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Non-medical use of cannabis

Between 2018 and 2023 (excluding 2020), self-reported non-medical use of cannabis in the previous 12 months was lower in all Western NSW jurisdictions than in NSW (Figure 8.13). Cannabis use was highest in WNSWLHD (6.4%) and lowest in FWLHD (5.4%). These rates were lower than that for NSW by 22% and 34%, respectively.

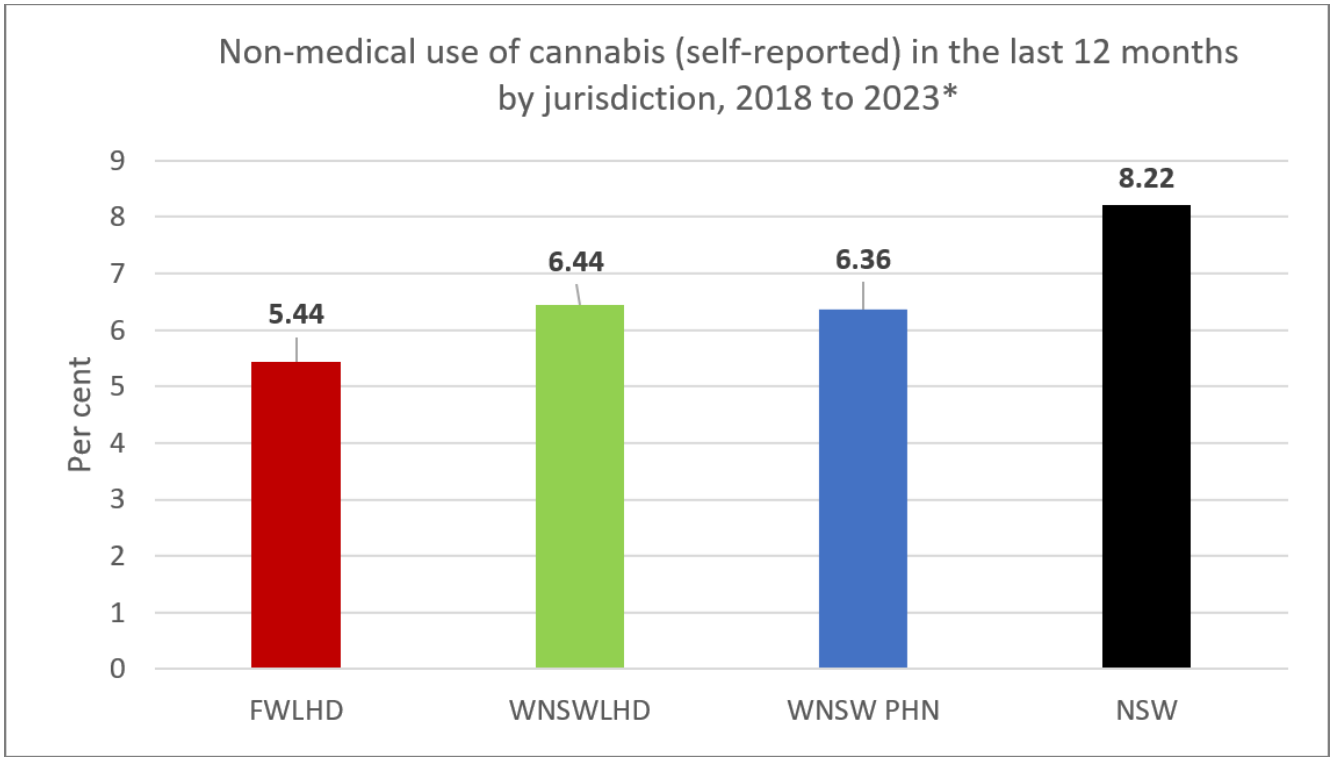



***Figure 8.13 Non-medical use of cannabis (self-reported) in the last 12 months by jurisdiction, 2018 to 2023 (excluding 2020).***

*Data not available for 2020

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

# Chapter 9. Mental Health and Wellbeing

## Summary

| Chapter 9. Mental Health | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| **Psychological Distress** | | | | | |
| High or very high Psychological distress - male (cf NSW) | 2015-2017 to 2019-2021 | *25% higher* | *0% - same* | *3% higher* | *Not Applicable* |
| High or very high Psychological distress - female (cf NSW) | 2015-2017 to 2019-2021 | *1% lower* | *25% lower* | *23% lower* | *Not Applicable* |
| **Mortality** | | | | | |
| Rate (all persons) | 2017-2021 | *Not available* | *Not available* | *Not available* | *31 / 100,000* |
| Rate in 2021 (cf. 2017) | 2017-2021 | | | | *7% lower* |
| **Hospitalisations** | | | | | |
| Rate (cf. NSW) | 2017/18-2021/22 | *17% lower* | *32% lower* | *31% lower* | *NApp* |
| Rate in 2021/22 (cf. 2017/18) | 2017/18-2021/22 | *13% lower* | *17% lower* | *16% lower* | *2% lower* |
| Male (M) vs female rate (F) | 2017/18-2021/22 | *M>F by 69%* | *F>M by 5%* | *M>F by1%* | *F>M by 16%* |
| Intentional self-harm rate (cf. NSW) | 2017/18-2021/22 | *1.3 x higher* | *19% higher* | *30% higher* | *Not Applicable* |
| **Emergency department presentations** | | | | | |
| Rate (cf. NSW) | 2018/19-2022/23 | *Not available* | *58% higher* | *61% higher* | *Not Applicable* |
| Rate in 2022/23 (cf. 2018/19) | 2018/19-2022/23 | *Not available* | *3% lower* | *2% lower* | *3% lower* |
| **Suicides** | | | | | |
| Rate (cf. NSW) | 2017-2021 | *Not available* | *46% higher* | *53% higher* | *Not Applicable* |
| Rate in 2020 (cf. 2016) | 2017-2021 | *Not available* | *14% higher* | *17% higher* | *14% lower* |

Mental health is a significant priority for WNSW PHN. A mental health concern or mental health issue can interfere with how a person thinks, feels and behaves, but not to the extent that it meets the criteria for a mental illness diagnosis[20]. Mental illness or mental disorder are commonly used terms to describe conditions diagnosed by a medical professional that significantly affects how a person thinks, feels and interacts with other people[21]. For some people and communities, the word 'mental' has negative connotations, and therefore when referring to services the term mental health and wellbeing services are preferred.

People across the WNSW region experience significantly high rates of mental health related ED presentation, intentional self-harm, and suicide. Support for people experiencing mental health illness and emotional distress was raised as a significant concern with a need for greater access to free or low-cost services, greater support in schools and community settings, more locally designed and community focused programs and reduced travel to access services. Smaller, rural and remote communities and Aboriginal people and communities across the region were particularly affected by mental health issues due to complex issues including isolation, financial distress, hopelessness, high chronic disease burden, interrelated alcohol and other drug use, trauma and racism.

High rates of mental health related ED presentation but comparatively lower rates of hospitalisation highlighted a significant service gap of a lack of accessible alternative services in the community, particularly lower acuity services. This was substantiated during consultation by both community

[20] Source: https://mindframe.org.au/glossary-of-terms
[21] Source: https://www.aihw.gov.au/getmedia/1838295a-5588-4747-9515-b826a5ab3d5a/aihw-aus-221-chapter-3-12.pdf.aspx

and clinicians describing lack of appropriate services to refer into and poorly managed patient care for those seeking help.

Suicide prevention programs and family and community support for people affected by suicide was identified in consultations as crucial to addressing the significantly high rates of suicide and high levels of distress and despair in the region.

Consultations revealed communities and services providers are willing and motivated to address the emotional and mental wellbeing challenges currently being experienced across the region. Greater support for small, locally based service providers was identified as an important element of this change. Aboriginal communities were also identified as critical to improving community outcomes through local consultation, design and delivery of interventions, leveraging the Aboriginal sector to support communities and supporting small organisations to be part of service delivery.

There is opportunity for accessibility and appropriateness of services to be substantially improved, and to deliver services to be more place based, flexible, person-centred and to reconsider eligibility criteria, delivery modality and longer-term support for people.

### Psychological distress, mental illness and their risk factors

The Kessler 10 (K10) is a 10-item questionnaire that scores the level of psychological distress among adults by measuring anxiety, depression, agitation, and psychological fatigue in the most recent 4-week period (Centre for Epidemiology and Evidence. HealthStats NSW). While there is a strong association between high K10 scores and the diagnosis of a mental illness, it should be noted that a high score in itself is not a diagnosis of a mental health illness. High scores on the K10 assessment indicate the likely presence of a mental health illness and high levels of psychological distress can have a negative impact on a person's life and overall wellbeing.

The categories of psychological distress and their K10 scores are:

- Low (10.0-15.9)
- Moderate (16.0-21.9)
- High (22.0-29.9), and Very high (30.0 and over).

Figure 9.1 summarises the percentage of adults reporting high or very high levels of psychological distress, by sex and jurisdiction for 2015-2017 and 2019-2021 combined. Both females and males reported higher rates of high distress compared with very high distress. A greater proportion of females and males in FWLHD reported high psychological distress compared with WNSWLHD and NSW. As clear a trend was not seen for very high levels of psychological distress.

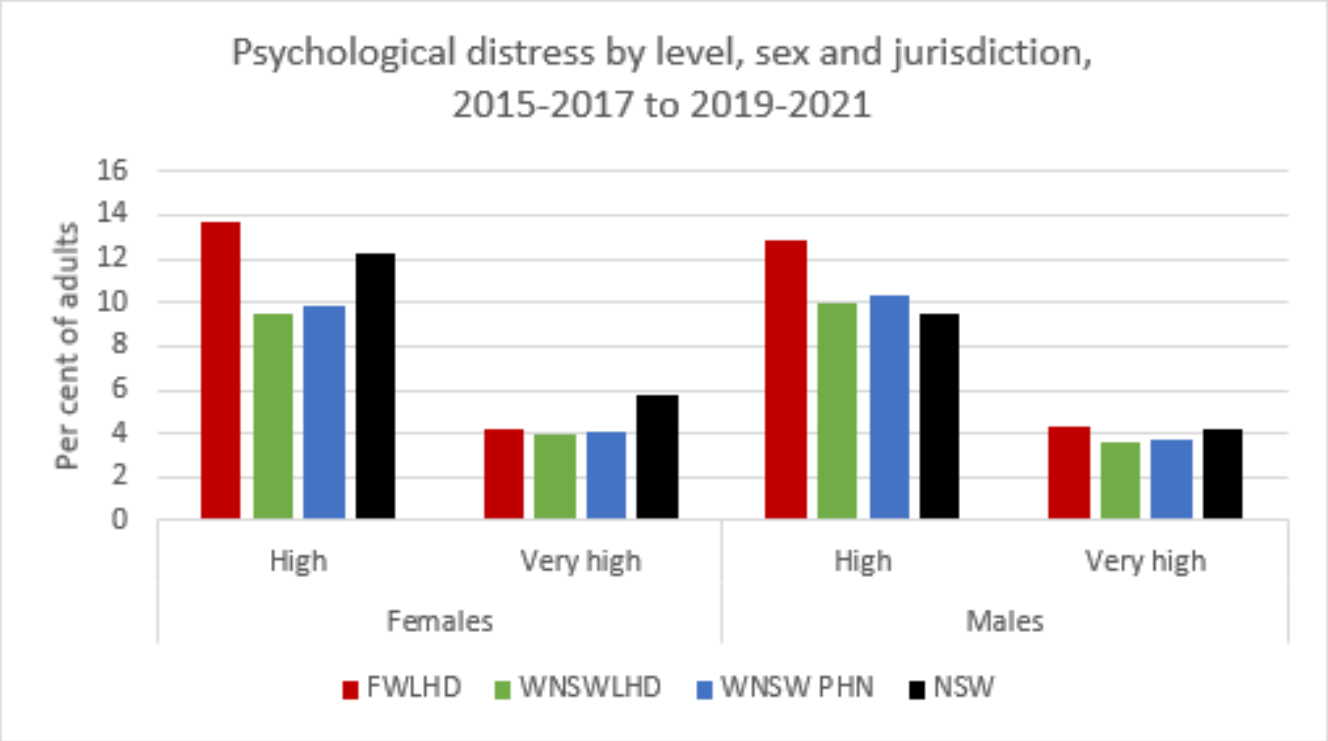



***Figure 9.1 Percentage of adults in psychological distress by level, sex and jurisdiction, 2015-17 to 2019-21.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

Table 9.1 and Figure 9.2 reports on trends of high and very high levels of distress combined, that is, a K10 score of 22.0 or over. Between 2015-2017 and 2019-2021, FWLHD recorded the greatest proportion of adults with high or very high distress levels in the Western NSW jurisdictions (Table 9.1). Compared to their NSW counterparts, distress was 25% higher among FWLHD males and 1% lower among FWLHD females. For WNSWLHD and WNSW PHN, distress among females was lower than NSW females by 25% and 23%, respectively, while for males it was the same, and higher by 3%, respectively.

In 2019-2021, the proportion of adults with high and very high distress levels was greater than in 2015-2017 in all jurisdictions, except for FWLHD females and WNSW PHN males which were lower by 6% and unchanged, respectively. In Western NSW, the greatest increases in distress levels over time occurred among FWLHD and WNSW PHN males by 88% and 8%, respectively.

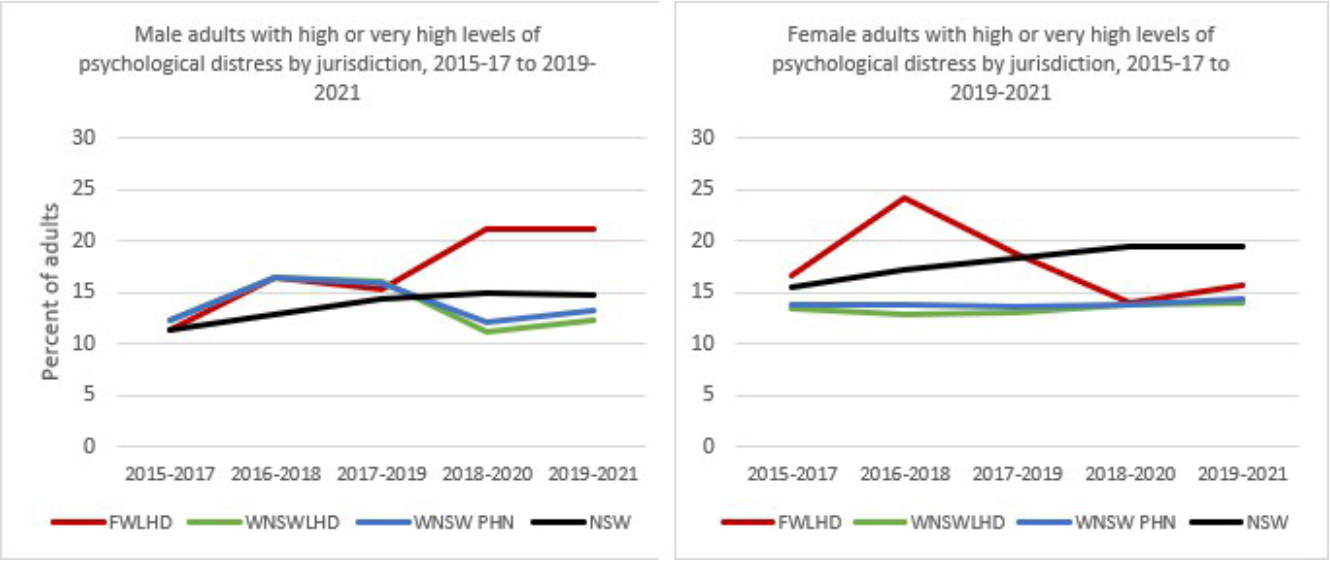
### *Table 9.1 Adults with high or very high levels of psychological distress by jurisdiction, 2015-2017 to 2019-2021.*

| | FWLHD | | WNSWLHD | | WNSW PHN | | NSW | |
|---|---|---|---|---|---|---|---|---|
| | Females | Males | Females | Males | Females | Males | Females | Males |
| Adults with distress[1] | 18% | 17% | 13% | 14% | 14% | 14% | 18% | 14% |
| Change over time[2] | -6% | 88% | 4% | 0% | 3% | 8% | 25% | 29% |
| Compared to NSW[3] | -1% | 25% | -25% | 0% | -23% | 3% | NA | NA |

[1]Percentage of adults with high or very high levels of psychological distress (K10=22.0 or more), averaged over 5 triennial collection points

[2]Percentage change in high or very high levels of psychological distress – 2019-2021 compared to 2015-2017

[3]Average (5-triennial) % of adults with high or very high levels of psychological distress compared to that of NSW.




### *Figure 9.2 Percentage of adults with high or very high psychological distress by sex and jurisdiction, 2015-17 to 2019- 21.*

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

Anxiety and depression are rapidly growing chronic conditions in Australia. In WNSW in 2021, 12% of the population have an active diagnosis with a GP of depression and 10.7% have an active diagnosis of anxiety. These rates are considerable higher in some locations across the region with Broken Hill LGA having the highest rate for both depression and anxiety[22].

Primary diagnosis data from the primary mental health care minimum data set (PMHC MDS) for the region indicates that anxiety and depression are the most common conditions that people are seeking support for in the region (with 266 referrals for a primary diagnosis of anxiety, 280 for depression, and 115 for mixed anxiety and depressive symptoms in 2023/24). This was followed by other diagnoses (151 referrals) and post-traumatic stress disorder (79 referrals). Number of referrals have been growing steadily in this data set overtime, as community needs, volume of services and reporting quality increases[23].

Poor mental health and wellbeing was seen as an important and growing issue for WNSW PHN during consultations, due to a combination of unique social, economic and geographic challenges in the region. People living in WNSW PHN report experiencing economic stress, insecure employment, and generational trauma, all of which influence prevalence of psychological distress and mental ill health.

Financial strain and cost of living pressures are being acutely felt in WNSW. Many people and families face economic challenges related to agriculture, mining, small businesses, and this is exacerbated in times of drought, natural disasters, or economic downturns. Financial strain and uncertainty were reported in both community and clinical consultations as substantially contributing to mental health stress, as well as presenting a significant barrier for people to proactively engage with health services and preventative behaviours.

Social isolation and loneliness were issues frequently raised in consultations as impacting the mental health and wellbeing of people in the region. Living in sparsely populated areas, as typical in many regions of WNSW, can lead to feelings of isolation and loneliness as individuals may be physically separated from friends, family and social networks. In rural regions there are also often fewer opportunities for recreational and community engagement. This isolation and disconnection with community can exacerbate feelings of depression, anxiety and other mental health conditions in all age groups. While isolation is a well-known issue impacting older people, who have more limited opportunities for socialisation, there are growing reports of young people being disengaged with family and community and even adults losing a sense of belonging in the community. Consultations also emphasised isolation in priority populations, particularly amongst LGBTIQ+ individuals who acutely feel a lack of connection and inability to self-identify in a way they feel comfortable with.

Stigma around mental health and wellbeing was emphasised during consultations as an issue significantly impacting the region. It was highlighted that in rural communities there is often a strong sense of self-reliance and a reluctance to seek help for mental health issues due to stigma or fear of judgment. It is important to note that stigma may influence self-reported data, such as K10 scores, and therefore actual prevalence of psychological distress in the region may be higher than reported here. Stigma can also influence diagnosis rates due to reluctance to seek health care, again meaning

[22] Source: PATCAT
[23] Source: Primary Mental Health Care Minimum Data Set

mental illness may be more common than reported here. Consultation feedback highlighted that some people and families did not seek professional support or discuss their mental health openly because of stigma. Discrimination and negative attitudes towards people with mental illness are deeply ingrained and highly prevalent in Australia, including self-stigma and the anticipation of discrimination[24]. While some progress has been made, continued efforts are clearly needed to increase education, reduce stigma and discrimination towards mental illness, and ultimately support social inclusion, recovery and improved wellbeing[25].

Individual identity, self-worth and self-esteem were prevalent issues raised in conversations as contributing to significant mental and emotional wellbeing burden across the region. Community and service provider feedback revealed that some men in regional and rural communities lack a strong model for healthy masculinity and struggle to develop a strong sense of self and belonging as individuals, family members and members of their communities. This was reported as critical to improving emotional wellbeing and combating significant social impacts such as alcohol and other drug use, family and domestic violence and employment.

Aboriginal people and communities across the WNSW region experience significant psychological distress and impacts from emotional and mental health. Community and service provider consultation revealed Aboriginal people were not receiving appropriate trauma-informed, culturally safe care in the community. Aboriginal people are experiencing racism when accessing services, diminishing trust in services and discouraging people from seeking help, particularly at early stages of preventative care, resulting in delayed contact with the system at more acute stages of mental illness and emotional and psychological distress. Aboriginal people were reported to be overrepresented in in-patient psychiatric care suggesting mental health and wellbeing was not well supported in the community.

[24] Source: Behavioural Economics Team of the Australian Government 2022 National Survey of Mental Health-Related Stigma and Discrimination https://behavioraleconomics.pmc.gov.au/sites/default/files/projects/stigma-survey-report.pdf
[25] Source: Centre for Mental Health, Melbourne School of Population and Global Health 2021 Reducing stigma and discrimination towards people with mental illness final summary and recommendations https://www.mentalhealthcommission.gov.au/sites/default/files/2024-08/misred---report-5---final-summary-and-recommendations.pdf

### Emergency department presentations (mental health related) and service alternatives

Hospital EDs play an important role in supporting people with mental illness, including after-hours care or as common initial point of contact with the health system. WNSW PHN experiences significantly high rates of ED presentations for mental health related illness which is an indication of unmet need for supporting people experiencing mental illness in the community. Providing appropriate, safe, compassionate and trauma informed care for people presenting to ED with mental illness and emotional distress and improving access and availability of mild-moderate intensity services within the community is therefore critical for the WNSW population.

Between 2018-19 and 2022-23, the average annual mental health-related ED presentation rates were higher in WNSW PHN and WNSWLHD than in NSW by 61% and 58%, respectively (Figure 9.8). Data for FWLHD were not available. Compared to 2018-19, presentation rates in 2022-23 were lower by 3% for WNSWLHD and 2% for WNSW PHN and WNSWLHD, and by 3% for NSW.

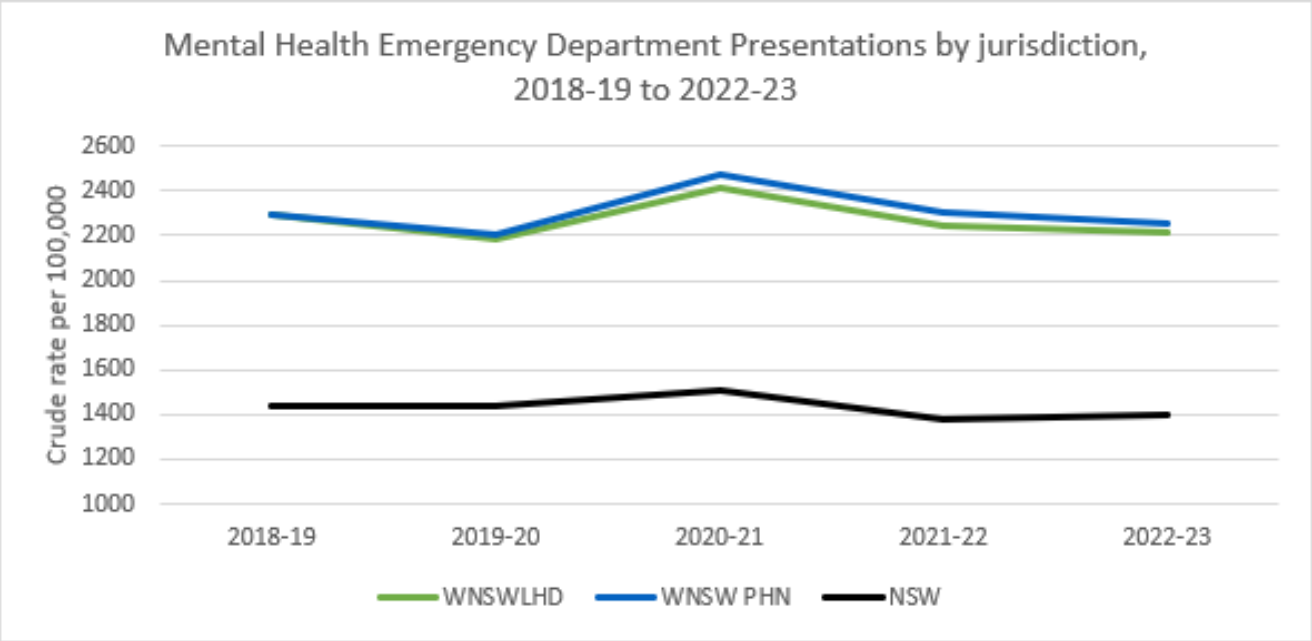



***Figure 9.3 Trends in mental health emergency department presentations by jurisdiction, 2018-19 to 2022-23.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

### Mental health and wellbeing services

Access to appropriate and timely mental health and wellbeing services was a primary concern during consultation, as the regional and remote area of WNSW have fewer healthcare facilities, a lack of workforce and a lack of specialist services (see chapter 14 workforce).

The long wait times for services were highlighted as particularly problematic during consultations. This includes wait times to see a GP, psychiatrist, psychologist or other allied health service. Wait times are increased in more remote areas that rely on satellite or fly in fly out services. Consultations also reported a considerable wait time for many community-based mental health and wellness

services. This is supported by PMHC MDS data showing an average of 38 days wait time for services (PMHC MDS). In this situation there are no widely available service alternatives, leading to delayed treatment, worsening mental health outcomes, or a presentation to ED.

Consultations highlighted that service shortages and wait times are compounded by the need to travel long distances to access the services that do exist, and the lack of public transport options in many regional towns. When services are not physically accessible, people tend to present to ED as the only alternative.

The increasing cost of living is severely impacting WNSW, and this was emphasised during consultations as a barrier to accessing service alternatives to ED, which is known within the community to be a free service. Consultation feedback highlighted the need for more bulk billed, low cost or free services, as there are currently financial barriers to accessing services for referrals, diagnoses and treatment. There was a perception in community and service providers that NDIS was as a potential avenue for funding for people requiring support for mental health issues that could not access services funded through medicare or other funded services.

When asked about appropriateness of existing services, some strengths were highlighted including satellite services however there were also many service gaps and these services were not seen as appropriate for all communities, particularly in small communities and Aboriginal communities.

Face to face compared to virtual services was frequently discussed in relation to service gaps for emotional and mental wellbeing services. Telehealth services do exist and are the preferred modality for service delivery for some services when the consultations are well supported through appropriate communications infrastructure, technology, clinical setting and patient support such as appointments facilitated by a care coordinator or Aboriginal health worker. A number of barriers to access and factors affecting quality of these services were highlighted which included lack of bulk billing, internet and device access issues, digital literacy issues, challenges in developing a rapport between clinician and patient, and negative connotations of screen-based care, particularly for those who have been incarcerated or severely isolated during COVID-19 pandemic restrictions.

Consultations also highlighted that there is not enough support for people transitioning out of hospital or other programs, as well as a need for greater care coordination between settings and services. Shared care was reported as challenging to implement, likely due to GP shortages and workforce stability across all healthcare roles. The most significant gap raised in consultations was support for mild-moderate services, particularly to support people who do not meet eligibility criteria for low intensity services whose mental and emotional health deteriorates while waiting to access appropriate services and resulting in presenting to ED when their condition escalates. Low intensity services were also considered lacking in availability and best practice implementation of stepped care models. Models that include outreach or connection with patients in social settings such as school based and peer-support programs reported greater patient trust, rapport and engagement with services providers.

Many services that do exist were considered too strict in terms of eligibility criteria, with GPs reporting eligibility criteria as too strict to appropriately encapsulate the complexities of patient needs, and providers reporting they have no choice but to turn people away from their services. Prescriptive models of care, in particular limitations on number of sessions/ occasions of service, were also considered too strict to meaningfully impact health outcomes with many patients. Lack of long-term support options were also highlighted, with consultation reporting that there should be

access to free longer term mental health support with psychological intervention. An example raised in consultations were service models that are limited to 10 or 12 sessions with one psychologist per year. These were raised as not providing sufficient services for people presenting with multiple mental health challenges or long-term illness. Providers, consumers and commissioners highlighted the need to provide more agile and flexible services, that are then better able to respond to community needs. Services to support Aboriginal people and communities need to be designed with local needs and patient needs at the centre of the care, staff need to be competently trained in cultural considerations, trauma and complex needs. Models of care should be patient centered, and people should have the flexibility to change programs or clinicians. Having the ability to change the model of care depending on the patient's journey of recovery will improve delivery of care.

### Trends by age

Looking at trends by age, between 2018-19 and 2022-23, ED presentation rates for mental health in WNSWLHD and WNSW PHN were higher than that for NSW for each age group by between 34% and 91% (Table 9.2). Those aged 18-34 years recorded the highest presentation rates compared to NSW (90-91%), followed by those aged 12-17 years (69-70%), 35-64 years (54-74%) and 65+ years (53-36%).

Compared to 2018-19, mental health ED presentation rates in 2020-21 were highest among those aged 12-24 years in WNSW PHN, with very slight changes in NSW and WNSWLHD (Table 9.2). For WNSW PHN, rates increased by 5% for 12–17-year-olds and by 6% for 18-24 year olds. For NSW, rates increased by 1% for 12–17-year-olds and fell by 1% for 18-24 year olds. Rate increases were still among those in the older age groups, with those aged 65+ years showing a small decline in rates across all jurisdictions.

*Table 9.2 Mental health emergency department presentation rates by jurisdiction and age group: rates compared to NSW and 2020-21 rates compared to 2016-17 rates.*

| | % change in rate* compared to NSW | | % change in rate* 2022-23 compared to 2018-19 | | |
|---|---|---|---|---|---|
| Age group | WNSWLHD | WNSW PHN | WNSWLHD | WNSW PHN | NSW |
| 12-17 years | 69.8% | 68.5% | -1% | 5% | 1% |
| 18-24 years | 89.8% | 90.7% | 3% | 6% | -1% |
| 25-34 years | 67.7% | 74.0% | -4% | -2% | 1% |
| 35-64 years | 54.3% | 58.6% | -4% | -4% | -6% |
| 65+ years | 34.7% | 36.0% | -3% | -5% | -4% |

*Average annual (financial year) crude rate per 100,000, 2018-19 to 2022-23
Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Consultation feedback highlighted the unique considerations for young people (aged 12-24) in the region, and this is reflected in the comparatively high ED presentation rates for these age groups. This includes a lack of age-appropriate face to face services, a lack of affordable services, negative experiences when accessing services and having no service alternative. The small numbers of children and young people in schools in some remote areas also means appropriate settings-based services are not viable. In areas of a critical mass, consultation highlighted the benefits of such programs, such as an increase in health literacy and improved health seeking behaviour.

Some unique considerations for older people were also highlighted in consultations. This includes the substantial impact of social isolation on mental health and wellbeing and a lack of transport options to access services. Both of which are further exacerbated in remote areas. NDIS is a key funding avenue for access to mental health services in the region, which older people are not eligible to access. Aged care services were not seen to offer equivalent care opportunities.

## Mental Health related Hospitalisations

Between 2017-18 and 2021-22, the average annual hospitalisation rates for mental disorders were significantly lower than for NSW in WNSW PHN (by 31%), FWLHD (by 17%) and WNSWLHD (by 32%) (Figure 9.4). Compared to 2017-18, rates in 2021-22 were lower in FWLHD, WNSWLHD, WNSW PHN and NSW by 13%, 17%, 16% and 2%, respectively. The greatest change over the reporting period occurred for FWLHD where rates in 2020-21 were 22% higher than rates in 2019-20. The COVID pandemic, related restrictions and hospital avoidance during this period likely have an impact on these figures.

Note that mental disorders include dementia, drug and alcohol conditions and intellectual disability (ICD codes F00-F99).

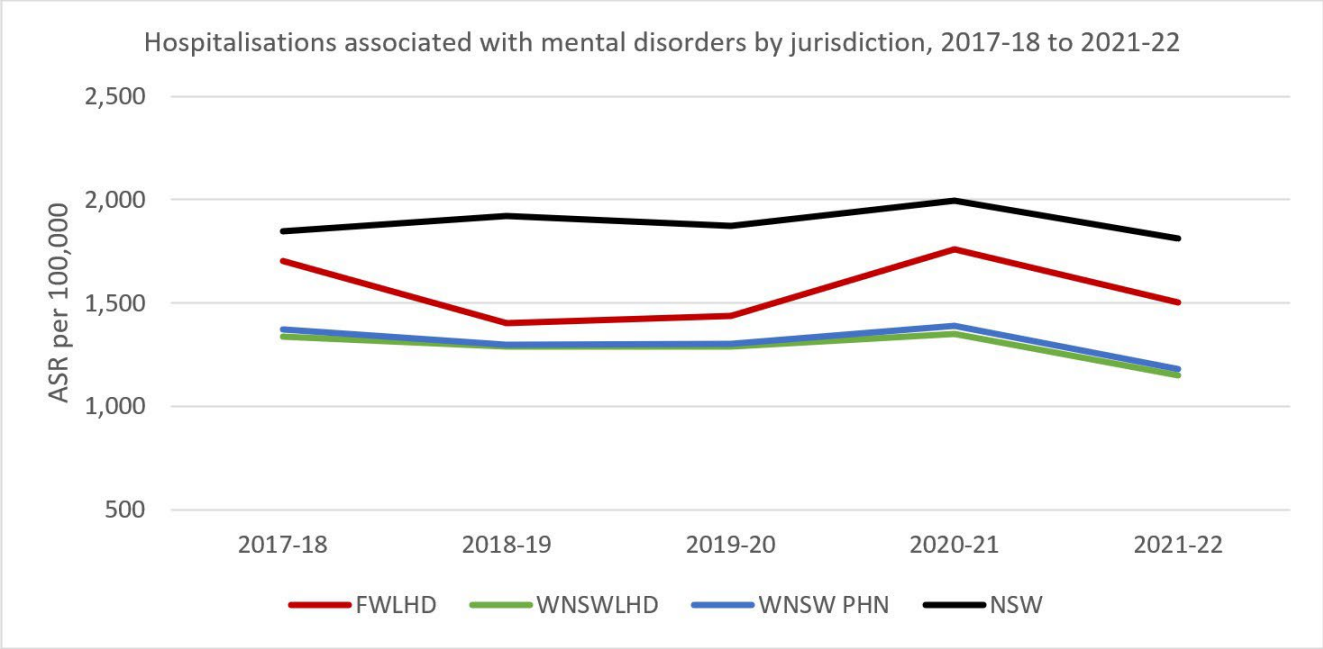



***Figure 9.4 Trends in hospitalisations associated with mental disorders by jurisdiction, 2017-18 to 2021-22.***

ASR=Age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

It should be noted that hospitalisation data can reflect service availability, rather than clinical need alone. Consultation data indicated there is a significant wait times for hospitalisation for mental illness, with longer wait times for more remote areas. When the relatively low admission rate is compared to the ED presentation rate, which was substantially higher in WNSW PHN catchment compared to NSW, it appears the discharge without admission rate could be high in WNSW PHN, and that hospitalisation need/demand outstrips capacity. This hypothesis was affirmed in consultations, with stakeholder reporting that people present to hospital and are sent away feeling misunderstood, their concerns not taken seriously and without feeling adequately supported to return home. There were concerns that this creates disillusionment and reluctance to access services again in the future as people lose confidence in services.

Consultations also highlighted a high readmission rate within seven days for people who have presented at hospital emergency departments with a mental health concern indicating an approach to stabilise the patient and discharge because they do not have the capacity or facilities for admission into hospitals in the region.

Figure 9.5 summaries trends in hospitalisation associated with mental disorder disaggregated by sex. The average annual hospitalisation rate among females was higher than that among males by 5% for WNSWLHD and 16% for NSW. In FWLHD and WNSW PHN the opposite was the case with male rates being higher than female rates by 69% and 1%, respectively. These figures indicate a particular unmet need for men in FWLHD area, which consultations indicated is likely further exacerbated by stigma, avoidance, and lack of prevention and early intervention. Gender norms and stereotypes also mean men are less likely to seek healthy coping mechanisms or be aware of their options of where to go to seek help.

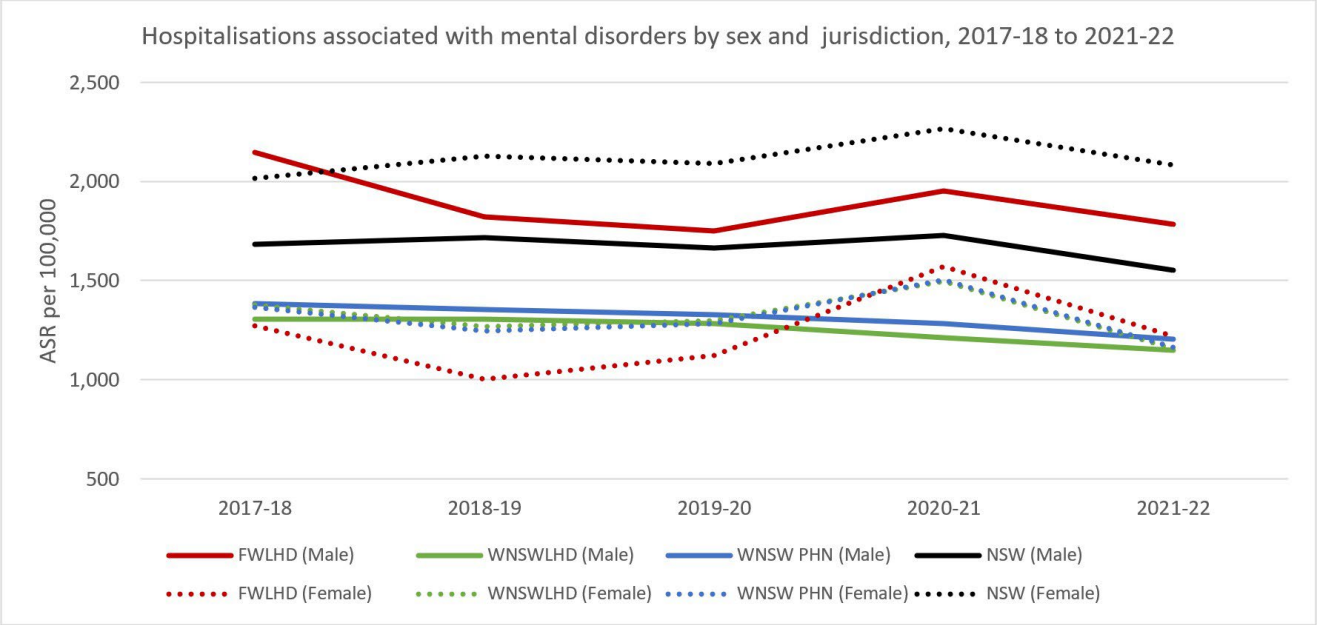



***Figure 9.5 Trends in hospitalisations associated with mental disorders by sex and jurisdiction, 2017-18 to 2021-22.***

ASR=Age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Intentional self-harm Hospitalisations

Between 2017-18 and 2021-22, the average annual hospitalisation rates for self-harm for all ages were higher than that in NSW by 30% in WNSW PHN, 19% in WNSWLHD and 1.3 times in FWLHD (Figure 9.6). Compared to 2017-18, rates in 2021-22 were lower in FWLHD, WNSWLHD, WNSW PHN and NSW by 12%, 26%, 24% and 12%, respectively. These rates were statistically significantly different in all jurisdictions except for FWLHD, where statistical comparisons could not be made with confidence due to small numbers.

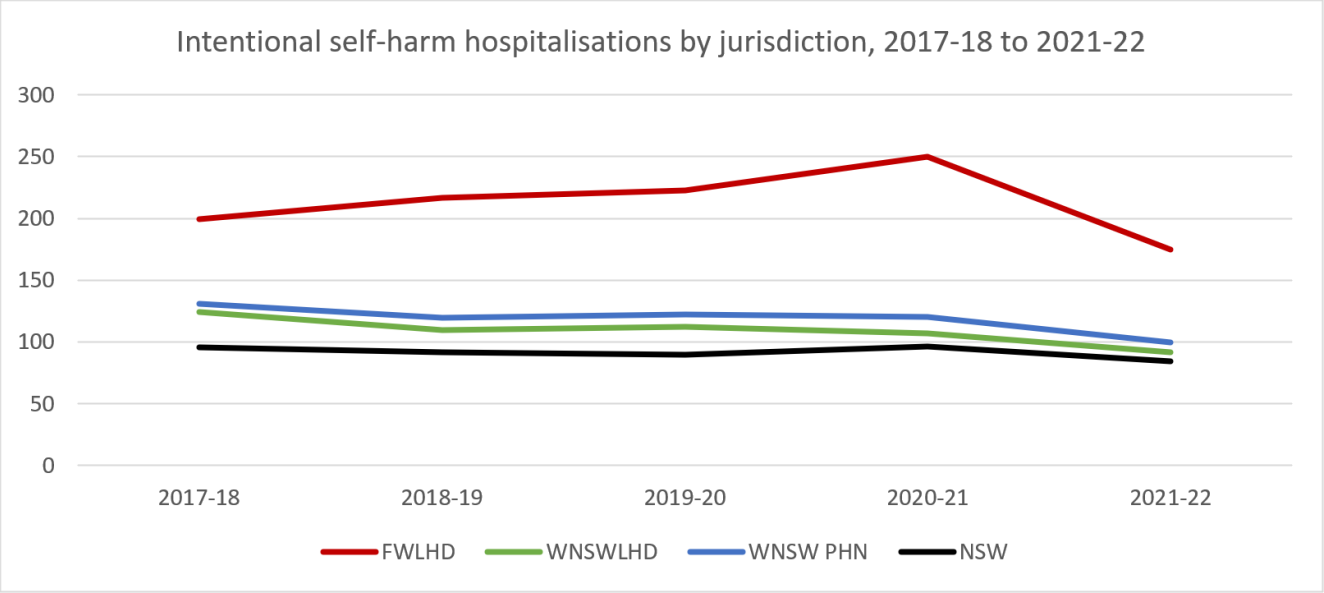



***Figure 9.6 Trends in intentional self-harm hospitalisation rates by jurisdiction, 2017-18 to 2021-22.***

ASR=Age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Stakeholder consultation indicated some challenges in knowing where to refer people when they self-harm, and a lack of alternatives to hospital. There were reports that people have presented to emergency departments asking to be kept in hospital under observation due to risk of self-harm or harming someone else. Due to insufficient beds, lack of appropriate facilities or lack of appropriate clinical staff, they are unable to be admitted, resulting in people then feeling unheard, dismissed and less trusting and comfortable to access services in future.

Stakeholder consultations also suggested that self-harm is increasing amongst younger people. While age disaggregated data is not available at a PHN level, national data support this with some increases seen in the 14 years and below age group[26]

[26] Source: AIHW intentional self-harm hospitalisation among young people https://www.aihw.gov.au/suicide-self-harm-monitoring/data/populations-age-groups/intentional-self-harm-hospitalisations-among-young

## Hospitalisations for intentional self-harm by local government area

New data are not available for local government areas. Between 2014/15-2015/16 and 2018/19-2019/20, the average biennial hospitalisation rates for intentional self-harm were highest in Broken Hill and higher than that of NSW by 2.6 times, followed by Orange, Wentworth and Central Darling where rates were 78%, 52% and 41% higher than NSW, respectively (Figure 9.7, Table A.9.1 see Appendix). LGAs with rates lower than that of NSW included Mid-Western (26% lower), Parkes (14% lower), Oberon (9% lower), Narromine (6% lower) and Cabonne (5% lower). All other LGAs reported rates that were equivalent to, or higher by up to 36%, than that of NSW with rates increasing with rurality highlighting the increased unmet need for support for rural and remote communities in the region.

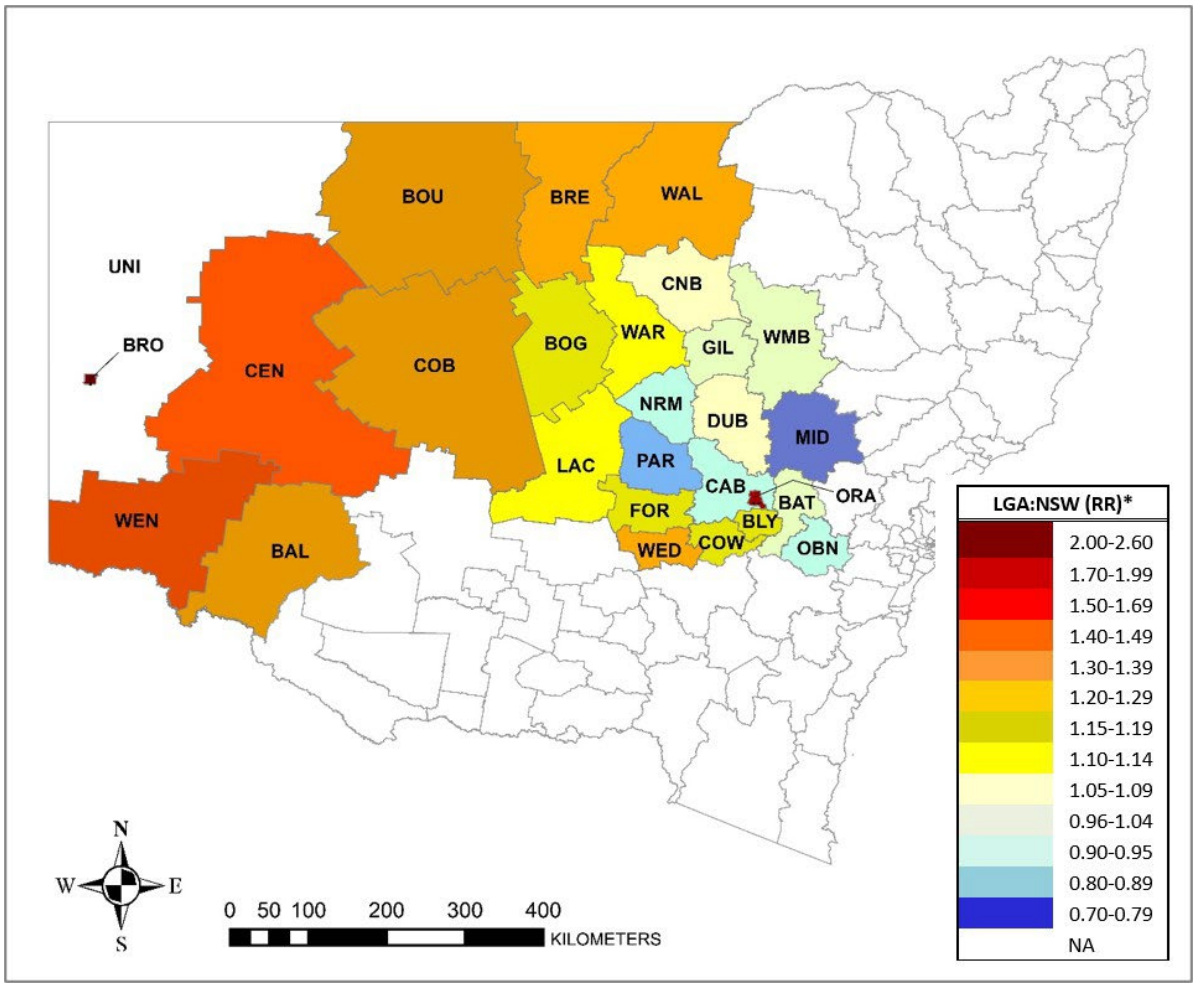



***Figure 9.7 Average biennial hospitalisation rate for intentional self-harm by local government area compared to NSW, 2014/15-2015/16 to 2018/19-2019/20.***

LGA=local government area, NA=not available, RR=rate ratio.

*The ratio of LGA average annual crude rate to that of NSW (rate ratio). See LGA abbreviations.

ASR=age-standardised rate

Data souce: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Suicides

Suicide is defined as an act that comprises any intentional self-harm resulting in a fatal outcome (*Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health)*. Suicide is a significant issue affecting the WNSW region, highlighted in both high rates seen in the quantitative data and concerns raised by community and clinicians across the region.

Between 2017 and 2021, the average annual rates (per 100,000) of suicide in WNSW PHN and WNSWLHD were higher than that of NSW by 53% and 46%, respectively (Figure 9.9), with rates in 2019 and 2021 being statistically significantly higher than that of NSW for WNSWLHD and rates in 2019, 2020 and 2021 being statistically significantly higher for WNSW PHN. Compared to 2017, suicide rates in 2021 were higher by 17% in WNSW PHN and by 14% in WNSWLHD. For NSW, rates in 2021 were 15% lower than those in 2017. Quantitative data for FWLHD are not available for this section.

Stakeholder consultation highlighted that suicide ideation and trauma are critical issues for the region, reflected in the comparatively high suicide rates, which are increasing over time in WNSW PHN as opposed to decreasing in NSW. Again, distinctive risk factors prevalent in regional and remote communities and unique needs of priority populations were emphasised. Suicide rates in men are three times that of women in NSW (Figure 9.9). Consultation with community and service providers highlighted financial distress, co-morbid alcohol and other drug use, hopelessness, identity and self-worth as frequent contributing factors for people in the region. Consultation also highlighted complex trauma and the need for greater self-determination for Aboriginal communities in supporting people to improve suicide outcomes in the region. Suicide, self-harm and high rates of distress among gay and bisexual men in rural communities was raised as an important concern by services providers and community in consultations. These concerns were reported to be due to isolation, inability to self-identify in a way that they feel comfortable and, for some, a fear of exposure.

The impacts of suicide on community members, particularly adolescents and young people, was highlighted in consultations. School-based support in response to suicide is needed to help community members grieve and heal when lives in the community are lost to suicide.

Wait times for services and a lack of transition support may also be key contributing factors. Wait times were reported as extremely high for people with suicide ideation and no other services people can access in the meantime. This relates to the overall shortage of services and strict eligibility criteria discussed above. Stakeholders emphasised that there is a need for increased services that address the risk factors for suicide, as the number of suicides are increasing and there are not enough services for people with suicidal ideation to access. People with suicidal ideation but who have not attempted suicide or do not express a clear plan for suicide are not able to be admitted to hospitals due to limited bed and workforce capacity, and there is a lack of escalation options within community for these higher need patients.

Suicide rates by sex are available by state only and not by LHD or PHN. In NSW between 2017 and 2021, the average annual suicide rate for males was 3.2 times that of females (Figure 9.9). However, compared to 2017, suicide rates in 2021 were 20% lower among males but 4% higher among females. Despite a recent reduction in suicide rates for men (though PHN specific data is not available), this gender-based trend is typical across Australia demonstrating a continuing need for

gender specific service provision particularly for suicide prevention. Stigma and concerns around confidentiality were raised during stakeholder consultations as particularly prevalent amongst men, resulting in men avoiding seeking help or accessing health services.

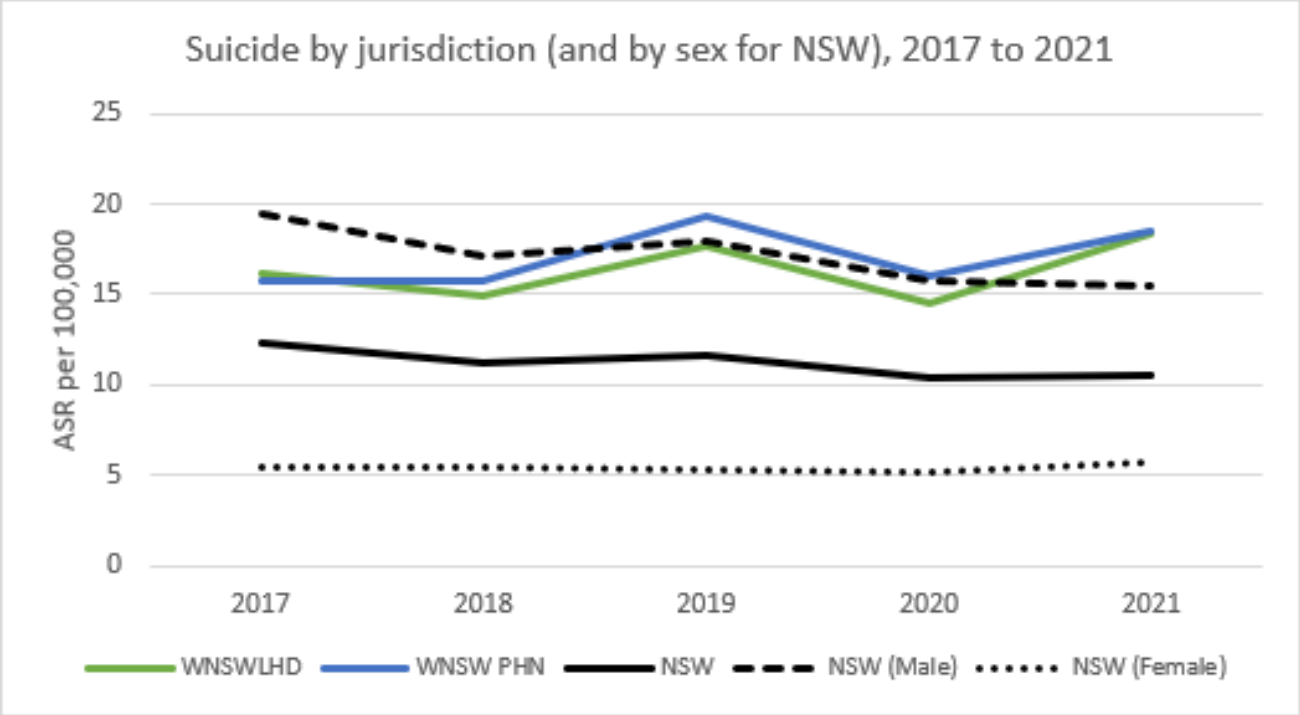



***Figure 9.8 Trends in suicides by jurisdiction (and by sex for NSW), 2017 to 2021.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

# Chapter 10. Oral Health

## Summary

| Chapter 10. Oral Health | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| Oral health - hosp. rate (cf. NSW) | 2014/17-2018/21 | *53% lower^* | *13% higher* | *7% higher* | *Not applicable* |
| Dental caries (0-14yrs) - hosp rate (cf. NSW) | 2014/17-2018/21 | *38% higher* | *16% higher* | *11% higher* | *Not applicable* |
| Dental caries (>14yrs) - hosp rate (cf. NSW) | 2014/17-2018/21 | *58% higher* | *42% higher* | *44% higher* | *Not applicable* |
| Rate of PPH for dental conditions (cf. NSW) | 2017/18-2021/22 | *8% lower^* | *41% higher* | *37% higher* | *Not applicable* |

LGA=local government area, hosp=hospitalisation, cf.=compared to, PPH=potentially preventable hospitalisation
*Result possibly attributed to FWLHD residents accessing interstate rather than local health services

Oral health is integral to general health and well-being. Oral disease increases the risk of developing poor health outcomes such as heart and lung disease, stroke, low birth weight and premature birth. Oral disease is directly associated with poor nutrition and is therefore largely preventable. While oral health risk factors are documented in the literature, population level data on oral health in Western NSW is limited.

Oral health was raised during consultations as being an important contributing factor to long term health outcomes, particularly for Aboriginal people in the region. It was suggested that early intervention and prevention services for oral health could be delivered alongside other services, particularly in smaller towns and communities, to engage people with services early and support holistic healthcare rather than services that segment a person's health needs.

## Oral health hospitalisations

Between 2014-17 and 2018-21, the rate of oral health hospitalisations for all ages was higher in WNSWLHD and WNSW PHN than in NSW by 13% and 7%, respectively (Figure 10.1). Indeed, for each triennial period, the rates in WNSWLHD and WNSW PHN were statistically significantly higher than that in NSW. FWLHD, however, was statistically significantly lower than that of NSW for each triennial period, with the triennial average being lower than NSW by 53%. This result may be attributed to FWLHD residents accessing interstate rather than local health services.

Between 2014-17 and 2018-21, the average triennial rate of oral health hospitalisations among children (0-14 years) was higher than that among adults (15 years and older) for all jurisdictions, that is by 81% (FWLHD), 43% (WNSWLHD), 44% (WNSW PHN) and 47% (NSW) (Figure 10.2). Indeed, for each triennial period, the difference in rates between children and adults for each jurisdiction was statistically significant.

For the same reporting period, average triennial rates among children and adults were higher than in NSW by 10% and 13%, respectively for WNSWLHD and by 6% and 7%, respectively for WNSW PHN (Figure 10.2). For FWLHD, however, rates among children and adults were lower than NSW by 45% and 55%, respectively. Again, this result may reflect FWLHD residents accessing interstate rather than local health services.

For each Western NSW jurisdiction, rates among children and adults at the end of the reporting period (2018-21) were only 0-7% lower than at the beginning of the reporting period (2014-17), except for FWLHD adults where rates were 15% lower (Figure 10.2).

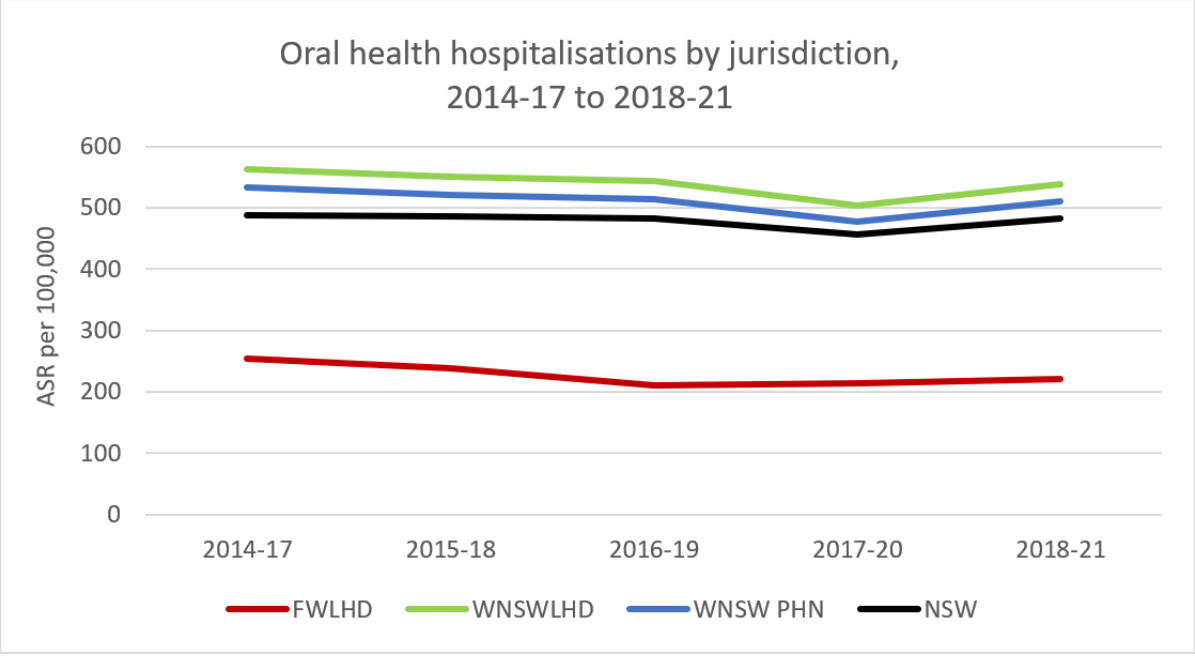



***Figure 10.1 Trends in triennial oral health hospitalisations by jurisdiction, 2014-17 to 2018-21.***

ASR=age-standardised rate

Note: 1. Oral health hospitalisations arise mostly due to dental caries, infections of teeth and gums, injury and developmental disorders of teeth.

2. Low rates in FWLHD may be indicative of residents accessing interstate health services.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

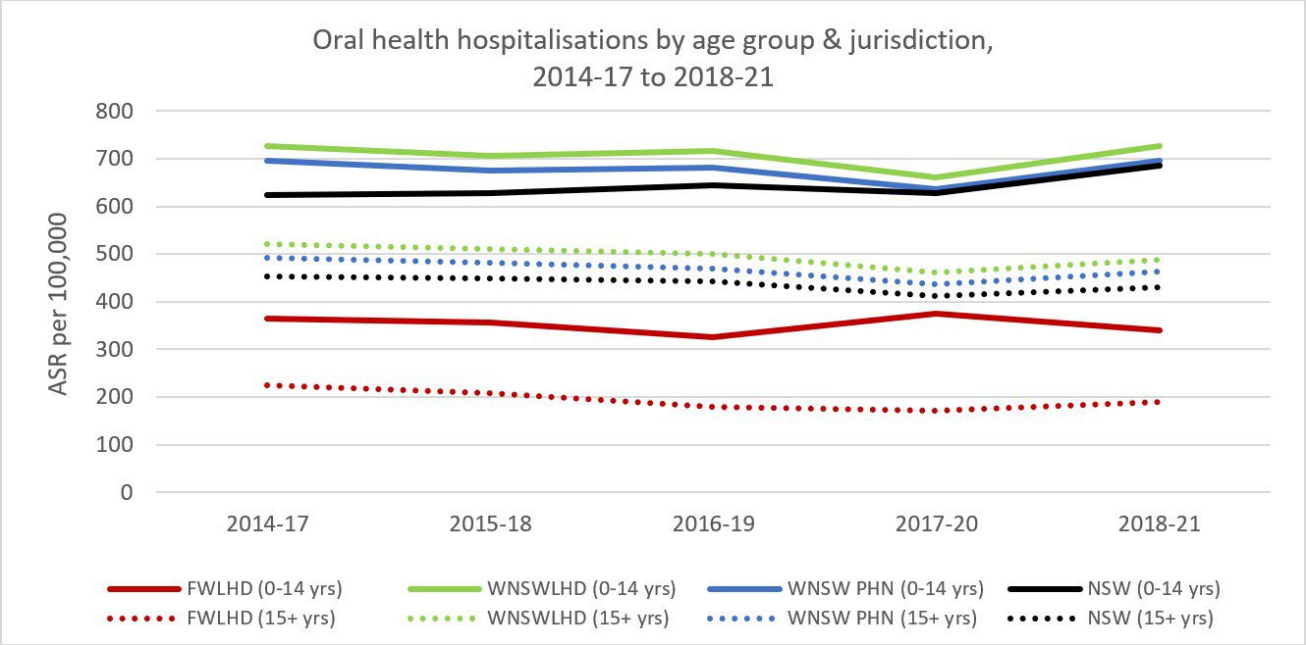



***Figure 10.2 Trends in triennial oral health hospitalisations by age group & jurisdiction, 2014-17 to 2018-21.***

ASR=age-standardised rate

Note: 1. Oral health hospitalisations arise mostly due to dental caries, infections of teeth and gums, injury and developmental disorders of teeth.

2. Low rates in FWLHD may be indicative of residents accessing interstate health services.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Hospitalisations due to dental caries

Hospitalisations arising from dental caries are for procedures that involve the removal and/or restoration of teeth. Between 2014-17 and 2018-21, the proportion of all oral health hospitalisations due to dental caries was highest in FWLHD (50%), followed by WNSW PHN (30%), WNSWLHD (29%) and NSW (25%) (Figure 10.3). This diminishing proportion with increasing urbanisation may reflect that more complex oral health procedures are conducted in metropolitan facilities thereby diluting the proportion of dental caries procedures.

Between 2014-17 and 2018-21, the average triennial rate of hospitalisations for dental caries among children (0-14 years) was higher than that in NSW by 16% in WNSWLHD and by 11% in WNSW PHN (Figure 10.4). However, for FWLHD, the rate among children was lower than that of NSW by 38%. Once again, this result may reflect FWLHD children accessing interstate rather than local health services.

In each jurisdiction and for each triennial time point of the reporting period, hospitalisation rates for dental caries among children were statistically significantly higher than among their adult counterparts (Figure 10.4). Indeed, the average triennial rate among children was higher than adults by 3.2 times (FWLHD), 6.3 times (WNSW PHN), 6.7 times (WNSWLHD) and 8.2 times (NSW).

For the same period, hospitalisation rates for dental caries among Western NSW adults were higher than their NSW counterparts by 58% (FWLHD), 42% (WNSWLHD) and 44% (WNSW PHN) (Figure 10.4). Indeed, rates for WNSWLHD and WNSW PHN were statistically significantly higher than for NSW at each triennial time point for the reporting period.

Hospitalisation rates among children at the end of the reporting period (2018-21) were lower than at the beginning (2014-17) by 14% for FWLHD and by 3% for both WNSWLHD & WNSW PHN, but not significantly so (Figure 10.4). For NSW however, rates among children were statistically significantly higher by 10%. For adults, rates were statistically significantly lower by 36% (WNSWLHD), 35% (WNSW PHN) and 7% (NSW). For FWLHD adults, rates were lower by 31% but not significantly.

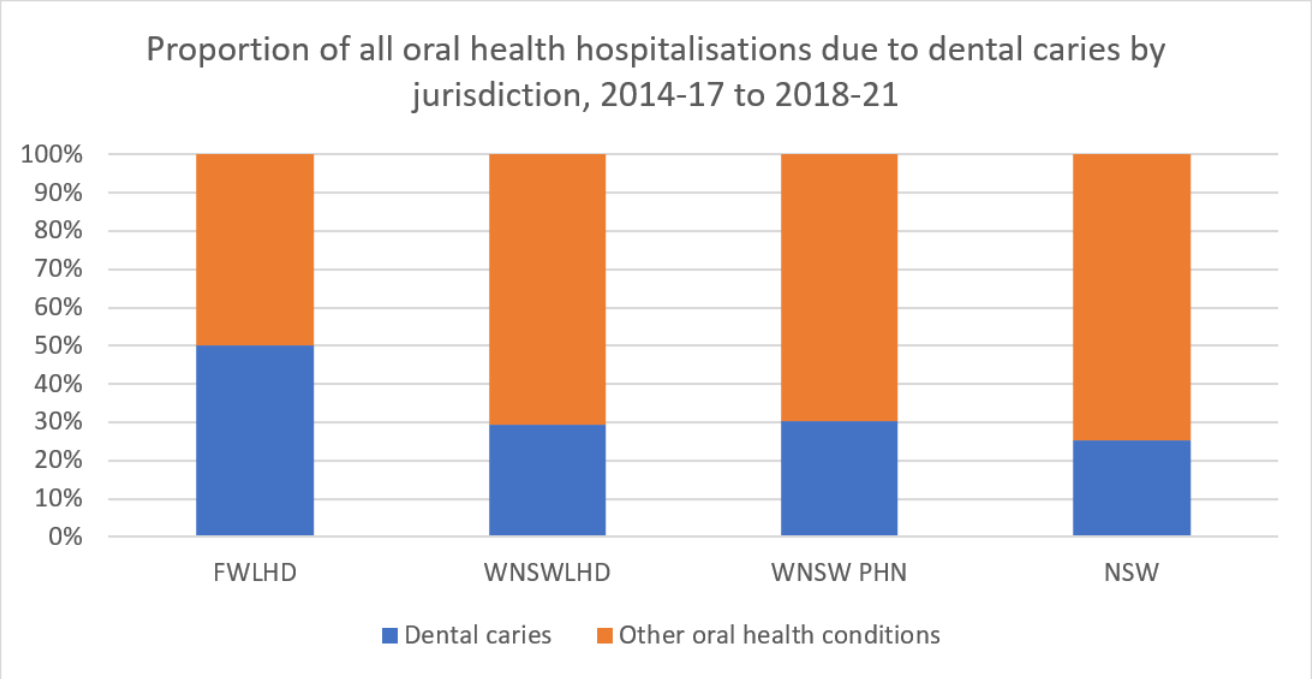



***Figure 10.3 Proportion of all oral health hospitalisations due to dental caries by jurisdiction, 2014-17 to 2018-21.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

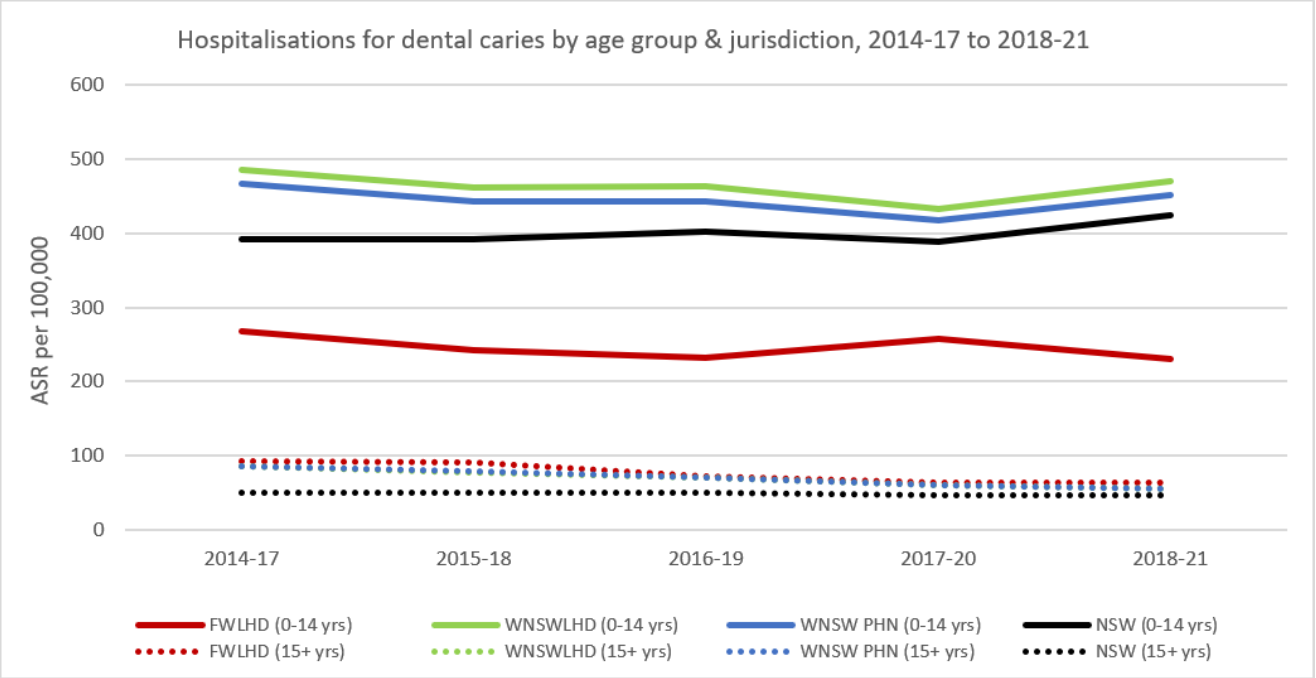



***Figure 10.4 Trends in triennial hospitalisations due to dental caries by age group and jurisdiction, 2014-17 to 2018-21.***

ASR=age-standardised rate, yrs=years

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Potentially preventable hospitalisations for dental conditions

A potentially preventable hospitalisation (PPH) is one considered to have been avoidable had the patient accessed preventive care and/or early disease management in the primary health care setting.

Between 2017-18 and 2021-22, nearly 5,000 PPHs for dental conditions were recorded for WNSW PHN, or 11.6% of all PPHs in WNSW PHN (Figure 10.5). The proportion of dental PPHs for WNSWLHD were higher at 12.5% and lower for FWLHD at 5.5%. Compared to NSW, dental PPHs were higher in WNSWLHD and WNSW PHN by approximately 60% and 50%, respectively, and lower in FWLHD by nearly 30%. Note however that FWLHD residents may access interstate services, with their corresponding PPH data not captured by NSW databases.

Between 2017-18 and 2021-22, the average annual age-standardised rate of PPHs (per 100,000) in WNSWLHD and WNSW PHN was higher than that of NSW by 41% and 37%, respectively (Figure 10.6). In addition, for each financial year, the rates in WNSWLHD and WNSW PHN were statistically significantly higher than that of NSW. By comparison, the average annual rate of PPHs in FWLHD was lower than that of NSW by 8%, but not statistically significantly lower in any one financial year, except for 2018-19.

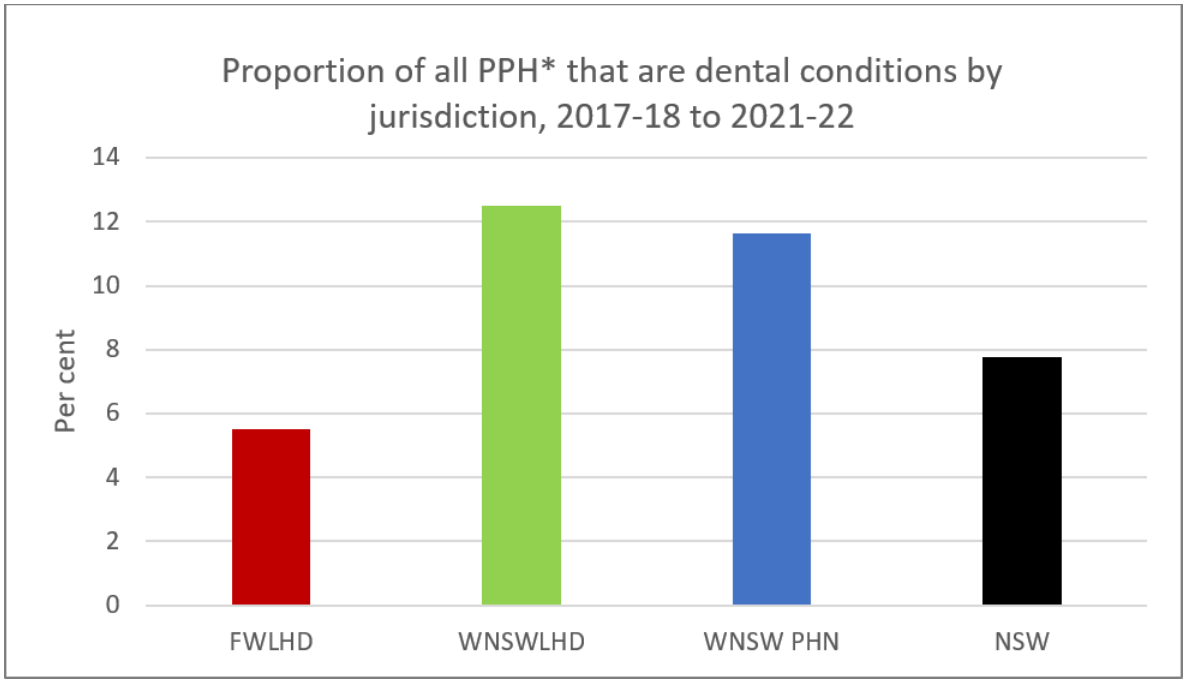



***Figure 10.5 Potentially preventable hospitalisations (PPH) for dental conditions as a proportion of all PPH by jurisdiction, 2017-18 to 2021-22***

*PPH=potentially preventable hospitalisations

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health. Available at: www.healthstats.nsw.gov.au. [Accessed 25/01/2024].

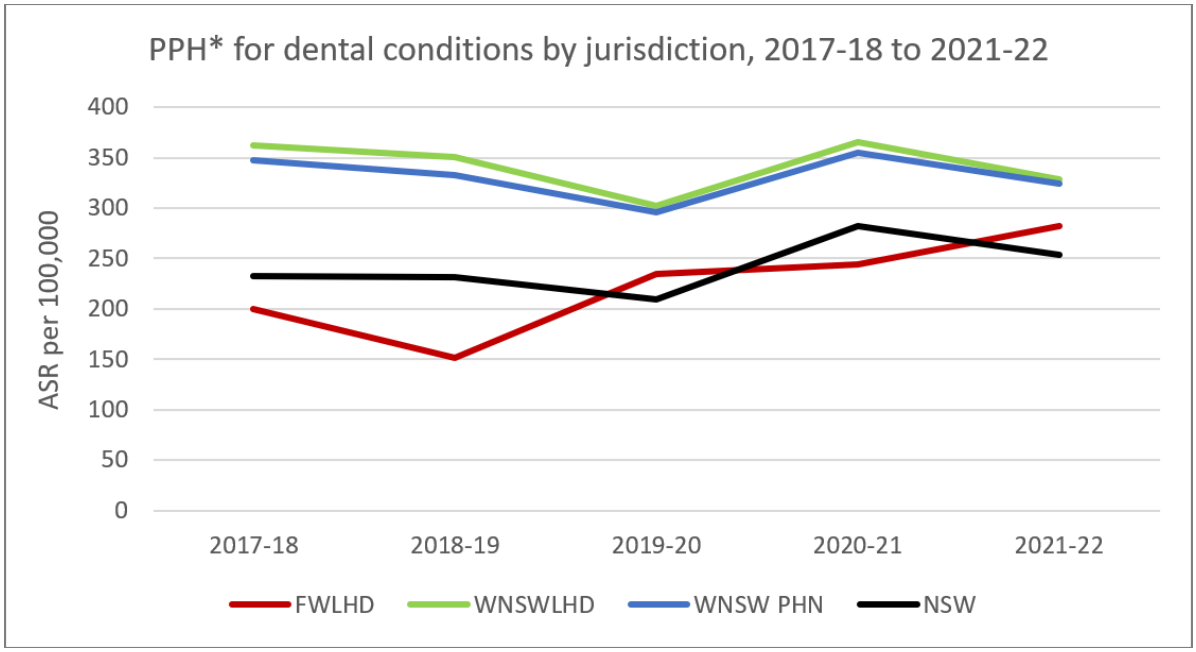



***Figure 10.6 Trends in potentially preventable hospitalisations (PPH) for dental conditions by jurisdiction, 2017-18 to 2021-22***

ASR=age-standardised rate, PPH=potentially preventable hospitalisations

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health. Available at: www.healthstats.nsw.gov.au. (Accessed 25/01/2024)

# Chapter 11. Maternal & Infant Health

## Summary

| Chapter 11. Maternal & Infant Health | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| **Maternal** | | | | | |
| Births (average per year) | 2018-2022 | *378 /year* | *3,875 /year* | *4,254 /year* | *100,185 /year* |
| Total fertility rate (births per woman) | 2022 | *1.4* | *2.2* | *2.1* | *1.6* |
| Maternal age (median) | 2018-2022 | *25-29 years* | *25-29 years* | *25-29 years* | *30-34 years* |
| Antenatal visits <14 weeks' gestation (% of mums) | 2018-2022 | *67%* | *80%* | *80%* | *80%* |
| Antenatal visits <20 weeks' gestation (% of mums) | 2018-2022 | *93%* | *91%* | *91%* | *93%* |
| Diabetes, gestational or pre-existing (% of mums) | 2018-2022 | *24%* | *13%* | *13%* | *15%* |
| Pre-eclampsia (% of mums) | 2018-2022 | *1.80%* | *2.80%* | *2.70%* | *1.60%* |
| Smoking (% of all mums) | 2018-2022 | *27%* | *19%* | *20%* | *9%* |
| Smoking (% of Aboriginal mums) | 2018-2022 | *63%* | *46%* | *47%* | *41%* |
| **Infant** | | | | | |
| Fully breast-fed babies at discharge | 2016-2020 | *77%* | *75%* | *75%* | *73%* |
| Low birth weight rate among live births | 2016-2020 | *5%* | *7%* | *7%* | *6%* |
| Perinatal mortality (deaths per 1,000 births) | 2016-2020 | *12.4* | *10.2* | *10.3* | *8.2* |

<=up to
NA=Not available

Maternal and infant health is an important health priority for WNSW PHN region. Mothers and infants across the region experience high rates of diabetes during pregnancy, pre-eclampsia, smoking during pregnancy, low birth weight and perinatal mortality.

Support for young women and adolescents before and during pregnancy and after birth was raised during consultations as important to improving the long-term health outcomes for both mothers and children. It was identified that mothers in the region had pregnancies at a younger age and that earlier education and support to understand health pregnancy and motherhood would benefit young women and girls across the region. It was suggested that this would also help to engage mothers in primary care support earlier in their pregnancy to help prevent and manage complications during pregnancy such as diabetes, smoking and pre-eclampsia. Highschool and community settings were suggested for education and support.

Consultations also identified that perinatal care for Aboriginal women need to include a greater understanding of the cultural traditions of birth. This includes considering how giving birth off Country (in hospitals and birthing facilities that are not within a woman's community and cultural practices) can impact a new mother. This also means there should be a greater consideration of trauma when delivering perinatal care. Women whose newborns remain in hospital for care were not well supported to remain with their newborns, particularly when hospitals were located significant distances from their home.

Complications during pregnancy and infancy often required support from specialists as well as primary care providers. The low workforce and large distance for travel to see specialists is likely to be a barrier for women driving the high rates of pregnancy and birth complications in the region.

## Data quality and caveats

To provide the reader with a more comprehensive understanding of births and fertility in WNSW PHN, this report provides data from two sources, that is from the Australian Bureau of Statistics (ABS) and from HealthStats (Table 11.1). Note, there are caveats to be considered for each data source.

The ABS provides the most recently available births data (2022) but those data are based on date of registration rather than actual date of birth. This lag between birth and registration date is due to delays in submitting and/or processing registrations, particularly pertinent for November and December births which are often not registered until the following year. Therefore, the ABS may not provide the exact number of actual births in any calendar year but ABS data are expected to be the more accurate of the two sources.

HealthStats births data are sourced from the NSW Perinatal Data Collection (PDC) dataset and are based on actual date of birth. The release of PDC data is generally delayed by two years and therefore the latest data available are those for 2020 (compared to 2021 for ABS data). In addition, the PDC does not record babies born to NSW women who deliver interstate. Some women residing in WNSW PHN, particularly those in FWLHD, deliver interstate (e.g. Victoria, South Australia) resulting in birth numbers from the PDC being an underestimate for WNSW PHN and especially for FWLHD. Therefore, of the two data sources, ABS data for WNSW PHN are expected to be more accurate.

Total fertility rate (TFR) is the average number of babies a woman can expect to have within her lifetime and is calculated using births data. Although the ABS provides TFR using data that includes local babies born interstate, TFR is provided only by LGA and not by LHD or PHN. HealthStats, on the other hand, provides TFR by LHD and PHN, but excludes interstate births.

Figure 11.1 indicates the trends in TFR for each jurisdiction over a 5-year period from 2018 to 2022. The rates were calculated using PDC data and therefore excludes local babies born interstate. Assuming the proportion of babies born interstate is consistent across the years, the chart provides a reasonable estimate of trends in TFR.

## Birth & fertility rates

In 2022, the Australian Bureau of Statistics recorded 4,363 registered[1] births for WNSW PHN, representing 4.5% of all registered births in NSW (Table 11.1). Of all WNSW PHN registered births for 2022, 9.3% were recorded for FWLHD.

[1] Note that a lag exists between the occurrence and registration of a birth due to a delay in registration submission or processing. Therefore, births occurring in November and December are often not registered until the following year.

In 2022, the total fertility rates (TFR) reported for all LGAs in WNSW PHN were higher than that of NSW (Table 11.1). Gilgandra recorded the highest TFRs of approximately 3.56 babies per woman or 2 times higher than NSW (TFR=1.72 babies per woman), followed by Warren (TFR=3.01), Bogan (TFR=2.97), and Coonamble (TFR 2.9), all higher than that of NSW by 69-75%. TFR was lowest in Bathurst (TFR=1.94) and Weddin (TFR=2.1), where rates were still higher than that of NSW by 13% and 22%, respectively. Note the higher TFR for LGAs in FWLHD than the overall rate, refer to the data caveats on previous page.

From 2018 to 2022, the trend was for TFR to increase across all jurisdictions (Figure 11.1). Compared to 2018, TFRs in 2022 were higher by 27% for FWLHD, 5% for both WNSWLHD and WNSW PHN, while they remained stable for NSW.

*Table 11.1 Births and total fertility rate* by LGA, jurisdiction and data source, 2022.*

| | ABS data 2022 | | HealthStats data 2022 | |
|---|---|---|---|---|
| LGA | Birth registrations (n) | TFR | Births (n) | TFR |
| Balranald | 25 | 2.43 | 1 | |
| Broken Hill | 239 | 2.12 | 185 | |
| Central Darling | 26 | 2.23 | 13 | NA |
| Unincorporated FW | 8 | np | NA | |
| Wentworth | 102 | 2.32 | 1 | |
| **FWLHD** | **400** | **NA** | **200** | **1.4** |
| Bathurst Regional | 542 | 1.94 | 510 | |
| Blayney | 101 | 2.39 | 106 | |
| Bogan | 36 | 2.97 | 40 | |
| Bourke | 50 | 2.59 | 55 | |
| Brewarrina | 24 | 2.38 | 24 | |
| Cabonne | 157 | 2.35 | 149 | |
| Cobar | 69 | 2.38 | 48 | |
| Coonamble | 92 | 2.9 | 88 | |
| Cowra | 143 | 2.21 | 128 | |
| Dubbo Regional | 853 | 2.21 | 814 | |
| Forbes | 126 | 2.39 | 130 | NA |
| Gilgandra | 77 | 3.56 | 67 | |
| Lachlan | 89 | 2.87 | 67 | |
| Mid-Western Regional | 362 | 2.38 | 341 | |
| Narromine | 92 | 2.57 | 92 | |
| Oberon | 53 | 2.2 | 51 | |
| Orange | 646 | 2.14 | 600 | |
| Parkes | 181 | 2.33 | 158 | |
| Walgett | 94 | 2.75 | 86 | |
| Warren | 43 | 3.01 | 31 | |
| Warrumbungle Shire | 99 | 2.44 | 100 | |
| Weddin | 30 | 2.1 | 31 | |
| **WNSWLHD** | **3,959** | **NA** | **3,716** | **2.2** |
| **WNSW PHN** | **4359** | **NA** | **3,916** | **2.1** |
| **NSW** | **97,884** | **1.72** | **91,634** | **1.6** |

LGA=local government area, N=number, TFR=total fertility rate, NA=not available

*Total fertility rate is the average number of babies a woman can expect to have in her lifetime. Data sources:

*Australian Bureau of Statistics. (2021). Births, Australia. ABS.* https://www.abs.gov.au/statistics/people/population/births-australia/2022 (Accessed 4 April 2024)

Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

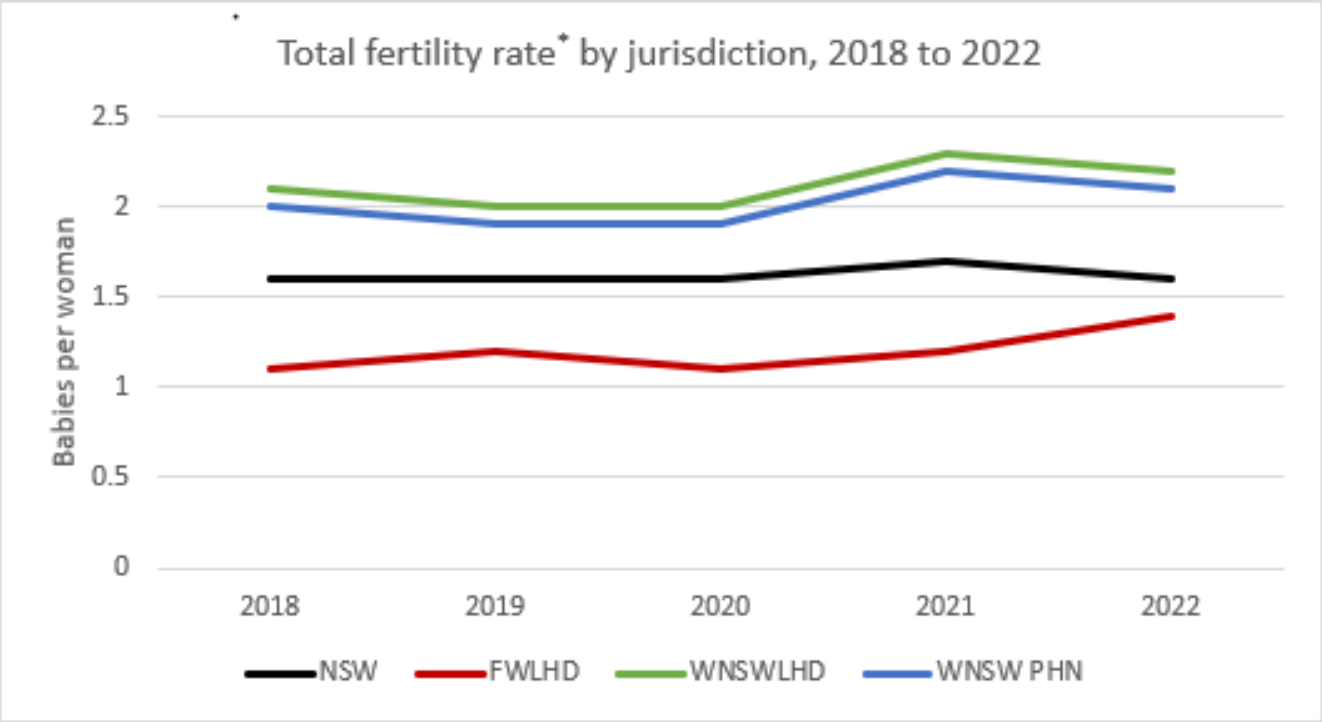



***Figure 11.1 Trends in total fertility rate* by jurisdiction, 2018 to 2022.***

*Total fertility rate is the average number of babies a woman can expect to have in her lifetime.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Age of mothers

Between 2018 and 2022, the median age for all jurisdictions was 25-29 years, younger than NSW (median age 30-34 years). The proportion of births occurring among women aged 19 years or younger was 4.0% for WNSWLHD and 5.4% for FWLHD, that is, 1.5 and 2.4 times that of NSW (1.6%), respectively (Figure 11.2). By comparison, the proportion of births among women aged 35+ years in FWLHD and WNSWLHD was 47% and 40% lower, respectively, than that of NSW. Accordingly, the proportion of babies born to younger women in WNSW PHN was greater than that for NSW, but lower for older women.

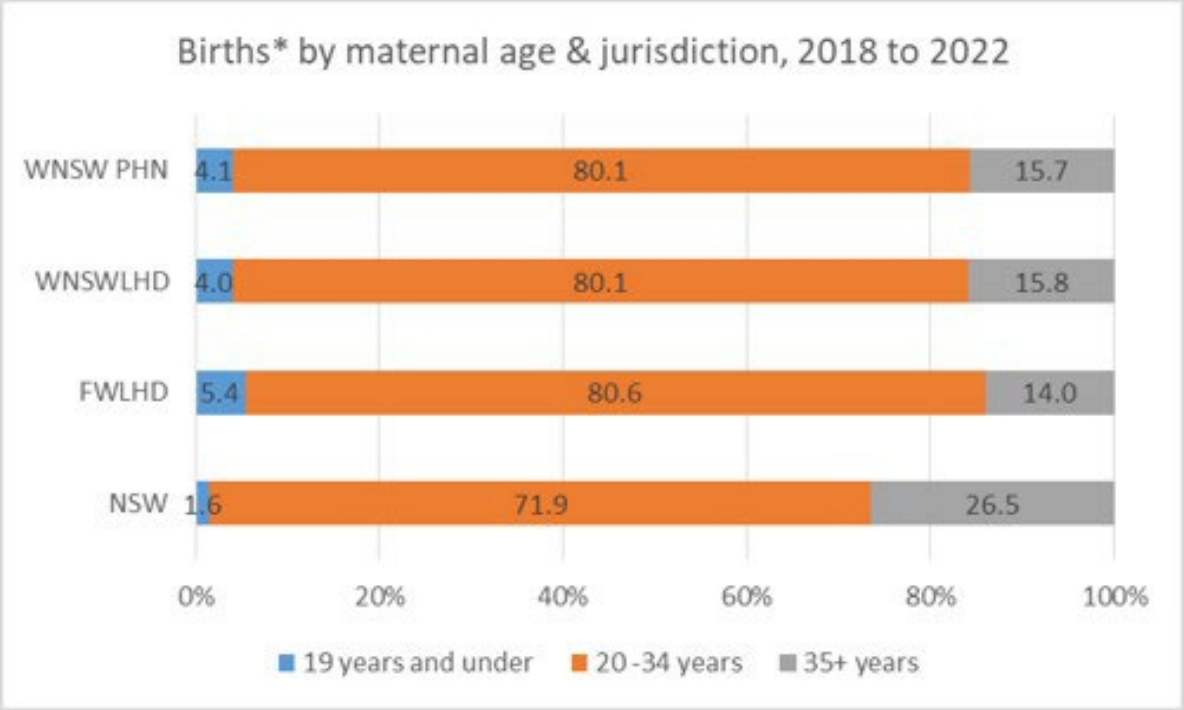



***Figure 11.2 Proportion of births* by maternal age group & jurisdiction, 2018 to 2022.***

*Refers to any delivery including live and stillborn.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Maternal health during pregnancy

This section addresses health factors during pregnancy that have the potential to affect the health of both mother and child. Health conditions and risk factors addressed by this section include:

- Antenatal visits
- Gestational and pre-existing diabetes mellitus
- Pre-eclampsia
- Smoking during pregnancy
- Newborn feeding

## Antenatal visits

Antenatal visits occur prior to the birth of the baby and provide an opportunity to assess the health and wellbeing of both woman and child. Antenatal visits *commencing* prior to 14 weeks' gestation capture women during their first trimester, while antenatal visits *commencing* prior to 20 weeks' gestation capture women having entered their second trimester. Antenatal visits allow for the identification of complications that may arise during pregnancy and provide an opportunity for clinical intervention and advice.

Between 2018 and 2022, the average annual percentage of pregnant women commencing antenatal visits prior to 14 weeks' gestation was 80% for each of the larger jurisdictions, that is for WNSWLHD, WNSW PHN and NSW (Figure 11.3). For FWLHD, however, the percentage was 67%, lower than that of other jurisdictions. However, by 20 weeks' gestation, 91% of pregnant women had commenced antenatal visits for each of the larger jurisdictions and 93% for FWLHD. Therefore, compared to the larger jurisdictions, a lower proportion of FWLHD pregnant women commenced antenatal visits prior to 14 weeks' gestation, but by 20 weeks, the proportions were comparable. Note, however, that a high proportion of pregnant women from FWLHD LGAs access interstate maternity services which may account for the low percentage of women accessing NSW antenatal services prior to 14 weeks' gestation.

For each jurisdiction, the proportion of pregnant women commencing antenatal visits before 14 weeks' gestation progressively increased over the reporting period (Figure 11.3); proportions were higher in 2022 than 2018 by 10% for WNSWLHD, 11% for WNSW PHN, 2% for NSW and a large 30% for FWLHD. For antenatal visits commencing prior to 20 weeks' gestation, proportions were also higher in 2022 than 2018 but only by 0.5-2 % for each jurisdiction.

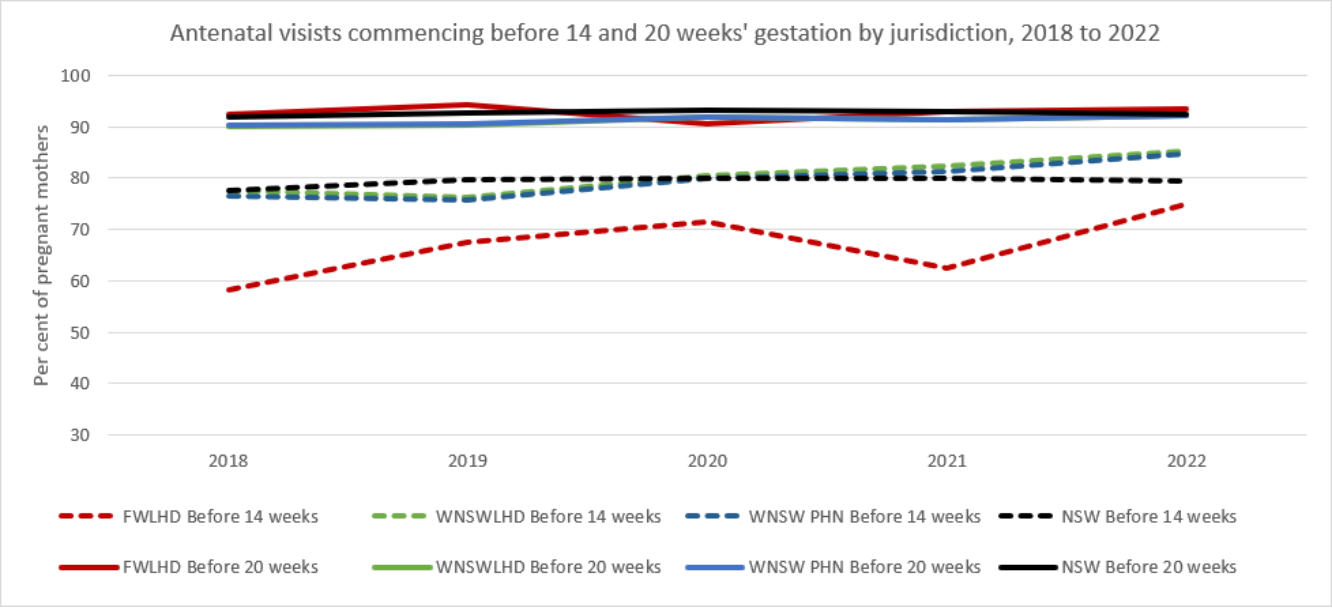



***Figure 11.3 Trends in proportion of pregnant mothers commencing antenatal visits by gestational period & jurisdiction, 2018 to 2022.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Diabetes in pregnancy

From 2018 to 2022, the average annual proportion of pregnant women with gestational or pre-existing diabetes in WNSWLHD and WNSW PHN was lower than that of NSW by 16% and 12%, respectively, compared to FWLHD which was 55% higher than that of NSW (Figure 11.4). Compared to 2018, the proportion of women with gestational or pre-existing diabetes in 2022 was higher for WNSWLHD, WNSW PHN and FWLHD.

## Data caveats

Note that the Perinatal Data Collection (PDC) database records information about births that occur in NSW public and private hospitals, as well as births reported by independent midwives. Pregnant women living in border areas may give birth in a health facility outside of NSW, especially when the pregnancy is considered to be of higher risk or if the woman experiences complications late in pregnancy. Interstate births are not recorded in the PDC.

Due to the uncertainty around the accuracy of perinatal data for Western NSW, results are not provided by LGA.

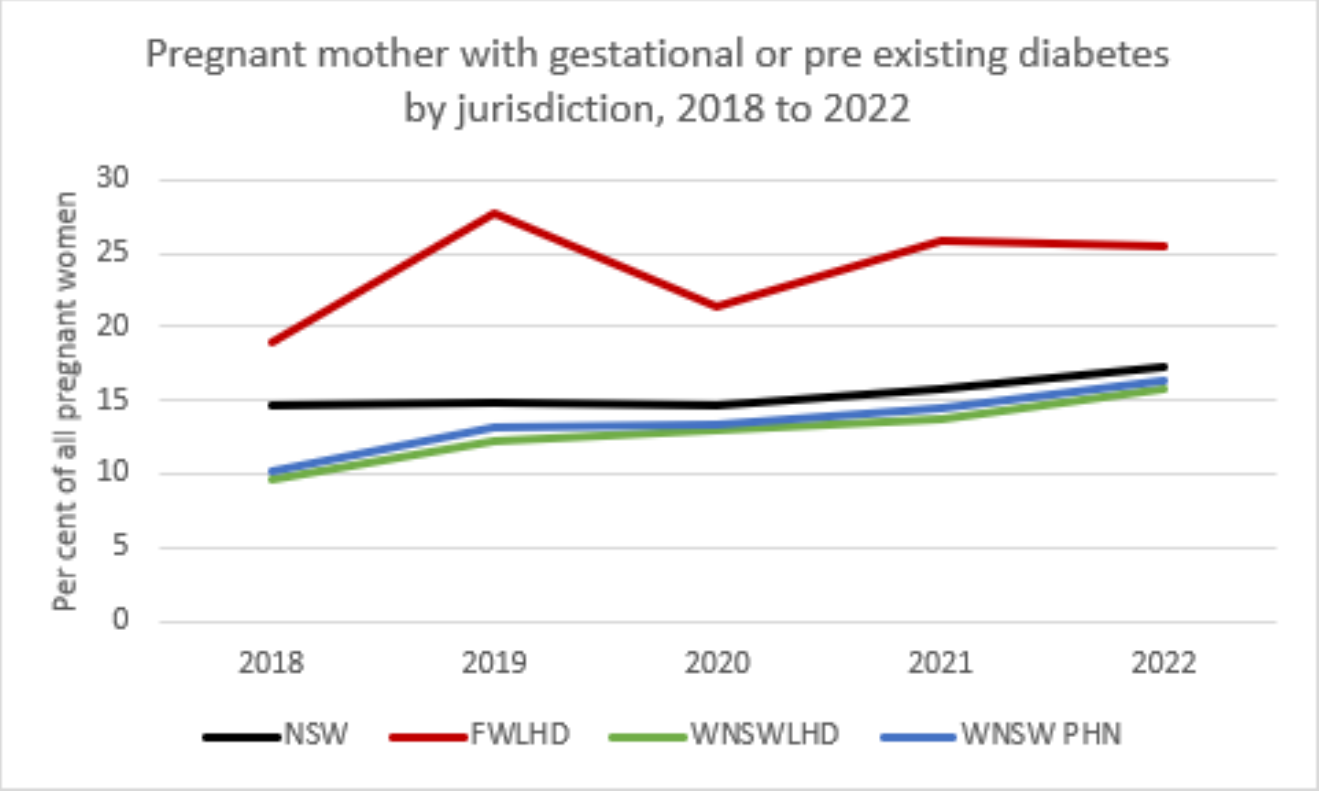



***Figure 11.4 Trends in proportion of all pregnant mothers with diabetes during pregnancy (gestational or pre-existing) by jurisdiction, 2018 to 2022.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Pre-eclampsia

Pre-eclampsia is a serious health condition occurring during pregnancy, characterised by high maternal blood pressure, fluid retention and red blood cell destruction resulting in proteinuria. This condition may lead to poor health outcomes for both mother and baby and therefore requires careful monitoring and management.

Between 2018 and 2022, the average annual proportion of pregnant women with pre-eclampsia in WNSWLHD and WNSW PHN was greater than that in NSW by 72% and 68%, respectively (Figure 11.5). Compared to 2018, the proportion of women with pre-eclampsia in 2022 was 75% higher for WNSWLHD, 65% higher for WNSW PHN and 33% lower for FWLHD. Whereas the proportion of pregnant women with pre- eclampsia in NSW increased by 36%.

## Data caveats

Note that the Perinatal Data Collection (PDC) database records information about births that occur in NSW public and private hospitals, as well as births reported by independent midwives. Pregnant women living in border areas may give birth in a health facility outside of NSW, especially when the pregnancy is considered to be of higher risk or if the woman experiences complications late in pregnancy.  Interstate births are not recorded in the PDC.

Due to the uncertainty around the accuracy of perinatal data for Western NSW, results are not provided by LGA.

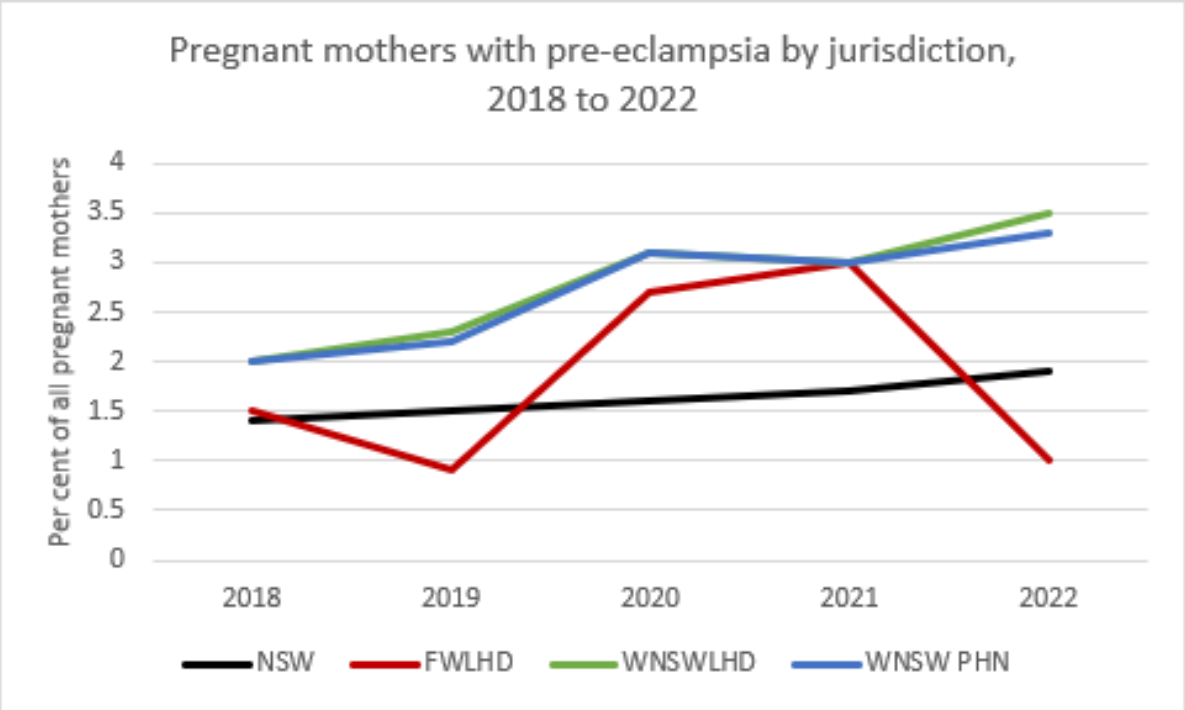



***Figure 11.5 Trends in proportion of pregnant mothers with pre-eclampsia by jurisdiction, 2018 to 2022.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Smoking in pregnancy

Smoking during pregnancy increases the risk of poor health outcomes for both mother and baby. For the baby, maternal smoking increases the risk of premature birth, low birth weight, birth defects and sudden infant death syndrome; for the mother, there is an increased risk of cardiovascular disease and cancer.

Between 2018 and 2022, the proportion of women in WNSW PHN and WNSWLHD who smoked at any time during their pregnancy was 2.3 times that of NSW, while that for FWLHD was 3.1 times higher than NSW (Figure 11.6). However, compared to 2018, by 2022 the proportion of women smoking in pregnancy was lower in all jurisdictions.

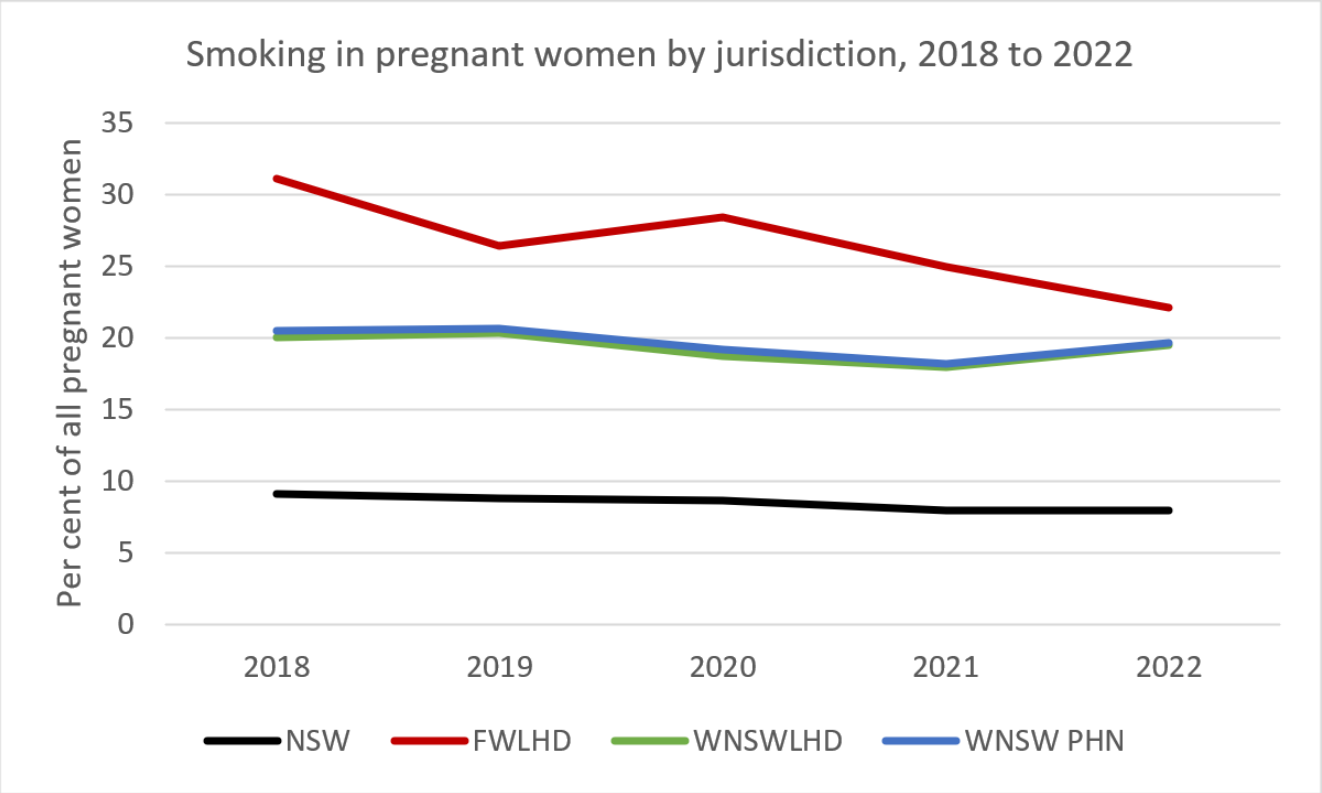



***Figure 11.6 Trends in proportion of mothers who smoked during pregnancy by jurisdiction, 2018 to 2022.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Smoking rates are significantly higher in Aboriginal women in WNSW compared to non-Aboriginal women. WNSW also has higher rates of smoking during pregnancy for Aboriginal women compared to rates in Aboriginal women for NSW. Rates have remained relatively stable for NSW, WNSW PHN and WNSW LHD, over the time recorded (2018-2022), showing a slight decline overall. Rates in rates in FWLHD however showed a dramatic decline over the period.

Between 2018 and 2022, the average annual proportion of Aboriginal (vs. non-Aboriginal) women that smoked during pregnancy was 63% (vs. 18%) in FWLHD, 46% (vs. 13%) in WNSWLHD and 47% (vs. 13%) in WNSW PHN (Figure 11.7). and 41% in NSW 41% (vs. 7%).

WNSW PHN smoking rates for non-Aboriginal women during pregnancy were 95% higher than non-Aboriginal women in NSW.WNSW PHN smoking rates Aboriginal women during pregnancy were 3.5 times higher than non-Aboriginal women.

Based on available data from the PDC, smoking rates for Aboriginal women during pregnancy in FWLHD were 3.5 times higher than non-Aboriginal women. In addition, smoking rates during pregnancy for Aboriginal women in FWLHD were 53% higher than Aboriginal women in NSW.

Note that in FWLHD, some pregnant women access antenatal care through interstate health services, the data of which are not supplied to the NSW PDC. Accordingly, there is some uncertainty around the results of data analyses.

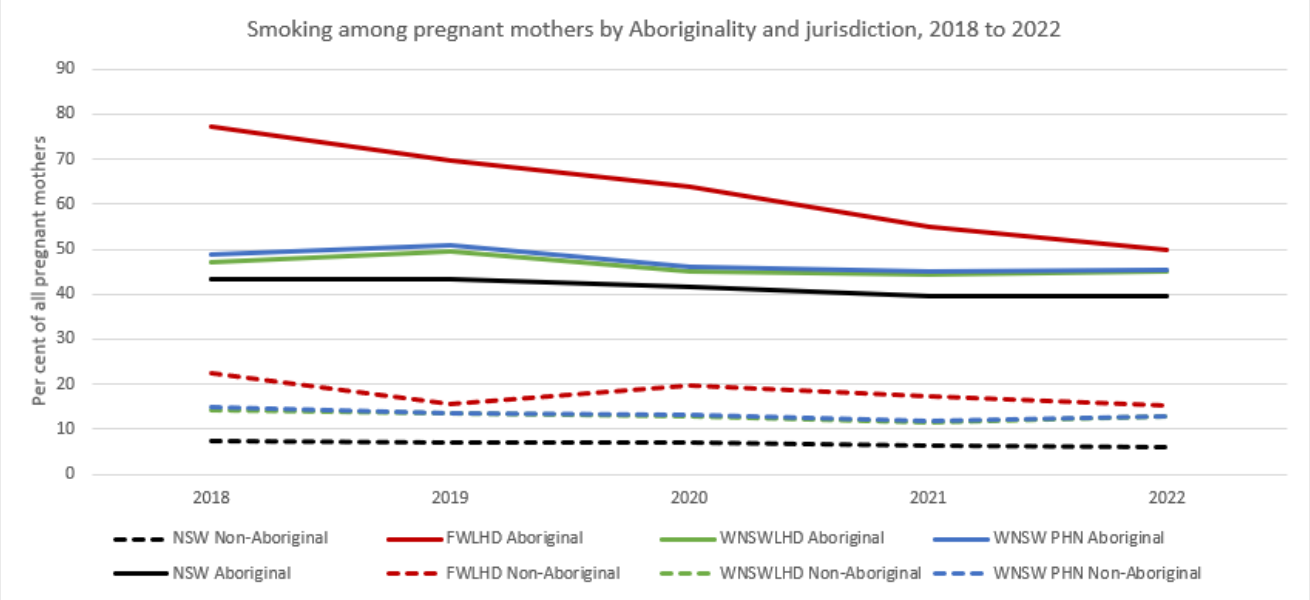



***Figure 11.7 Trends in the proportion of mothers who smoked during pregnancy by Aboriginality & jurisdiction, 2018 to 2022.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Newborn feeding

Infant feeding practices remain a key indicator of infant health outcomes. Breastfeeding promotes healthy growth and development of infants. Non- breastfed babies are at a greater risk of Sudden Infant Death Syndrome, gastrointestinal infections, respiratory infections, as well as overweight and obesity.[1] It is recommended that infants be exclusively breastfed to the age of 6 months when solids are introduced, with non-exclusive breastfeeding continuing to 12 months of age.[2]

Data around breastfeeding practices are available for newborns at hospital discharge. Between 2018 and 2022, the majority (approximately 72%) of newborns in all jurisdictions received breast milk exclusively at discharge (Figure 11.8). Over the reporting period, the average annual proportion of full breastfed newborns for NSW was 3.5% lower (69%). The proportion of newborns fed formula exclusively at discharge was 14% in both WNSWLHD and WNSW PHN, 64% higher than NSW (9%).

[1]Australian Breastfeeding Association, 2019. https://www.breastfeeding.asn.au/bfinfo/health-outcomes-associated-infant-feeding (Accessed 17 January, 2020.)

[2]National Health and Medical Research Council (2012) Infant Feeding Guidelines. Canberra: National Health and Medical Research Council. (www.nhmrc.gov.au/guidelines-publications/n56) (Accessed 4 October 2022)

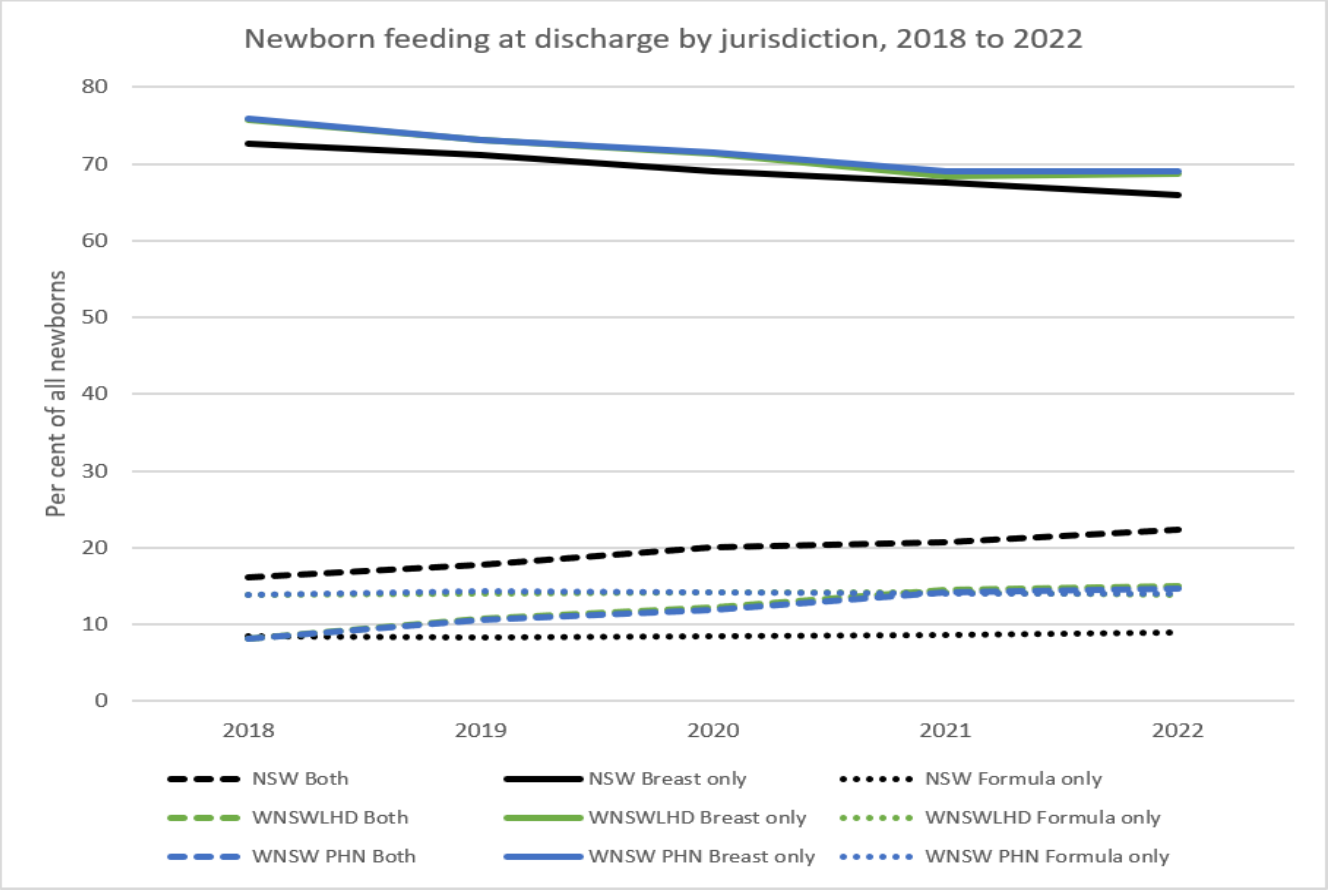



***Figure 11.8 Trends in type of feeding among newborns at discharge from hospital by jurisdiction, 2018 to 2022.***

WNSW PHN= Western NSW Primary Health Network, WNSWLHD=Western NSW LHD. Data for FWLHD not available.
Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Health of the baby

This section addresses the following important outcomes of the newborn:

- Low birth weight
- Perinatal mortality

## Low birth weight

Low birth weight (LBW) babies are those born alive and weighing less than 2,500 grams, regardless of gestational age. LBW is an important indicator of the mother's health throughout her pregnancy as well as an important indicator of the baby's current and future health.

Between 2018 and 2022, the average annual proportion of LBW babies born to WNSW PHN and WNSWLHD women was higher than that for NSW; however, for FWLHD, the proportion was lower (see Footnote[1]) (Figure 11.9).

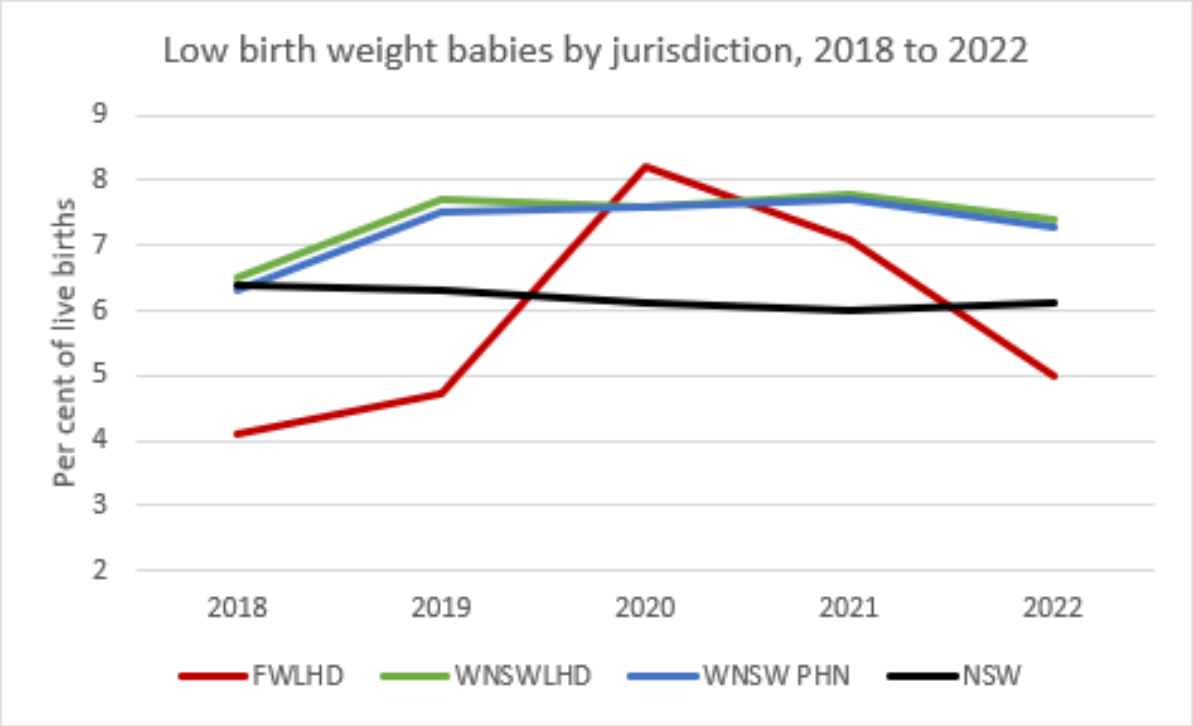



***Figure 11.9 Trends in proportion of babies (live births) born with low birth weight (<2,500 grams) by jurisdiction, 2018 to 2022.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

[1] Note that "The PDC includes notifications of births which occur in NSW which includes women whose usual place of residence is outside NSW and who give birth in NSW; it does not receive notifications of interstate births where the mother is resident in NSW" (Perinatal Data Collection Data Dictionary, NSW Ministry of Health https://www.cherel.org.au/data-dictionaries#section10).

In addition, data for all reporting years were not available for Balranald, Unincorporated NSW and Wentworth as many expectant mothers in these LGAs deliver in Victoria. In 2020, the large increase in LBW babies in FWLHD, could be explained by more mothers birthing in NSW due to the COVID-19 pandemic precluding interstate travel.

## Perinatal mortality

Perinatal deaths include stillbirths occurring at the time of delivery as well as post-delivery deaths occurring within the first 28 days of life. Perinatal mortality has been decreasing across NSW and Australia since 1997. Reduction in perinatal mortality may be attributed to earlier commencement of antenatal care, better access to and improvements in obstetric and paediatric care, and referral to specialist centres for high-risk pregnancies.

Between 2018 and 2022, the rate of stillbirths in WNSW PHN was 4.5 times that of post-delivery deaths and 34% higher than stillbirths for NSW (Figure 11.10). In FWLHD, stillbirths were greater than that of NSW by 84%, while WNSWLHD stillbirths were higher than NSW.

Between 2018 and 2022, post-delivery deaths in FWLHD were (zero), lower than that in NSW (1.9 per 1,000). Post-delivery deaths in WNSW PHN were equal to NSW, with WNSWLHD rates higher than that in NSW (Figure 11.10).

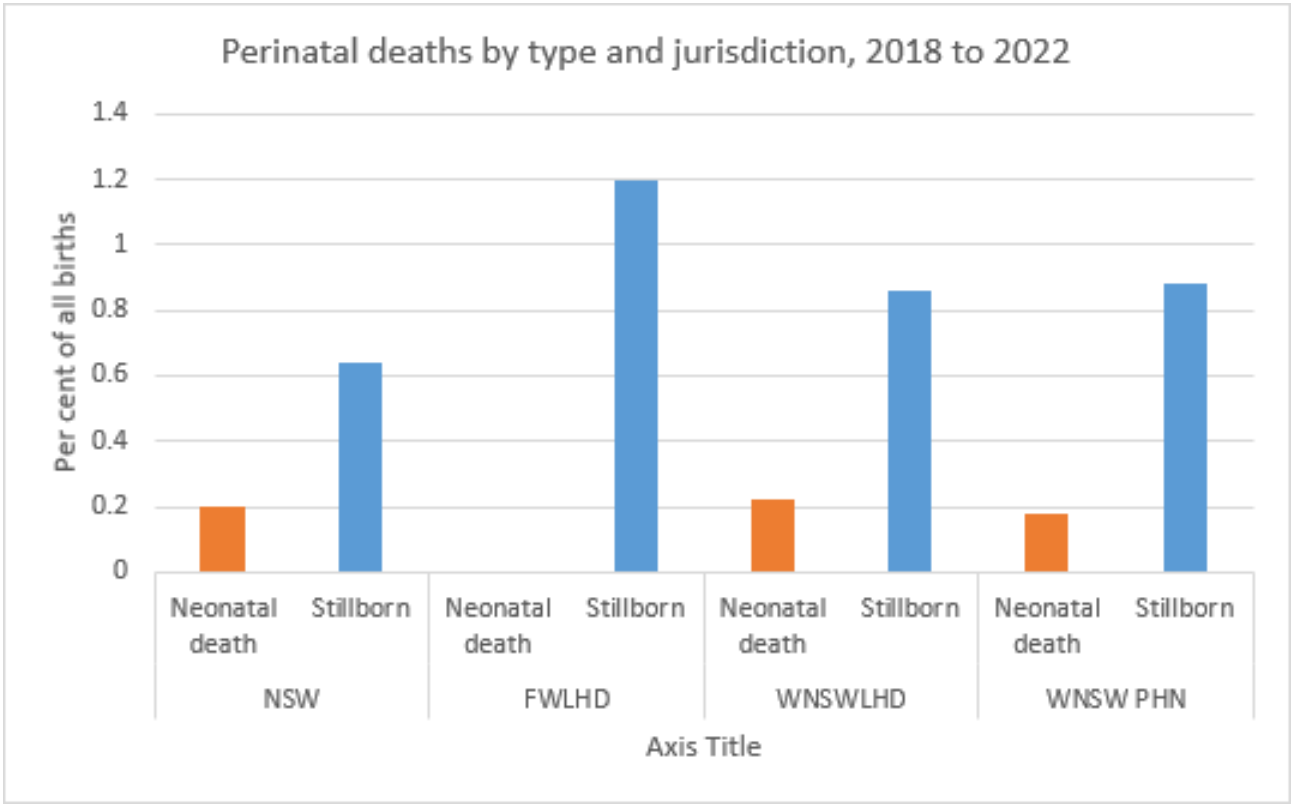



***Figure 11.10 Perinatal deaths by type & jurisdiction, 2018 to 2022.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

# Chapter 12. Health of Children and Young People

## Summary

| Chapter 12. Child & Adolescent Health | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| **Health Issues & Behaviours** | | | | | |
| Immunisation, 1 yr-old (Aboriginal / Non-Aboriginal) | 2022 | 95% / 97% | 95% / 97% | Not available | 93% / 94% |
| Immunisation, 2 yrs-old (Aboriginal / Non-Aboriginal) | 2022 | 96% / 94% | 93% / 95% | Not available | 91% / 92% |
| Immunisation, 5 yrs-old (Aboriginal / Non-Aboriginal) | 2022 | 97% / 97% | 97% / 97% | Not available | 97% / 94% |
| Current asthma rate, 2-15 yrs (cf. NSW) | 2017-2019 | 11% lower | 9% higher | 2% lower | Not applicable |
| Intentional self-harm hosp. rate, 15-24 yrs (cf. NSW) | 2017/18-2021/22 | 2.1 times higher | 37% higher | 43% higher | Not applicable |
| Intentional self-harm hosp. rate, females (cf. males) | 2017/18-2021/22 | 2.1 times higher | 2.7 times higher | 2.6 times higher | 2.8 times higher |
| Adequate daily fruit consumption, 2-15 yrs (cf. NSW) | 2017/18-2021/22 | 4% higher | 11% higher | Not available | Not applicable |
| Adequate daily vegetable consumption, 2-15 yrs (cf. NSW) | 2017/18-2021/22 | 31% lower | 20% lower | Not available | Not applicable |
| Adequate physical activity, 5-15 yrs | 2017-2018 to 2021-2022 | 28% | 22% | Not available | 21% |
| Sedentary activities, >2 hrs per day, 5-15 yrs | 2017-2018 to 2021-2022 | 65% | 44% | Not available | 52% |
| Overweight and Obesity rate, 5-16 yrs | 2015-2018 to 2019-2022 | 30 | 28% | 7.2% | 22.0% |
| **Developmentally vulnerable children** | | | | | |
| Physical health & wellbeing (%) | 2009-2018 / 2021 | 14.4 / NA | 11.5 / 14.8 | 11.7 / 14.8 | 8.5 / 9.4 |
| Social competence (%) | 2009-2018 / 2021 | 12.2 / NA | 11.2 / 11.9 | 11.3 / 12.1 | 8.9 / 9.4 |
| Emotional maturity (%) | 2009-2018 / 2021 | 9.9 / NA | 8.5 / 8.0 | 8.6 / 8.3 | 6.8 / 7.3 |
| Language & cognitive skills (%) | 2009-2018 / 2021 | 11.8 / NA | 8.0 / 8.3 | 8.4 / 9.1 | 5.1 / 6.2 |
| Communication & general knowledge (%) | 2009-2018 / 2021 | 11.1 / NA | 9.1 / 10.1 | 9.3 / 10.1 | 8.4 / 8.4 |
| Two or more of the above domains (%) | 2009-2018 / 2021 | 16.4 / NA | 12.5 / 13.9 | 12.9 / 14.0 | 9.7 / 10.5 |

yrs=years, cf.=compared to, >=more than, NA=data not available

The health and wellbeing of children and young people is a priority for the WNSW PHN community. Many of the priority health and wellbeing outcomes that impact children and young people can be improved through early diagnosis and intervention, focusing on social and emotional development, encouraging deeper connections and relationships within the community and establishing healthy habits and behaviours to support people into adulthood.

Immunisation rates in children up to 5 years old are consistently high across the region indicating good engagement with immunisation programs for this age group.

Poor mental health and wellbeing is an urgent priority for the region. This was evident in the population health data, service utilisation data and stakeholder consultations. High rates of intentional self-harm, anxiety and depression were raised in consultations as concerns for children and young people for which appropriate care is not available and long wait times exist.

Vaping was raised as a significant concern for young children and young people in the region with concerns that using rates are underreported and e-cigarettes were easily accessible including to adolescents in schools.

Early development for young children was also highlighted as a priority issue for the region in the Australian early development census (AEDC) data and during consultations. The AEDC data indicates high rates of developmentally vulnerable children across all LGAs in WNSW PHN. Consultations with community and clinicians raised concerns about delays in pediatric assessments and diagnosis, lack of locally available specialists, lack of local services and allied health clinicians and long wait times for appointments.

## Immunisation

High immunisation rates in young children in WNSW PHN indicate strong motivation in the community to engage with the immunisation program for young children. This could potentially provide some opportunities for contact with families and children who require support for early development.

Families and children in WNSW PHN are successfully engaging in immunisation programs for children up to 5 years with very high rates of fully immunised Aboriginal and non-Aboriginal children. Immunisation rates for older school students in years 7 to 12 are also consistently high for WNSW LHD but slightly lower for HPV vaccination in year 7 students in the FWLHD.

Engagement with adolescents for education about sexual health, pregnancy and parenting was identified as an important early intervention opportunity for supporting sexual health in young adults and healthy pregnancy in young women. Low rates of HPV vaccinations in FWLHD for year 7 students indicates that increased health promotion and health literacy for young adults may help to support families and early adolescents to understand the importance of vaccination and support the foundations for sexual health throughout adolescence and young adulthood.

In 2022, the rate of immunisation among eligible children aged 1, 2 and 5 years in FWLHD was consistently higher than that in WNSWLHD and NSW, except for Aboriginal children aged 5 years and non-Aboriginal aged 2 years (Figure 12.1). For WNSWLHD, the rate of immunisation among Aboriginal and non-Aboriginal children was consistently higher than that of their NSW counterparts.

For FWLHD in 2022, immunisation rates among Aboriginal children were higher for 2-year-old but slightly lower for 1- and 5-year-old than non-Aboriginal children in these age cohorts. For WNSWLHD, immunisation rates among Aboriginal children were higher for 5-year-old but slightly lower for 1- and 2-year-old than non-Aboriginal children in these age cohorts.

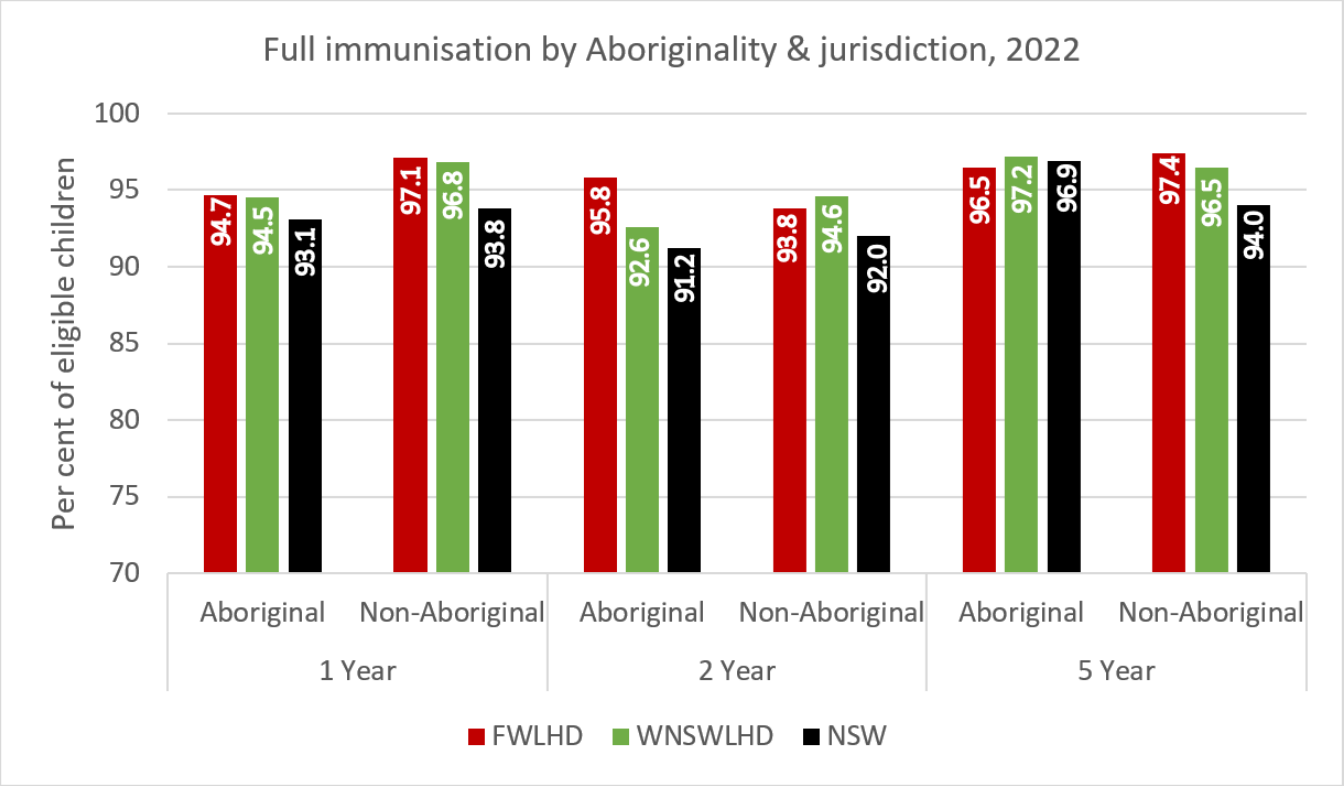



***Figure 12.1 Percentage of eligible children aged 1, 2 and 5 years fully immunised by Aboriginality & jurisdiction, 2022.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

In 2021, the rates of immunisation among school students in FWLHD for both human papilloma virus (HPV) and diphtheria/tetanus/pertussis (dTpa) were lower than that for WNSWLHD and NSW (Table 12.1). For HPV and compared to their NSW counterparts, rates among FWLHD females were lower by 18% (1st dose) and 28% (2nd dose), respectively, while those for FWLHD males were lower by 26% and 37%, respectively. For dTpa, FWLHD rates were lower than for NSW by 21%.

By contrast, rates of immunisation among WNSWLHD children in 2021 were consistently higher than for NSW, except for HPV (1st dose) among males where WNSWLHD rates were marginally lower by 2%.

*Table 12.1 Proportion of eligible school students immunised by vaccine type, jurisdiction & year.*

| Immunisation schedule Type (school year) sex, dose | Year | FWLHD | WNSWLHD | NSW |
|---|---|---|---|---|
| HPV (Year 7) females, Dose 1 | 2021 | 68% | 85% | 83% |
| HPV (Year 7) males, Dose 1 | 2021 | 59% | 78% | 80% |
| HPV (Year 7) females, Dose 2 | 2021 | 52% | 80% | 72% |
| HPV (Year 7) males, Dose 2 | 2021 | 45% | 75% | 71% |
| dTpa (Year 7), Dose 1 | 2021 | 64% | 82% | 81% |
| 4vMenCV (Year 11), Dose 1 | 2018 | 73% | 66% | 70% |
| 4vMenCV (Year 12), Dose 1 | 2017 | 81% | 73% | 76% |
| Varicella, Dose 1 | 2017 | 61% | 72% | 66% |

HPV=human papilloma virus; dTpa=diphtheria-tetanus-pertussis; 4vMenCV=quadrivalent meningococcal conjugate vaccines.
Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Asthma (child & adolescent)

Between 2017 and 2019, the proportions of 'past' and 'current' asthma among children aged 2-15 years in WNSW PHN were similar to that of NSW (Figure 12.2). WNSWLHD, however, reported past and current asthma rates higher than that of NSW by 11% and 9%, respectively. FWLHD, on the other hand, reported rates that were lowest in all jurisdictions, and lower than NSW by more than 10% for both past and current asthma.

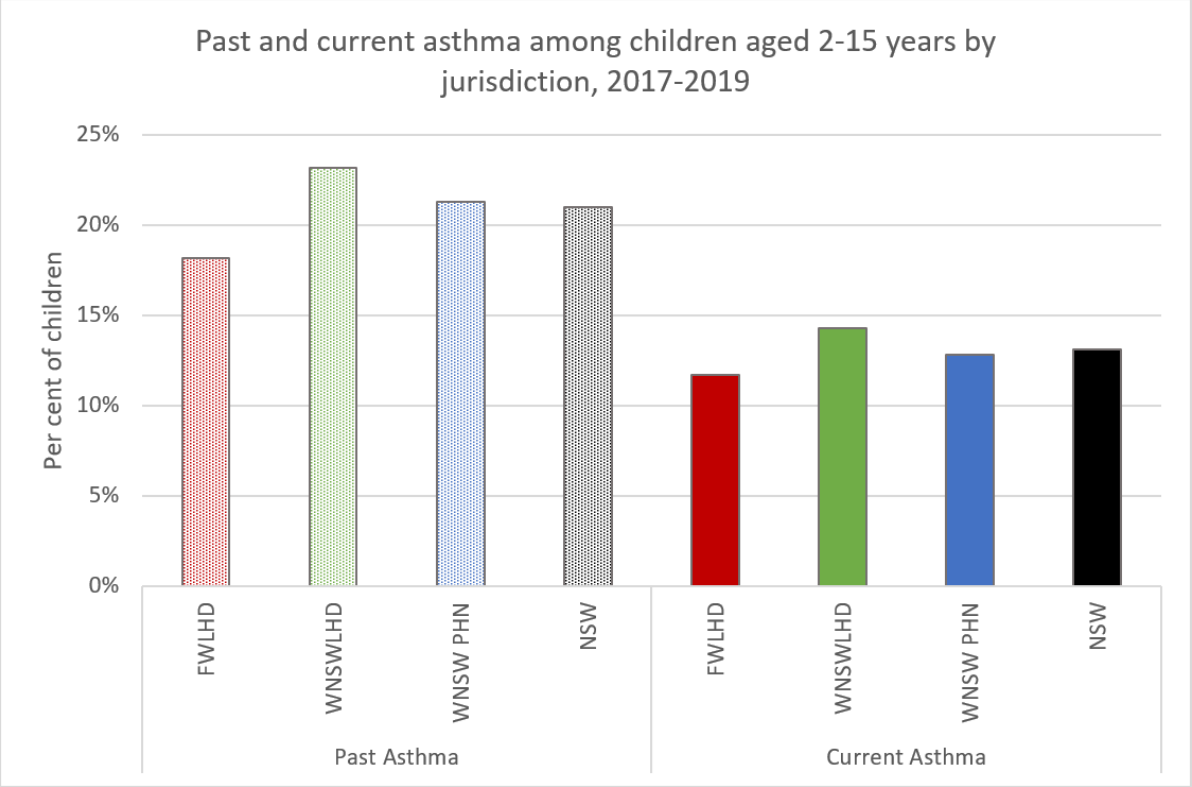



***Figure 12.2 Children aged 2-15 years with asthma by type & jurisdiction for the triennial period, 2017-2019.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Compared to 2011-2013, the rate of 'past' and 'current' childhood asthma for the 2017-2019 triennial period was lower in all four jurisdictions with the greatest decline observed for FWLHD, where rates were 30% lower for 'past' asthma and 46% lower for 'current' asthma (Figure 12.3). Indeed, in the final triennial reporting period and compared to NSW, 'past' and 'current' rates of childhood asthma in FWLHD were lower by 13% and 11%, respectively, while that for WNSWLHD were higher by 10% and 9%, respectively.

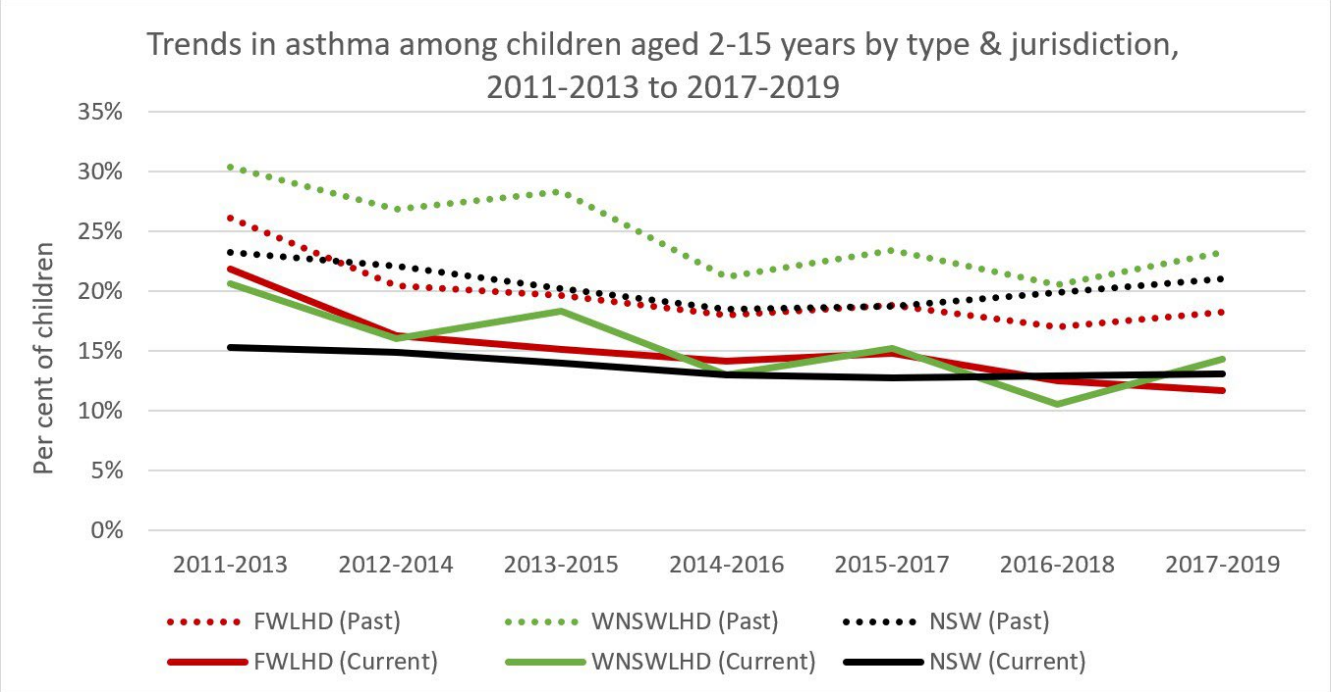



***Figure 12.3 Trends in proportion of children aged 2-15 years with past or current asthma by jurisdiction and triennial periods 2011-2013 to 2017- 2019.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

## Psychological distress & intentional self-harm

It was reported in clinician and service provider consultations that anxiety and depression had increased since Covid in young people, particularly those aged 16 and over. Children and young people who require support across the region were also reported as experiencing social isolation and loneliness and complex trauma leading to suicidal ideation and intentional self-harm. Suicide in people aged 15-30 years, particularly young men, people experiencing socioeconomic disadvantage and Aboriginal young people was raised as an issue of great importance. Targeted interventions that address health literacy and reach young people in the community were suggested as critical in addressing this issue.

Lack of workforce and appropriate long-term services were raised as barriers to access for many children and young people in the region. Clinicians reported that young people often find it harder to engage with services because they don't know what services are available or how to access them. Smaller, more remote communities reported often missing out on mental health and wellbeing services for children and young people due to services being too expensive or not viable due to the relatively high cost per patient. For children living in out of home care, continuity of care was raised as a significant challenge for services providers.

Community and in-setting programs in schools were highlighted in consultation and the primary care and general practice survey as an important factor in delivering services to children and young people. Consultation with services providers revealed the success in developing trust and relationships through ongoing rapport and children feeling comfortable in their own environment through outreach programs delivered in schools.

The inclusion of local community in design and delivery of services was raised for smaller communities and for Aboriginal children and young people in particular. Services with Aboriginal health workers to support the delivery of care were described as more successful in making children and young people feel safe and comfortable in care settings, particularly when telehealth services were used. It was raised that young people who had been incarcerated could experience distress and fear in some service settings due to similarities in the clinical environments and detention environments in the justice system.

Strong social connection with family and community was highlighted as critical in all communities, both Aboriginal and non-Aboriginal, to combat isolation and improve resilience and the development of strong identity and sense of self in children and adolescents. It was raised frequently in consultation that designing and delivering services with communities that are place based, relevant and appropriate for the local community were crucial to the success of community programs and interventions. This was seen as particularly important for smaller, rural and remote communities.

Note that updated data for psychological distress among secondary school students is not currently available.

Between 2005 and 2017, the average 3-yearly proportion of secondary school students in WNSW PHN reporting high psychological distress was 15% compared to 14% in NSW (Figure 12.4).

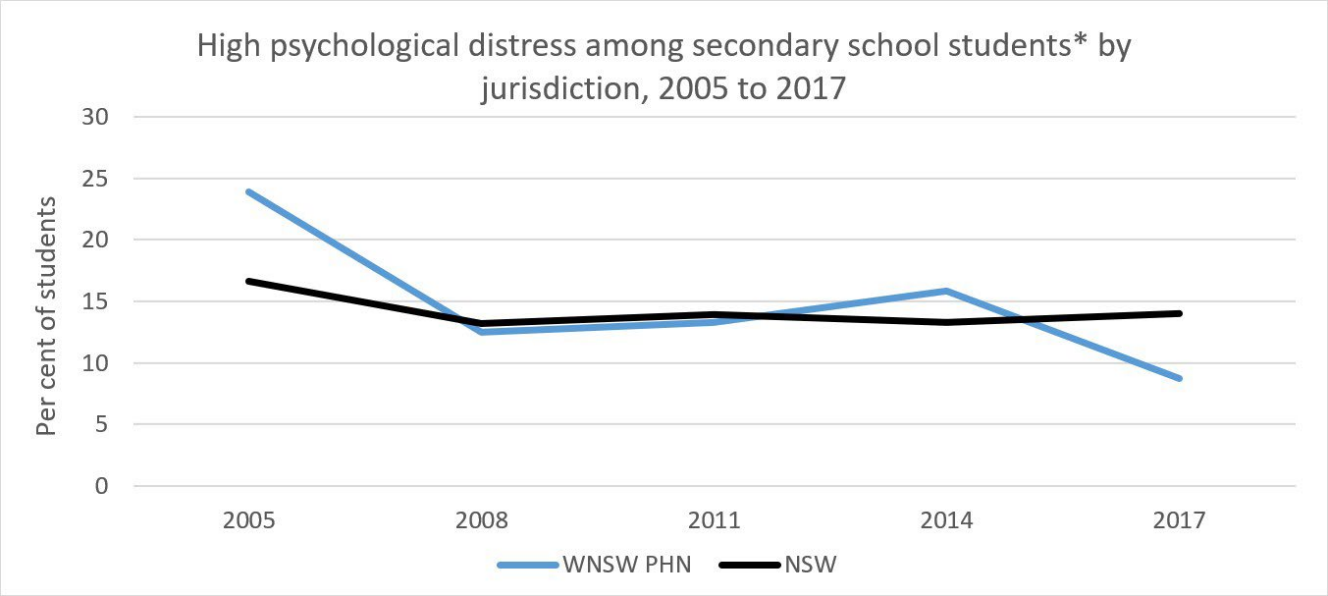



***Figure 12.4 Trends in psychological distress among secondary school students (12-17 years), WNSW PHN compared to NSW, 2005 to 2017.***

*12-17 years of age

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2017-18 and 2021-22, the average annual rates of hospitalisation for intentional self-harm among 15-24 year olds in WNSW PHN, FWLHD and WNSWLHD were all higher than that of NSW (Figure 12.5). Compared to NSW, rates in WNSWLHD and WNSW PHN were 37% and 43% higher, respectively while rates in FWLHD were 2.1 times higher. Compared to 2017-18, hospitalisation rates for intentional self-harm in 2021-22 were slightly higher by 1% in NSW, and lower by 23%, 24% and 16% in WNSW PHN, WNSWLHD, and FWLHD, respectively.

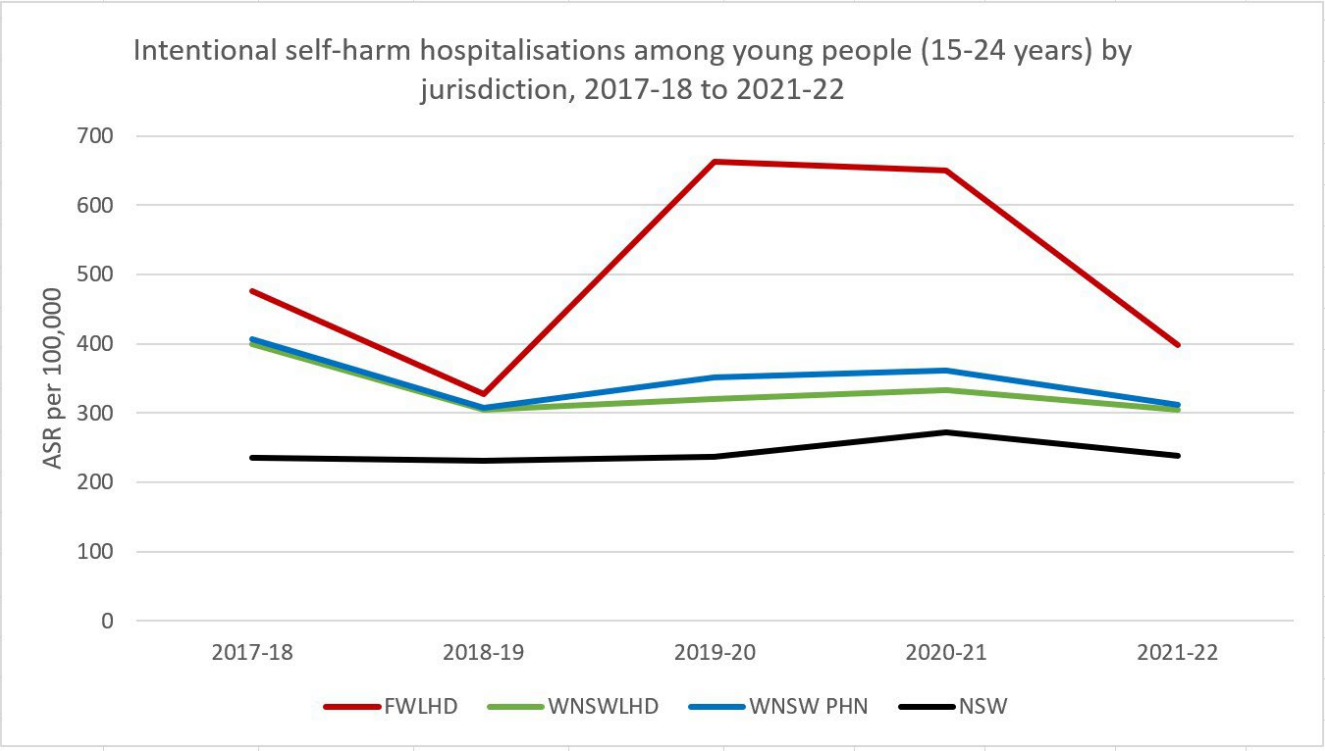



***Figure 12.5 Trends in hospitalisations for intentional self-harm among young residents aged 15-24 years by jurisdiction, 2017-18 to 2021-22.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

Between 2017-18 and 2021-22 and for all jurisdictions, the average annual rate of hospitalisations due to intentional self-harm among females aged 15-24 years was higher than among their male counterparts (Figure 12.6). Of all jurisdictions, the discrepancy between females and males was smallest for FWLHD with female rates being 2.1 times higher than that of males. NSW reported the highest discrepancy with female rates being 2.8 times that of males, followed by WNSWLHD and WNSW PHN at 2.7 and 2.6 times that of males, respectively.

Compared to NSW, average annual hospitalisation rates due to intentional self-harm among females aged 15-24 years were higher by 90% (FWLHD), 35% (WNSWLHD) and 40% (WNSW PHN) (Figure 12.6). For males, rates were higher than that in NSW by 2.6 times (FWLHD), 43% (WNSWLHD) and 54% (WNSW PHN).

Compared to 2017-18, hospitalisation rates in 2021-22 due to intentional self-harm among females (15-24 years) were lower by 24% (FWLHD), 17% (WNSWLHD) and 18% (WNSW PHN), and higher by 6% in NSW (Figure 12.6). For males, rates were lower in all jurisdictions by 7% (FWLHD), 36% (WNSWLHD), 32% (WNSW PHN) and 10% (NSW).

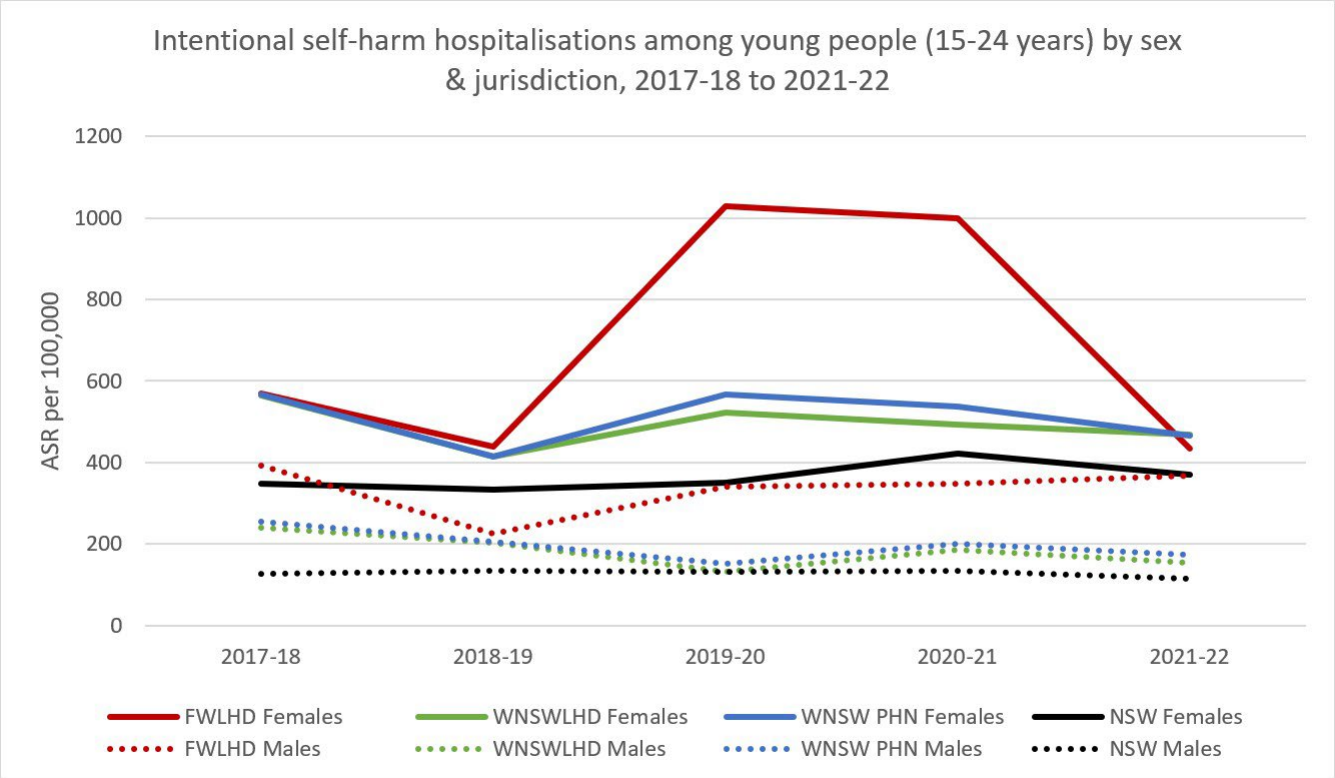



***Figure 12.6 Trends in hospitalisations for intentional self-harm among young residents aged 15-24 years by sex & jurisdiction, 2017-18 to 2021- 22.***

ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Smoking including vaping and marijuana (child & adolescent)

Vaping in children and young people was raised in consultation with community and clinicians as a significant concern for the region. It was suggested that current rates are underreported, and vaping is prolific among high school children and young adults. Community feedback expressed concern that the long-term health impacts of vaping were poorly understood and potentially downplayed due to a lack of understanding and data. It was also raised that GPs and primary care clinicians may not have the confidence and knowledge to discuss vaping with young people and may not have appropriate or up to date health record systems to accurately record and report on vaping rates for their patients.

Community consultations highlighted marijuana as another common concern for children and young people in the region. This was raised most often by services providers and community representatives as something reported by young children accessing the services they provided.

Note that updated data for smoking among secondary school students is not currently available.

Between 2005 and 2017, the annual average percentage of 'past' smoking among WNSW PHN secondary school students was slightly higher than that of NSW by 1% but lower than NSW for 'current' smoking by 17% (Figure 12.7). Compared to 2005, current smoking in 2017 was lower among secondary school students for both WNSW PHN and NSW by 23% and 38%, respectively. Past smoking was also lower in 2017 than in 2005 by 29% and 51% for WNSW PHN and NSW, respectively.

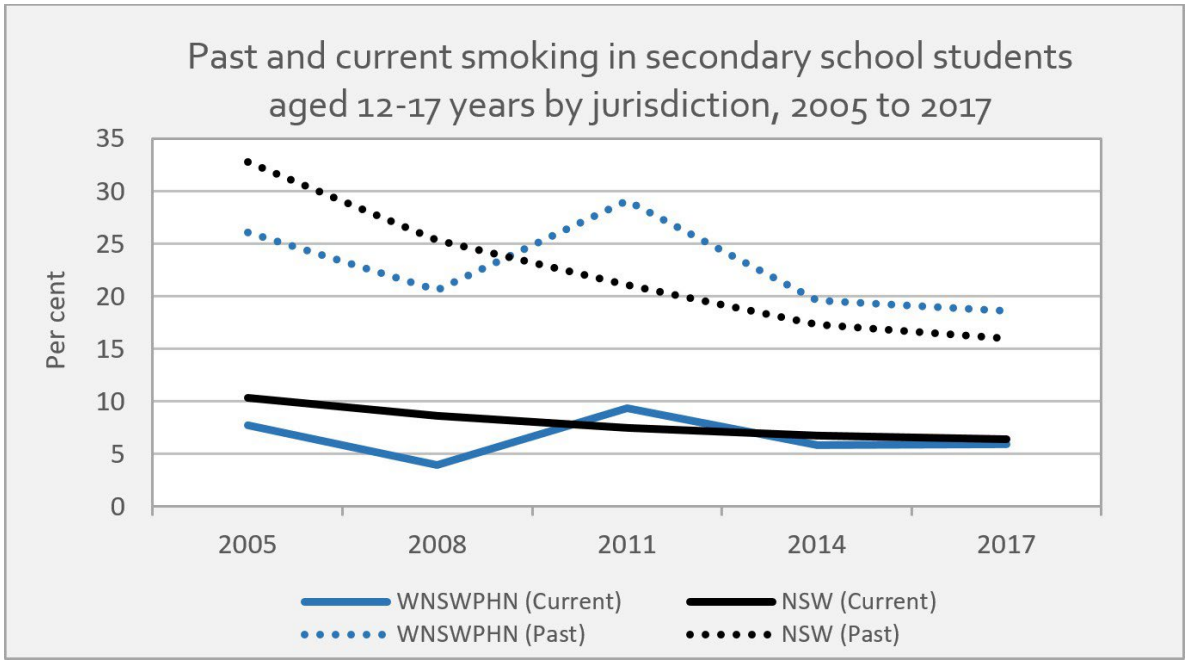



***Figure 12.7 Trends in past and current smoking in secondary school students aged 12-17 years by jurisdiction, 2005 to 2017.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Nutrition (child & adolescent)

Between 2017-2018 and 2021-2022, the average biennial proportion of children who ate adequate amounts of fruit over the reporting period was 65% (FWLHD), 70% (WNSWLHD) and 63% (NSW) (Figure 12.8). By comparison, only 4% (FWLHD), 5% (WNSWLHD) and 6% (NSW) of children were reported to have eaten adequate amounts of vegetables.

Consultations with service providers raised metabolic health, including type II diabetes, diet and exercise as significant concerns for children and young people in the region. These health concerns were raised as inter-related to mental health and wellbeing of children and young people and their families. Low income and poor access to low-cost healthy food, exposure to misleading food advertising, social activities such as gaming, and social influence on food choices were all suggested as contributing to high rates of metabolic disease. It was reported that children as young as 12 and 13 years old were presenting to services with a diagnosis of type II diabetes, and more frequently in smaller rural and remote communities and in Aboriginal children and young people.

Community interventions for prevention and remission are seen as imperative to supporting communities to manage and reverse metabolic disease. Two significant national reports on diabetes were suggested to the PHN to consider when addressing the needs of children and young people with metabolic disease, in particular type II diabetes: The State of the Nation 2024: The Diabetes Epidemic in Australia report from Diabetes Australia, and The State of Diabetes Mellitus in Australia in 2024 report from the Parliamentary Inquiry into Diabetes.

Compared to NSW, the average biennial proportion of children aged 2-15 years who ate adequate amounts of fruit was slightly higher by 4% and 11% in FWLHD and WNSWLHD, respectively. However, for adequate vegetable consumption, the proportions in FWLHD and WNSWLHD were lower than NSW by 31% and 20%, respectively.

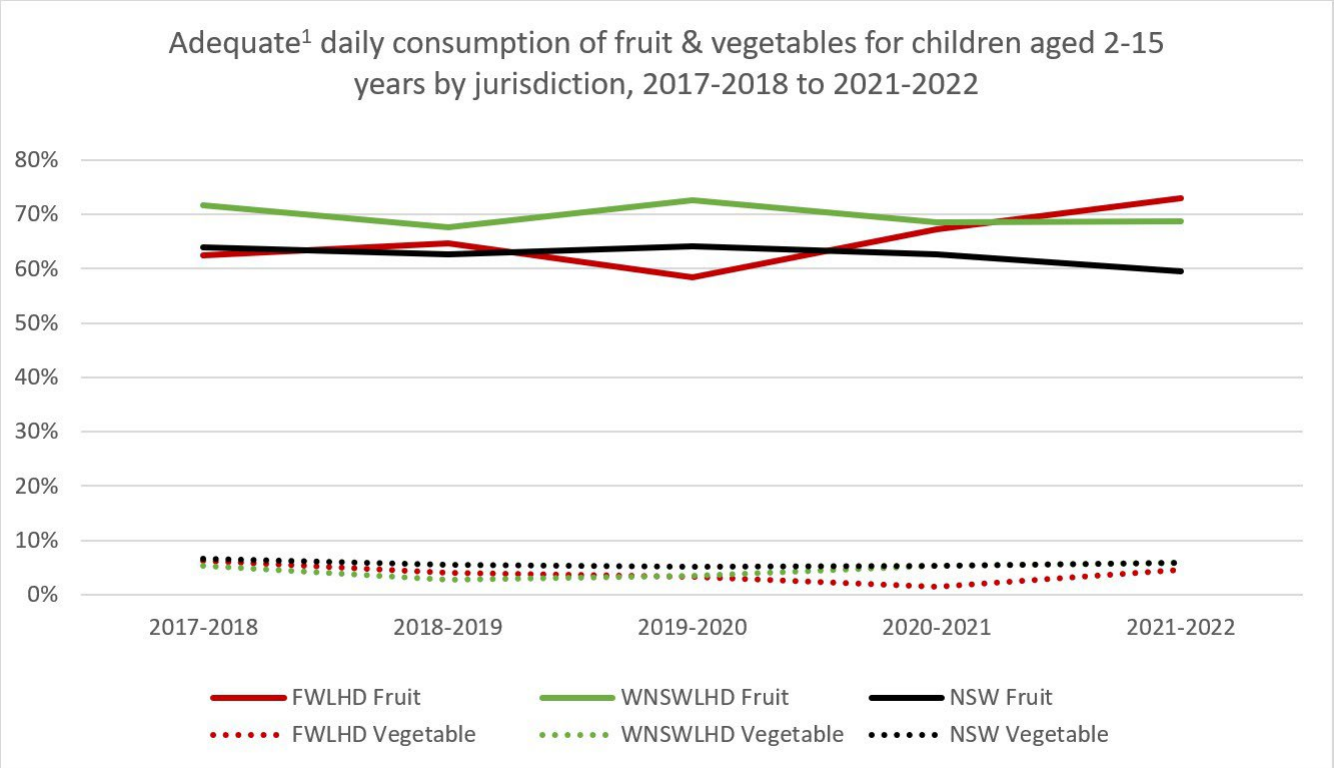



***Figure 12.8 Trends in adequate daily consumption of fruit and vegetables among children aged 2-15 years by jurisdiction, 2017-2018 to 2021- 2022.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

[1]**Adequate fruit and vegetable consumption:** "For children aged 2-3 years, the dietary guidelines recommend daily consumption of at least 1 serving of fruit and 2.5 servings of vegetables; children 4-8 years should eat 1.5 servings of fruit and 4.5 servings of vegetables; children 9-11 years, and adolescent girls (12-18 years) should consume 2 servings of fruit and 5 servings of vegetables; adolescent boys should consume 2 servings of fruit and 5.5 servings of vegetables." HealthStats, NSW Ministry of Health.

## Physical activity & sedentary behaviours

Between 2017-2018 and 2021-2022, the average biennial percentage of children aged 5-15 years engaged in adequate physical activity was 28% for FWLHD and 21% for WNSWLHD (Figure 12.9). However, in FWLHD and WNSWLHD, 65% and 44% of 5-15 year-olds, respectively, engaged in sedentary behaviours (i.e. more than two hours per day spent on sedentary leisure activities). Compared to NSW, the proportion of FWLHD children engaged in adequate physical activity was higher by 34%, while that for WNSWLHD was similar to NSW. For 5–15-year-olds engaged in sedentary behaviours, the proportion in FWLHD was higher than NSW by 24% while that for WNSWLHD was lower than NSW by 14%.

Compared to 2017-2018, the proportion of 5–15-year-olds children engaged in adequate physical activity in 2021-2022 was lower by 22% for FWLHD and 15% for NSW and was higher by 53% for WNSWLHD (Figure 12.9). By contrast, sedentary behaviours increased by 35% in FWLHD, 41% in WNSWLHD and 31% in NSW. These results may be explained by the COVID-19 pandemic lockdown periods.

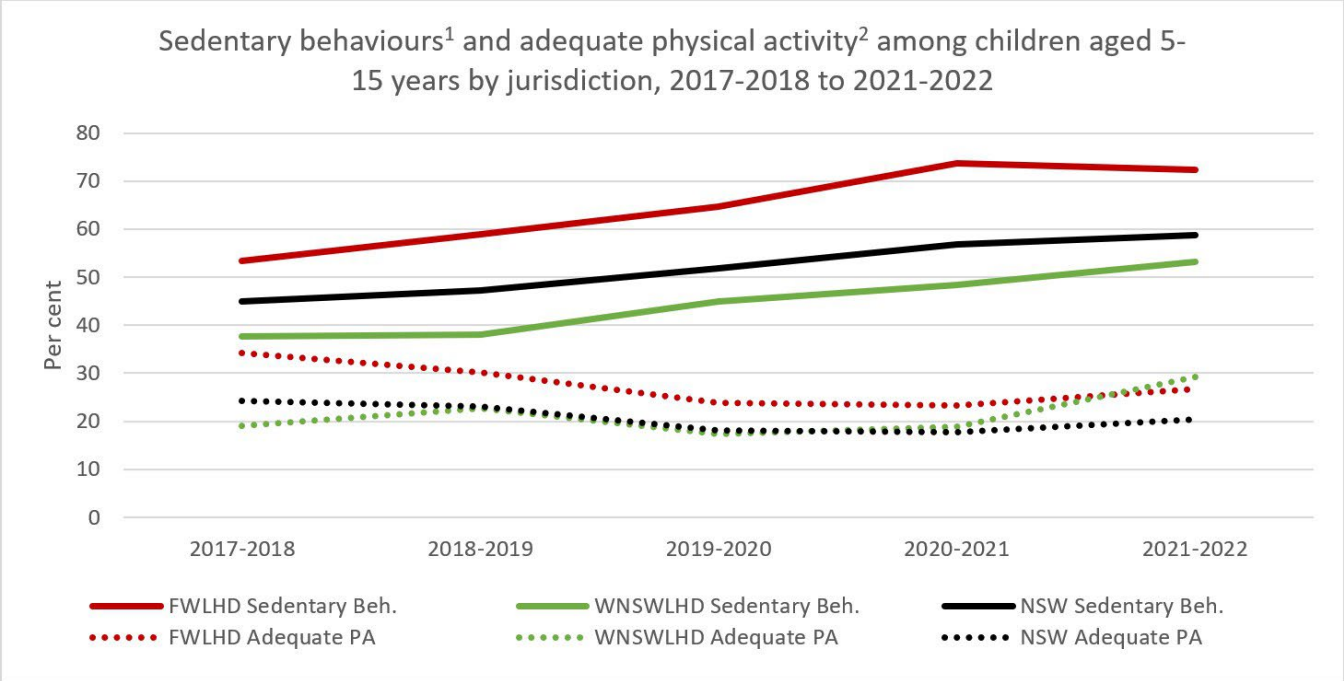



***Figure 12.9 Trends in sedentary behaviours & adequate physical activity among children aged 5-15 years by jurisdiction, 2017-2018 to 2021- 2022.***

PA=Physical activity.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

1. Sedentary behaviours are those where children spend more than 2 hours per day on sedentary leisure activities.
2. An adequate level of physical activity is defined as 1 hour or more of vigorous or moderate physical activity outside of school hours each day.

### Obesity and overweight (children)

Between 2015-2018 and 2019-2022, the average percentage of children aged 5-16 years who were overweight or obese was 30% for FWLHD, 28% for WNSWLHD and 22% for NSW (Figure 12.10). Compared to NSW, the proportion of FWLHD and WNSWLHD children who were overweight or obese was higher than NSW by 36% and 24%, respectively.

Compared to 2015-2018, the proportion of children in 2019-2022 who were overweight or obese was higher in FWLHD by 31% and lower in WNSWLHD by 36%, with no change in NSW.

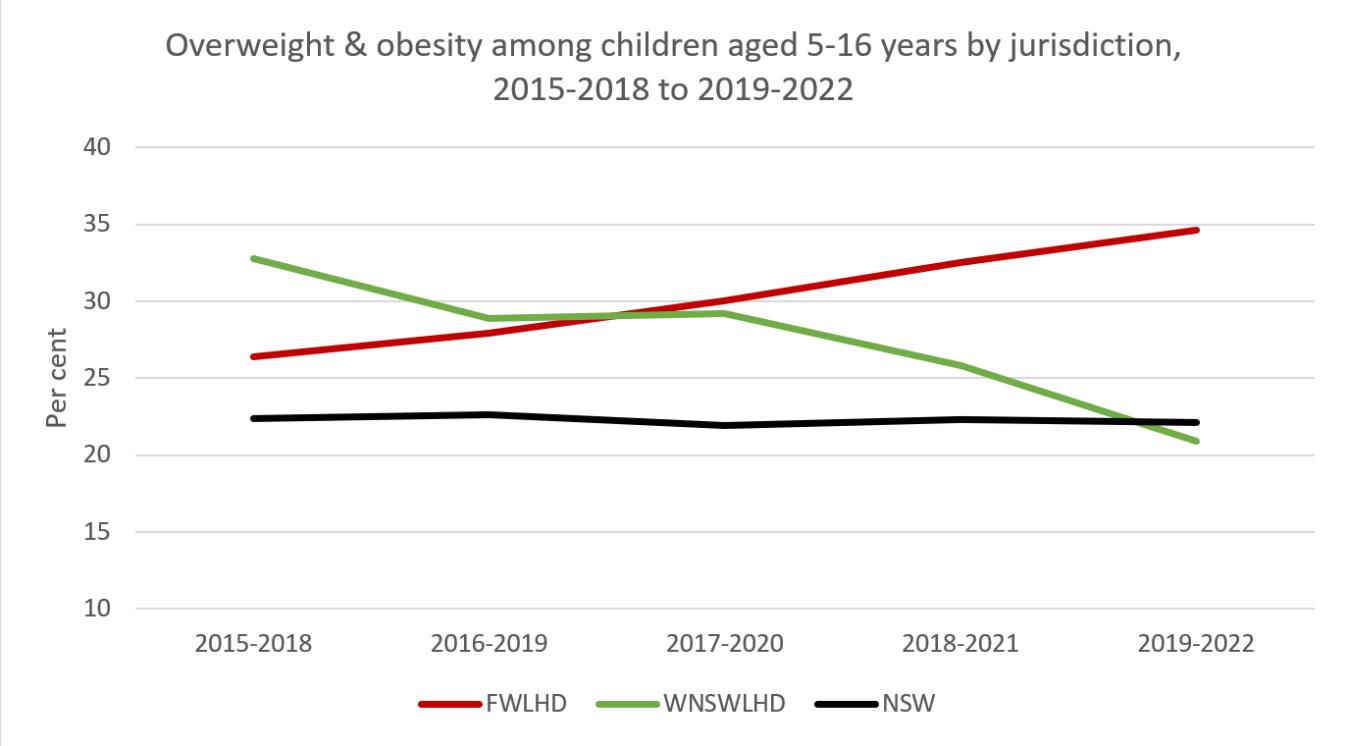



***Figure 12.10 Trends in obesity and overweight among children aged 5-16 years by jurisdiction, 2015-2018 to 2019-2022.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Developmental vulnerability of children commencing full- time school

Support for healthy development in early childhood was raised frequently as a concern in consultations and is highlighted by high rates of developmentally vulnerable children in many LGAs across WNSW PHN. Early childhood education and childcare centres are an important contact point for families and children in the community for early detection and referral for developmental concerns. Consultations highlighted a significant lack of childcare centres across the region presenting a barrier for support.

It was reported that children in the region were experiencing significant delays in neurodevelopmental assessment and diagnosis, in particular for ADHD and autism. Extensive wait times, prohibitive costs and long distance to travel for paediatric assessments were raised as barriers for children to receive early diagnosis and intervention. It was reported that some families were travelling to Sydney at significant cost to get assessment and diagnosis for children in a shorter timeframe however, the cost and travel are significant barriers for many families in the region. Trialling pilot programs such as virtual diagnosis for ADHD and autism in pediatric care was suggested to improve this.

## About the AEDC and its domains

The Australian Early Development Census (AEDC) reports on the level of development among children commencing their first year of full-time school. Assessing the level of childhood development for a community is achieved by determining the proportion of children that are developmentally vulnerable for two or more of the following domains: physical health and wellbeing, social competence, emotional maturity, school-based language and cognitive skills, and communication skills and general knowledge. Data are collected from both government and non-government schools nationwide every three years, with the first collection having commenced in 2009. Childhood development status is then assessed for each LGA by determining the proportion of all children having started full-time school that are developmentally vulnerable.

## Data issues that may need to be considered

The advent of the COVID-19 pandemic from early 2020 is expected to have had an impact on the data collected in 2021. The AEDC provides the following insights:

> *"While more research and analysis will need to be undertaken to understand the impact of COVID-19, data at the national level suggest the impact may not have been as substantial as expected, with modest increases in developmental vulnerability. The impact, however, does not appear to have been evenly felt, with larger increases in developmental vulnerability seen for Aboriginal and Torres Strait Islander children and children living in the most disadvantaged areas of Australia."*[1]

Parental stress and poor mental health are known to affect childhood development. During the COVID-19 pandemic, there was an increase in stress and depression among parents due to lockdowns, isolation, job losses and financial instability. The closure of some early childhood services and the withdrawal of children from care arrangements led to various levels of remote learning using technology.[1] However, not all children are skilled or confident in the use of technology

for learning and not all households have access to reliable internet services or indeed internet services at all, especially in rural and remote areas. Residents of disadvantaged areas are particularly at risk of poor internet access and confidence levels in the use of technology. Indeed, the achievement gap between disadvantaged and advantaged students during remote learning is estimated to be three times that of onsite learning.[2]

The following AEDC data, reported by domain, are described over two time periods, that is for the pre-pandemic period (i.e. 2009 to 2018) and for the post-pandemic period (i.e. 2021).

Note that results are not available in any reporting year for Unincorporated Far West. Results are also not available for Central Darling in 2021 due to too few children (n=9) having a valid AEDC score. Since data were not available for Central Darling and Unincorporated Far West (i.e. 2 of 5 geographical areas in FWLHD), developmental vulnerability calculations were not conducted for FWLHD, 2021.

[1] Australian Early Development Census National Report 2021, Department of Education, Skills and Employment, Australian Government, 2022.

[2] Goldfeld, S., O'Connor, E., Sung, V., Roberts, G., Wake, M., West, S., & Hiscock, H. (2022). Potential indirect impacts of the COVID-19 pandemic on children: a narrative review using a community child health lens. Medical Journal of Australia.

### Two or more domains

Between 2009 and 2018, the average proportion of children classified as developmentally vulnerable on two or more domains was higher than that for NSW by 69% in FWLHD, 29% in WNSWLHD and 33% in WNSW PHN (Figure 12.12).

Compared to 2009, in 2018 developmental vulnerability on two or more domains among children had improved by 26% in FWLHD, 18% in WNSW LHD, 19% in WNSW PHN and by 6% in NSW (Figure 12.12).

In 2021, vulnerability among children for two or more domains in WNSWLHD, WNSW PHN and NSW were at their highest level since vulnerability reporting began. Vulnerability for two or more domains was higher than that of NSW by 32% in WNSWLHD and 33% in WNSW PHN (Figure 12.12). Compared to 2018, rates in 2021 were higher by 24% in WNSWLHD, 24% in WNSW PHN and 9% in NSW. Note that these results may need to be considered in the context of the COVID-19 pandemic that commenced early 2020.

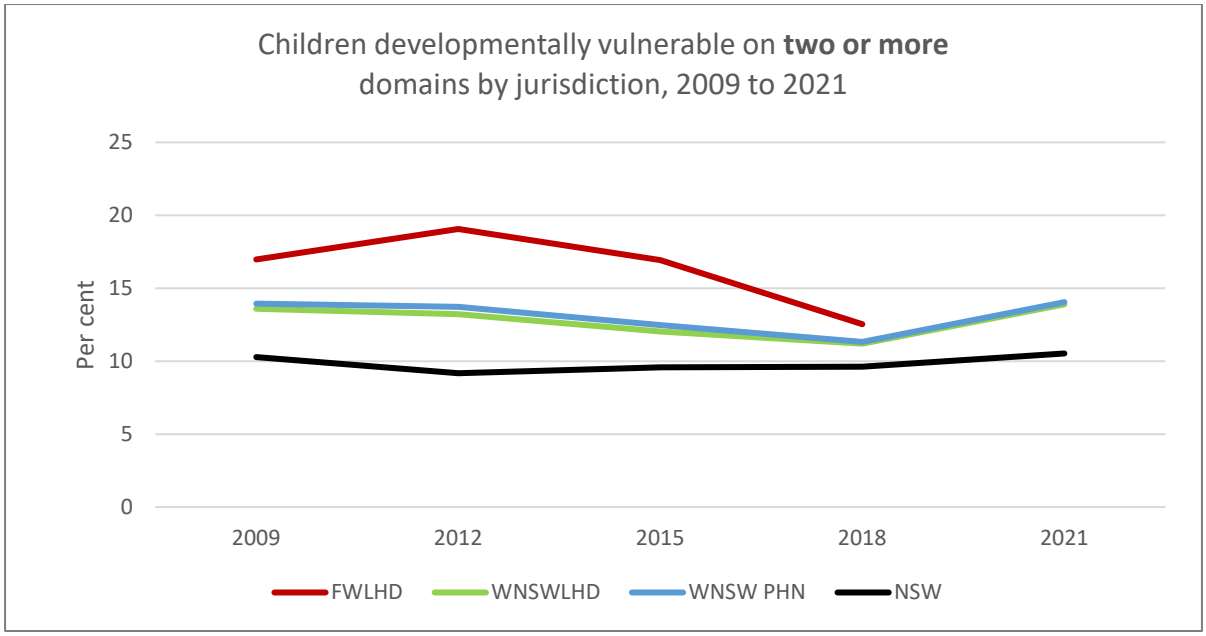



***Figure 12.11 Trends in developmental vulnerability on two or more domains for children commencing full-time school by jurisdiction, 2009 to 2021.***

NB. Data not available for Central Darling & Unincorporated FW in 2021 and therefore nil result for FWLHD.

*Data source: AEDC, (PHIDU for WNSW PHN, 2021 only)*

Data drawn from the 2021 reporting period provide the most contemporary snapshot of developmental vulnerability among children in WNSW PHN LGAs (Figures 12.12 & 12.13, Table A.12.1 – see Appendix). However, for Central Darling and Unincorporated Far West, data were not available and therefore results are also not available for FWLHD.

In 2021, of those LGAs recording valid scores, approximately 75% had rates of childhood developmental vulnerability on two or more domains higher than that of NSW (Figures 12.12 & 12.13, Table A.12.1 – see Appendix). Bourke and Brewarrina recorded the highest rates being approximately 3.8 and 3.6 times higher, respectively, than NSW. Cobar and Coonamble both showed rates 3.0 times higher than NSW while Balranald and Wentworth showed rates 2.8 and 2.5 times higher than NSW, respectively. By contrast, LGAs recording vulnerability rates lower than that of NSW included Bogan, Broken Hill, Cabonne, Cowra, Mid-Western Regional, Warren and Weddin.

**Caveat:** The number of children tested for each domain was 50 or less in the following LGAs - Bogan, Bourke, Brewarrina, Cobar, Gilgandra, Warren & Weddin. Therefore, the results for these LGAs may need to be considered in the context of limited data.

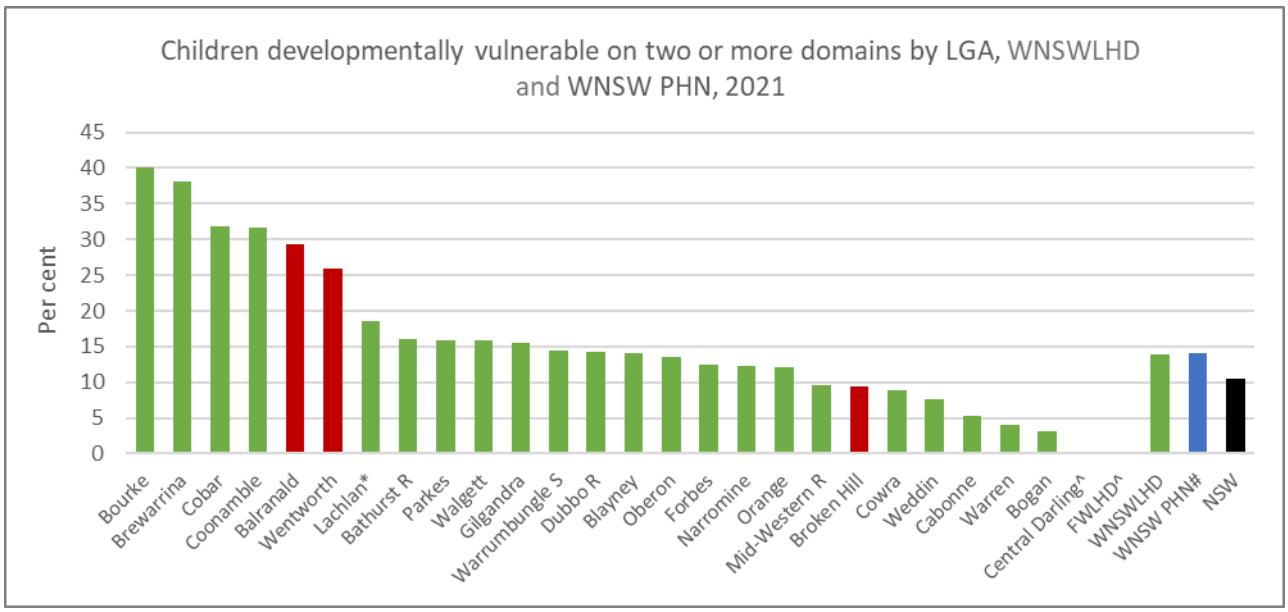



***Figure 12.12 Percentage of children commencing full-time school who are developmentally vulnerable on two or more domains in WNSW PHN local government areas and NSW, 2021.***

LGA=local government area, R=Regional, S=Shire

*Lachlan – both WNSWLHD portion and full LGA report the same result.

^Data insufficient or unavailable.

#Data sourced from PHIDU.

*FWLHD* *WNSWLHD* *WNSW PHN* *NSW*

NB. LGAs with valid no. scores ≤50: Bogan, Bourke, Brewarrina, Cobar, Gilgandra, Warren & Weddin

*Data source: AEDC (LGAs, WNSWLHD & NSW), PHIDU (WNSW PHN)*

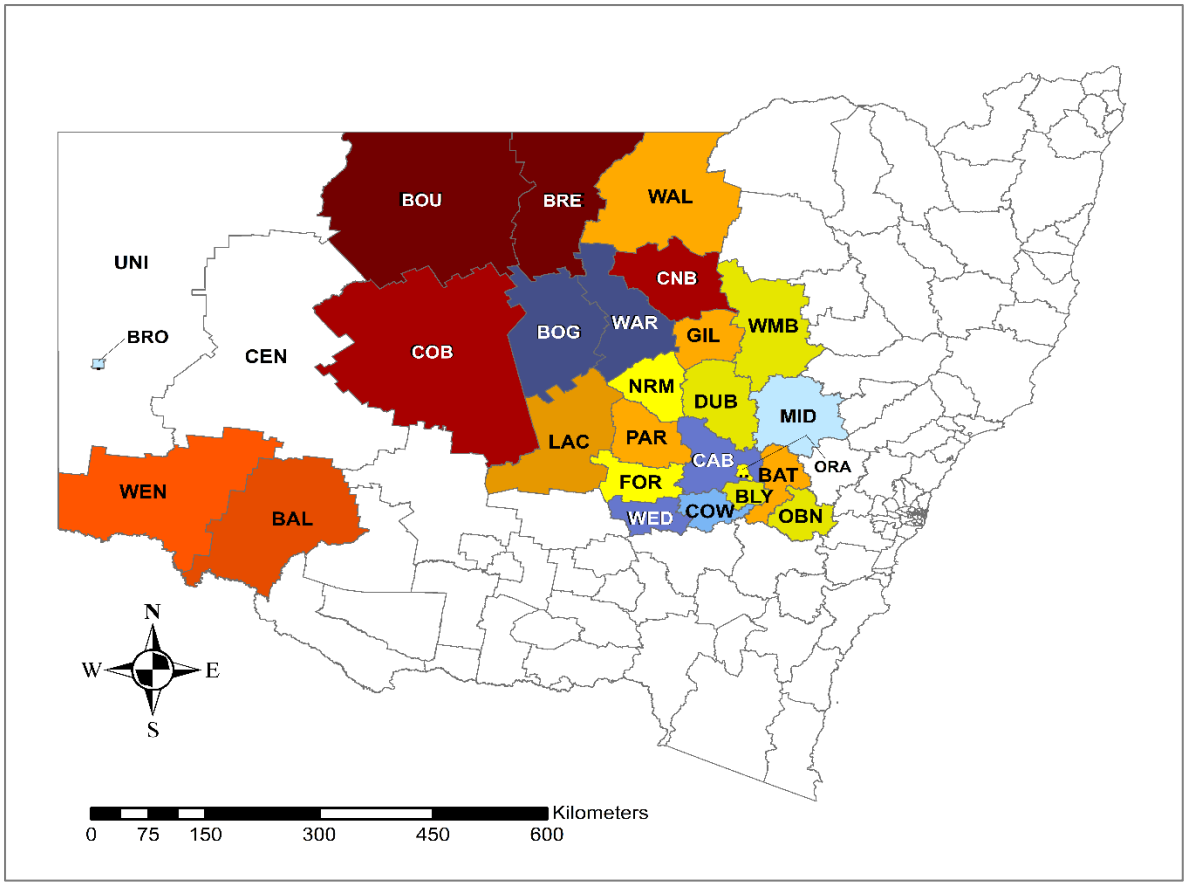



***Figure 12.13 Percentage of children commencing full-time school who are developmentally vulnerable on two or more domains by local government area compared to NSW, 2021.***

LGA=local government area; NA= data insufficient or unavailable; %R=percentage ratio.

*The ratio of LGA percentage to that of NSW (percentage ratio).

NB. LGAs with valid no. scores ≤50: Bogan, Bourke, Brewarrina, Cobar, Gilgandra, Warren & Weddin

See LGA abbreviations.

*Data source: AEDC*

## Individual domains

Table 12.2 compares the developmental vulnerability of children between jurisdictions for each of the five domains, as well as for two or more domains. The Table provides the level of vulnerability for each domain for years 2009, 2012, 2015 and 2018 combined, and compares the result to that of 2021 and to that of NSW. Table 12.2 will be referred to in the following sections.

*Table 12.2 Developmental vulnerability by domain & jurisdiction among children commencing full-time school in 2021 & for 2009, 2012, 2015, 2018 (combined), compared to NSW.*

| VULNERABILITY ON DOMAINS OF CHILDHOOD DEVELOPMENT | | | | | | |
|---|---|---|---|---|---|---|
| | | 2009-2018 | | 2021 | | 2021 cf 2009-2018 (%R) |
| Domain | Jurisdiction | (%) | cf NSW (%R)[2] | (%) | cf NSW (%R)[2] | |
| Physical health & wellbeing | FWLHD | 14.4 | 1.69 | NA | NA | NA |
| | WNSWLHD | 11.5 | 1.35 | 14.8 | 1.57 | 1.29 |
| | WNSW PHN | 11.7 | 1.38 | 14.8 | 1.57 | 1.26 |
| | NSW | 8.5 | 1.00 | 9.4 | 1.00 | 1.11 |
| Social competence | FWLHD | 12.2 | 1.37 | NA | NA | NA |
| | WNSWLHD | 11.2 | 1.26 | 12.0 | 1.28 | 1.07 |
| | WNSW PHN | 11.3 | 1.27 | 12.1 | 1.29 | 1.07 |
| | NSW | 8.9 | 1.00 | 9.4 | 1.00 | 1.05 |
| Emotional maturity | FWLHD | 9.9 | 1.46 | NA | NA | NA |
| | WNSWLHD | 8.5 | 1.25 | 8.0 | 1.11 | 0.95 |
| | WNSW PHN | 8.6 | 1.27 | 8.3 | 1.15 | 0.97 |
| | NSW | 6.8 | 1.00 | 7.3 | 1.00 | 1.07 |
| Language & cognitive skills (school-based) | FWLHD | 11.8 | 2.30 | NA | NA | NA |
| | WNSWLHD | 8.0 | 1.55 | 8.7 | 1.41 | 1.10 |
| | WNSW PHN | 8.4 | 1.63 | 9.1 | 1.48 | 1.09 |
| | NSW | 5.1 | 1.00 | 6.2 | 1.00 | 1.20 |
| Communication skills & general knowledge | FWLHD | 11.1 | 1.32 | NA | NA | NA |
| | WNSWLHD | 9.1 | 1.08 | 10.1 | 1.20 | 1.11 |
| | WNSW PHN | 9.3 | 1.11 | 10.1 | 1.20 | 1.08 |
| | NSW | 8.4 | 1.00 | 8.4 | 1.00 | 1.00 |
| Two or more domains | FWLHD | 16.4 | 1.70 | NA | NA | NA |
| | WNSWLHD | 12.5 | 1.30 | 13.9 | 1.32 | 1.11 |
| | WNSW PHN | 12.9 | 1.33 | 14.0 | 1.33 | 1.09 |
| | NSW | 9.7 | 1.00 | 10.5 | 1.00 | 1.09 |

%R=percentage ratio, NA=Data not available.

[1] Percentage of children that were vulnerable for 2009, 2012, 2015 and 2018 combined.
[2] Percentage for 2009, 2012, 2015 and 2018 combined and compared to that of NSW (expressed as ratio).
[3] Percentage of children that were vulnerable for 2021 only.
[4] Percentage of children that were vulnerable for 2021 and compared to that of NSW (expressed as ratio).
[5] Percentage of children vulnerable in 2021 and compared to that of 2009-2018 combined (expressed as ratio).

*Data source: AEDC, (PHIDU for WNSW PHN, 2021 only)*

## Physical health & well-being

Between 2009 and 2018, the average proportion of children classified as developmentally vulnerable for physical health and wellbeing in WNSW PHN was higher than that for NSW by 38% (Table 12.2, Figure 12.14). For FWLHD and WNSWLHD children, developmental vulnerability for this domain was higher than that for NSW by 69% and 35%, respectively.

Compared to 2009, by 2018 developmental vulnerability for physical health and wellbeing among WNSW PHN, WNSWLHD and FWLHD children had improved by 16%, 15% and 16%, respectively (Figure 12.14).

In 2021, vulnerability among children for physical health and wellbeing in WNSWLHD and WNSW PHN were at their highest level since vulnerability reporting began, with each being higher than that of NSW by 57% (Table 12.2, Figure 12.14). Compared to 2009-2018 combined, rates in 2021 were higher by 29% in WNSWLHD, 26% in WNSW PHN and 11% in NSW. Note that these results may need to be considered in the context of the COVID-19 pandemic that commenced early 2020.

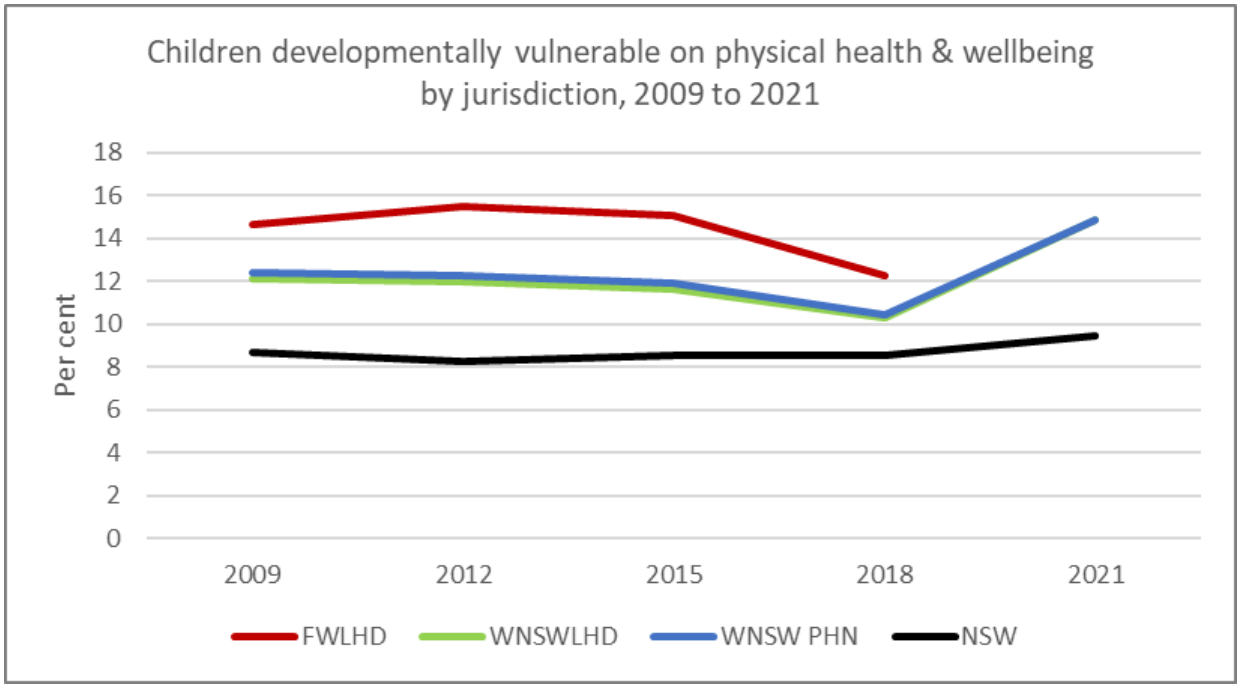



***Figure 12.14 Trends in developmental vulnerability among children commencing full-time school for physical health and wellbeing by jurisdiction, 2009 to 2021.***

NB. Data not available for Central Darling in 2021, therefore nil result available for FWLHD

*Data source: AEDC, (PHIDU for WNSW PHN, 2021 only)*

## Social competence

Between 2009 and 2018, the average proportion of children classified as developmentally vulnerable for social competence in WNSW PHN was higher than that for NSW by 27% (Table 12.2, Figure 12.15). For FWLHD and WNSWLHD children, developmental vulnerability for this domain was higher than that for NSW by 37% and 26%, respectively.

Compared to 2009, by 2018 developmental vulnerability for social competence among WNSW PHN, WNSWLHD and FWLHD children had improved by 13%, 11% and 29%, respectively (Figure 12.15).

In 2021, vulnerability among children for social competence in WNSWLHD and WNSW PHN were at their highest level since vulnerability reporting began and was higher than that of NSW by 28% and 29%, respectively (Table 12.2, Figure 12.15). Compared to 2009-2018 combined, rates in 2021 were higher by 7% in both WNSWLHD and WNSW PHN, and higher by 5% in NSW. Note that these results may need to be considered in the context of the COVID-19 pandemic that commenced early 2020.

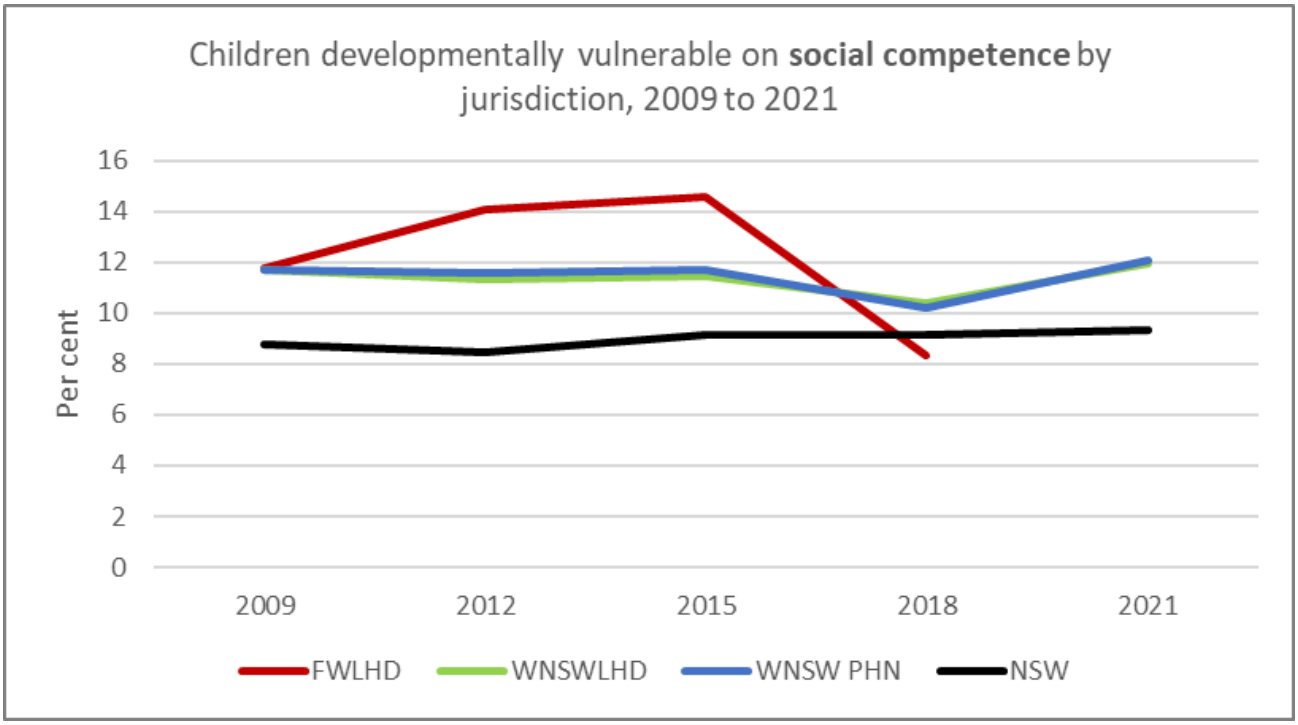



***Figure 12.15 Trends in developmental vulnerability among children commencing full-time school for social competence by jurisdiction, 2009 to 2021.***

NB. Data not available for Central Darling in 2021, therefore nil result available for FWLHD

*Data source: AEDC, (PHIDU for WNSW PHN, 2021 only)*

## Emotional maturity

Between 2009 and 2018, the average proportion of children classified as developmentally vulnerable for emotional maturity in WNSW PHN was higher than that for NSW by 27% (Table 12.2, Figure 12.16). For FWLHD and WNSWLHD children, developmental vulnerability for this domain was higher than that for NSW by 46% and 25%, respectively.

Compared to 2009, by 2018 developmental vulnerability for emotional maturity among WNSW PHN, WNSWLHD and FWLHD children had improved by 19%, 18% and 23%, respectively (Figure 12.16).

In 2021, vulnerability among children for emotional maturity in both WNSWLHD and WNSW PHN was at its second lowest level since vulnerability reporting began, but higher than that of NSW by 11% and 13%, respectively (Table 12.2, Figure 12.16). Compared to 2009-2018 combined, rates in 2021 were lower by 5% in WNSWLHD and 3% in WNSW PHN but higher by 7% in NSW. Note that these results may need to be considered in the context of the COVID-19 pandemic that commenced early 2020.

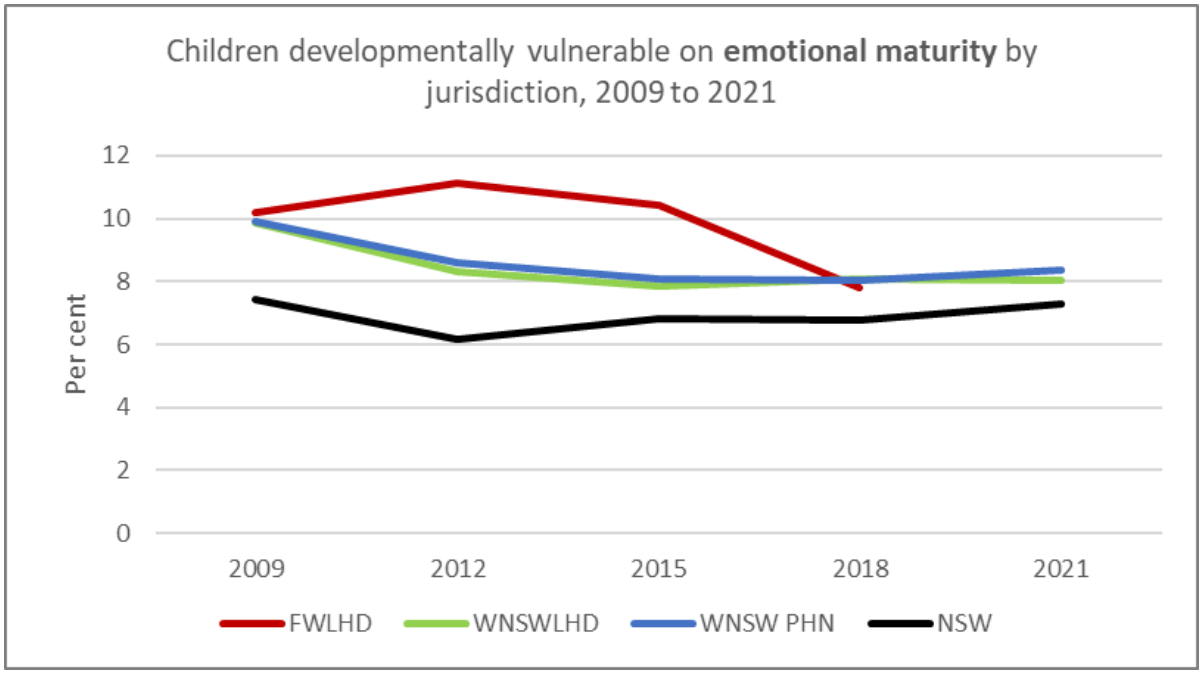



***Figure 12.16 Trends in developmental vulnerability among children commencing full-time school for emotional maturity by jurisdiction, 2009 to 2021.***

NB. Data not available for Central Darling in 2021, therefore nil result available for FWLHD

*Data source: AEDC, (PHIDU for WNSW PHN, 2021 only)*

## Language & cognitive skills (school-based)

Between 2009 and 2018, the average proportion of children classified as developmentally vulnerable for language & cognitive skills in WNSW PHN was higher than that for NSW by 63% (Table 12.2, Figure 12.17). For FWLHD and WNSWLHD children, developmental vulnerability for this domain was higher than that for NSW by 2.3 times and 55%, respectively.

Compared to 2009, by 2018 developmental vulnerability for language & cognitive skills among WNSW PHN and WNSWLHD children had improved by 24% and 28%, respectively (Figure 12.17). For FWLHD children, however, developmental vulnerability for this domain had worsened slightly by 3%.

In 2021, vulnerability among children for language & cognitive skills was at its second highest level in both WNSW PHN and WNSWLHD since vulnerability reporting began, with levels being higher than that of NSW by 48% and 41%, respectively (Table 12.2, Figure 12.17). Compared to 2009-2018 combined, rates in 2021 were higher by 10% in WNSWLHD, 9% in WNSW PHN and 20% in NSW. Note that these results may need to be considered in the context of the COVID-19 pandemic that commenced early 2020.

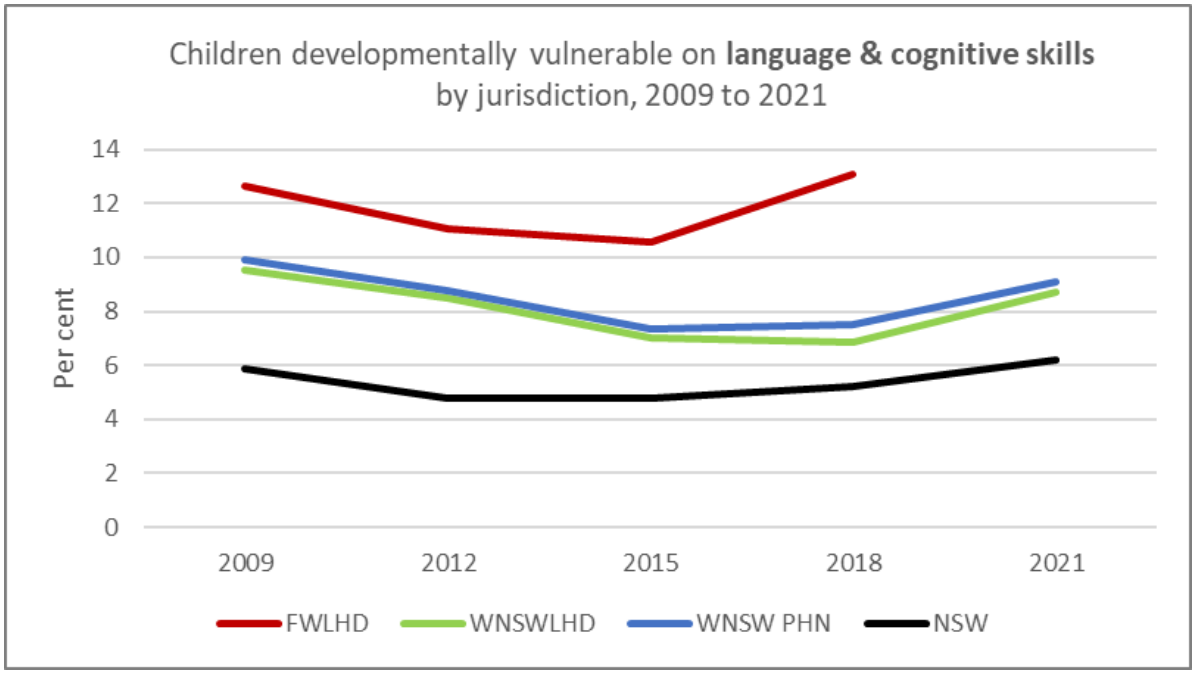



***Figure 12.17 Trends in developmental vulnerability among children commencing full-time school for language & cognitive skills (school-based) by jurisdiction, 2009 to 2021.***

NB. Data not available for Central Darling in 2021, therefore nil result available for FWLHD

*Data source: AEDC, (PHIDU for WNSW PHN, 2021 only)*

## Communication skills & general knowledge

Between 2009 and 2018, the average proportion of children classified as developmentally vulnerable for communication skills and general knowledge in WNSW PHN was higher than that for NSW by 11% (Table 12.2, Figure 12.18). For FWLHD and WNSWLHD children, developmental vulnerability for this domain was higher than that for NSW by 32% and 8%, respectively.

Compared to 2009, by 2018 developmental vulnerability for communication skills and general knowledge among WNSW PHN, WNSWLHD and FWLHD children had improved by 22%, 20% and 40%, respectively (Figure 12.18).

In 2021, vulnerability among children for communication skills and general knowledge in WNSWLHD and WNSW PHN were at their highest and second highest level, respectively, since vulnerability reporting began, with each being higher than that of NSW by 20% (Table 12.2, Figure 12.18). Compared to 2009-2018 combined, rates in 2021 were higher by 11% in WNSWLHD and 8% in WNSW PHN, while the rate for NSW remained unchanged. Note that these results may need to be considered in the context of the COVID-19 pandemic that commenced early 2020.

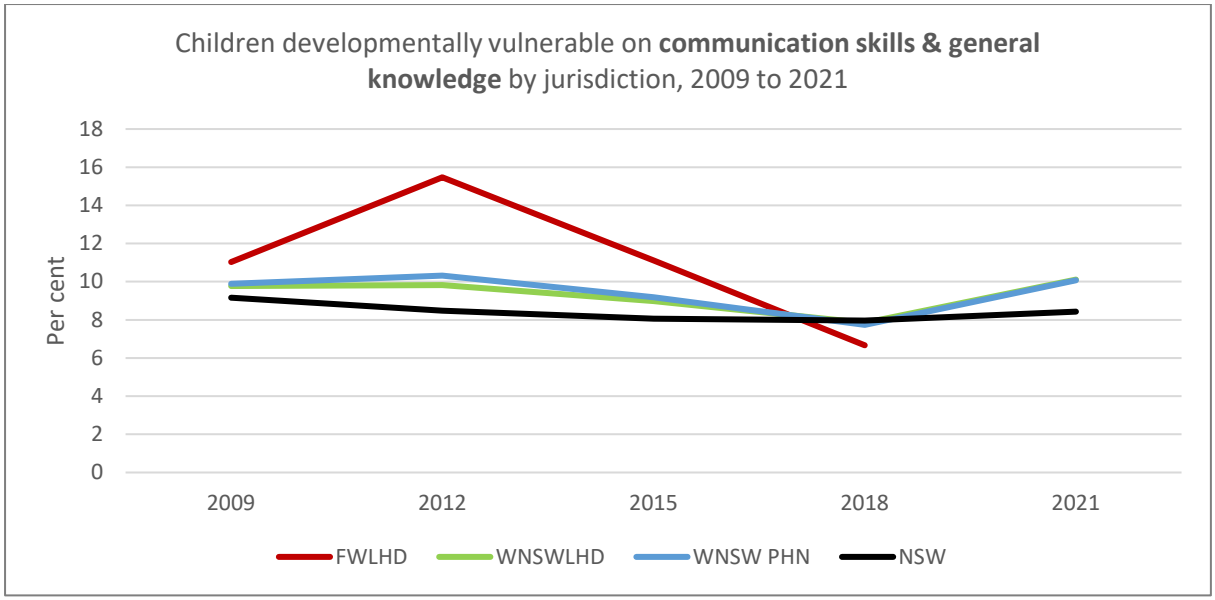



***Figure 12.18 Trends in developmental vulnerability among children commencing full-time school for communication skills & general knowledge by jurisdiction, 2009 to 2021.***

NB. Data not available for Central Darling in 2021, therefore nil result available for FWLHD

*Data source: AEDC, (PHIDU for WNSW PHN, 2021 only)*

# Chapter 13. Older People's Health

## Summary

| Chapter 13. Older People's Health | Period | FWLHD | WNSWLHD | WNSW PHN | NSW |
|---|---|---|---|---|---|
| **Hospitalisations** | | | | | |
| Fall-related hospitalisation rate | 2017/18-2021/22 | *13% lower* | *26% lower* | *25% lower* | *Not applicable* |
| Pneumonia & influenza hospitalisation rate | 2015/16-2019/20 | *Not available* | *26% higher* | *25% higher* | *Not applicable* |
| **Vaccination** | | | | | |
| Influenza, 65+ yrs | 2015/16-2019/20 | *77%* | *73%* | *73%* | *75%* |

yr(s)=year(s), cf.=compared to

Health of older people in WNSW is an important focus for WNSW PHN with a number of unique challenges present for this population including dementia, frailty and falls, social isolation, cultural rituals and beliefs and mental health and wellbeing. In Western NSW, the proportion of the population aged 65+ years (older people) is increasing with time. In 2021, 19% of the total WNSW PHN population was aged 65+ years compared to 13% in 2001. By 2031, it is expected that older people will make up 24% of the total population (Department of Planning & Environment, NSW Government, 2022).

Quality of care for older people including Aboriginal older people is impacted by service availability and capacity, social connection, transport, workforce availability, cultural competence and culturally inclusive services, technological literacy and economic factors such as cost of living.

It was raised in consultations that choice in aged care providers is limited and often determined by availability rather than by patient preference.

Care offered in residential aged care facilities varies based on the organisation running the facility. Facilities that are run by faith-based organisations such as the Catholic church can refuse to offer care such as voluntary assisted dying, limiting a patient's ability to access this care or forcing them to move facilities in order to access it.

Older Aboriginal people in the region have limited options for residential aged care facilities and aged care packages that are inclusive of and designed to support their cultural needs. There is one Aboriginal residential aged care facility in the WNSW PHN, Jack Towney Hostel, which is a 13 bed facility, located at Gilgandra. Also Aboriginal people can be accepted at any residential aged care facility, however they may be offered places at facilities off Country or not on public transport routes making it extremely difficult for family to be with them regularly. Consultations suggested that this lack of well supported services leads older Aboriginal people to avoid residential aged care as they feel disconnected from family, community and Country.

Workforce shortages, skills and capacity across the region impact the care delivered to older people. High turnover of aged care nurses, especially Registered Nurses (RNs), creates instability in the aged care leadership and care delivery workforce, placing greater strain on aged care staff and increasing burnout and stress. Consultations suggested that training for aged care staff was not sufficiently detailed for the challenges in aged care including complex behaviours and dementia.

High rates of migrant workforce in the aged care sector results in staff having different cultural backgrounds to the patients they care for. This can create misunderstanding in communication and at times errors in care plans and medication due to mistakes in interpretation of instructions for patients, families and clinicians. Cultural differences between workforce and patients can also lead to misunderstanding and tension about cultural and religious rituals around dying and death. This can cause significant distress for patients and families from all faiths and cultural backgrounds due to their cultural practices not being met or supported at the end of life.

Consultation with community and clinicians highlighted concerns about the GP workforce to support older people, particularly in residential aged care facilities. The incentive programs offered to GPs to support patients in residential aged care facilities was reported as disadvantaging GPs due to lower payments compared to existing incentives making it less likely GPs will take on patients in aged care facilities. It was also reported that there are long wait times to see doctors in some regions. Many GPs are overworked and unwilling to take on patients from residential facilities due to the complexity of care, additional time required to see patients on top of existing high workloads.

Mental health and wellbeing for older people includes considerations for dementia, social isolation and loneliness, grief and loss of friends and spouses, changes in physical and cognitive capabilities, loss of independence, and increased rates of suicide. Support for older people needs to be targeted to their specific needs and delivered through appropriate services. Consultations with community and service providers reported that telehealth technology, in particular telephone-based services, were effective in delivering services to address social isolation when the patients were well supported to use the technology. It was also reported that some patients do not feel comfortable with telehealth services and do not feel confident in the care delivered when it is not face to face.

Transport is a significant barrier for many older people in the region, in particular those in rural and remote communities including Aboriginal older people. As people age, they are less likely to be able to drive and commute independently and therefore rely more on transport services. Public transport across the region is limited or not available in some communities. The cost of transport services in some communities is unaffordable. Lack of access to transport for older people increases social isolation and compounds the mental and emotional wellbeing issues experienced by people. IPTAAS in particular was raised as not supporting the transport needs of vulnerable people as it was too complicated to navigate and receive.

Many older people in the region lack the technology such as smart phones or computers, and the technical literacy, to easily navigate the health system and connect with the services they need. This is an important consideration for the PHN when designing services to support older people in rural and remote communities where telehealth and digital health solutions are often proposed.

The impact of the NDIS on available services for aged care was raised in consultations. In some communities aged care package recipients and NDIS funding recipients are in direct competition for limited services creating a barrier for people to receive aged care services. The aged care workforce is also shared by service providers and often receive better conditions or pay for providing services through NDIS packages compared to aged care packages. It was raised that access to services for either NDIS or aged care services was very limited in some communities.

Consultations suggested that community services such as Lions Club and Rotary play a crucial role in supporting older people to be connected to the community. In locations that lack these community groups older people do not have the same level of support from the community.

Overall, support for older people in the region was raised as an issue of concern in consultations with an emphasis on greater support for primary care interventions and services that are responsive to the needs of older people, including the unique needs of Aboriginal Elders, close to home and community.

## Dementia related hospitalisation

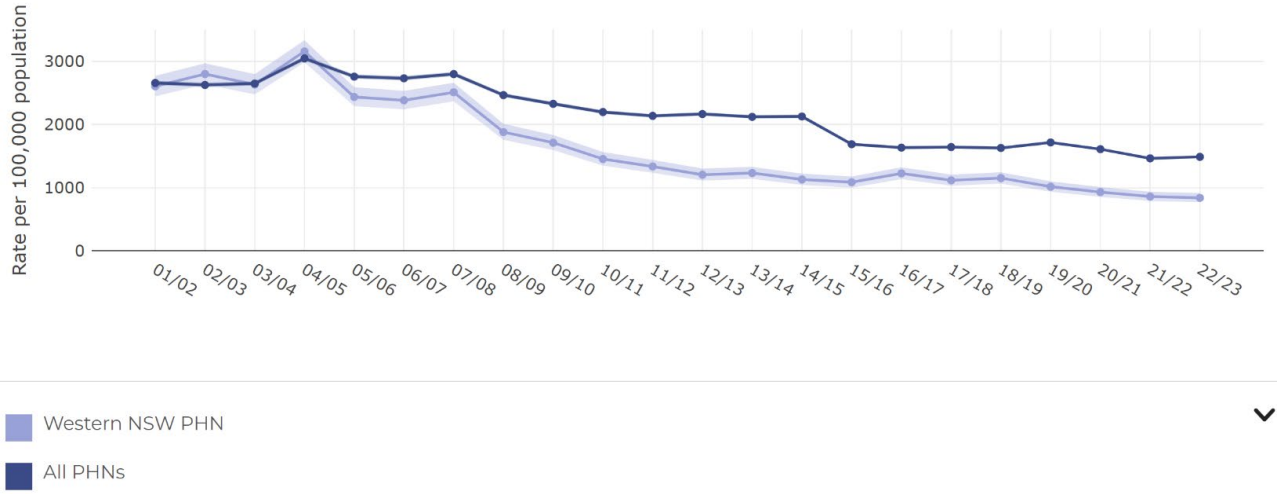



***Figure 13.1 Trends in Dementia-related hospitalisations for residents aged 65+ years WNSW PHN compared to all PHNs, 2017-18 to 2021-22.***

**Data source:** NSW Combined Admitted Patient Epidemiology Data and ABS population estimates (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health.

Dementia significantly diminishes the quality of life for older people and is the 4th leading cause of death for WNSW PHN (as discussed in Chapter 3. Burden of Disease: Leading causes of Mortality). Dementia can cause changes in a person's memory, speech, cognition, behaviours, mobility and personality, impacting their social connections with their spouse, friends and family, their ability to live independently and the ability to manage their own health and well-being.

Demetia related hospitalisations are lower in WNSW PHN compared to NSW however it should be noted that consultations suggested that dementia rates are likely to be underreported.

It was reported in consultations the patients with dementia can find it more difficult to secure a place in residential aged care facility due to stigma, inadequate resources of some facilities to provide complex care and reluctance of facilities to take on patients with complex and challenging behaviours.

Social isolation was reported to exacerbate symptoms in older people with dementia and accelerate decline associated with the disease in some patients. As with many health challenges facing older people in the region, greater support for patients in their community was suggested to support patients with dementia and their families.

### Fall-related hospitalisation

The WNSW PHN prioritised falls prevention and early intervention for older people in the region over the past 3 year period 2021-2024. Rates in the region are low relative to NSW however consultations suggested that these could be underreported (also see Chapter 7. Injury, Fall-related hospitalisation in older people).

Between 2017-18 and 2021-22, the average annual rate of fall-related hospitalisations in older people (65+ years) was lower in WNSW PHN than in NSW (Figure 13.1). Of the Western jurisdictions, FWLHD reported the highest fall rate with the average annual rate being higher than that of WNSWLHD. Compared to 2017-18, fall-related hospitalisation rates in 2021-22 were higher for all jurisdictions.

Average annual fall-related hospitalisations were also higher among females than males across all jurisdictions

(Figure 13.2). Compared to 2017-18, rates of fall-related hospitalisations in 2021-22 among males were higher in all jurisdictions except FWLHD where rates were slightly lower. Conversely, rates among females were slightly lower in all jurisdictions except FWLHD where rates were higher.

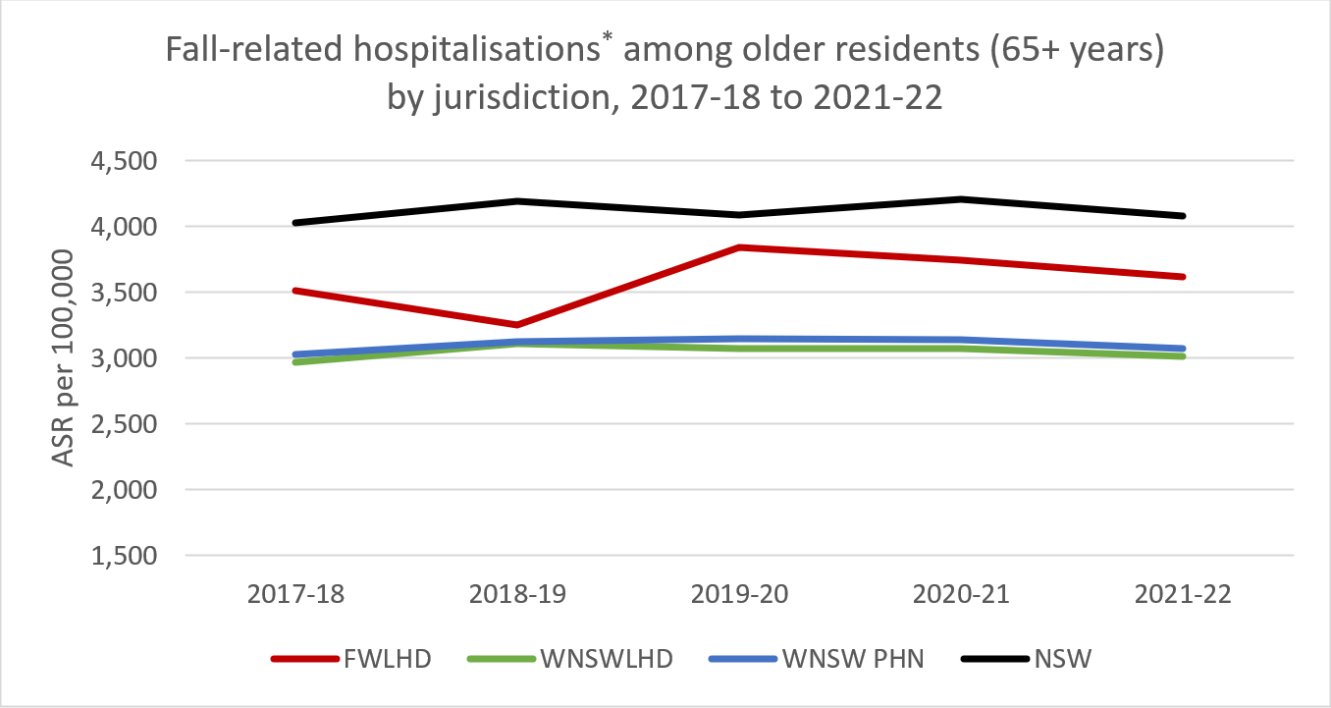



***Figure 13.2 Trends in fall-related hospitalisations for residents aged 65+ years by jurisdiction, 2017-18 to 2021-22.***

* Fall as principal diagnosis or first external cause diagnosis ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

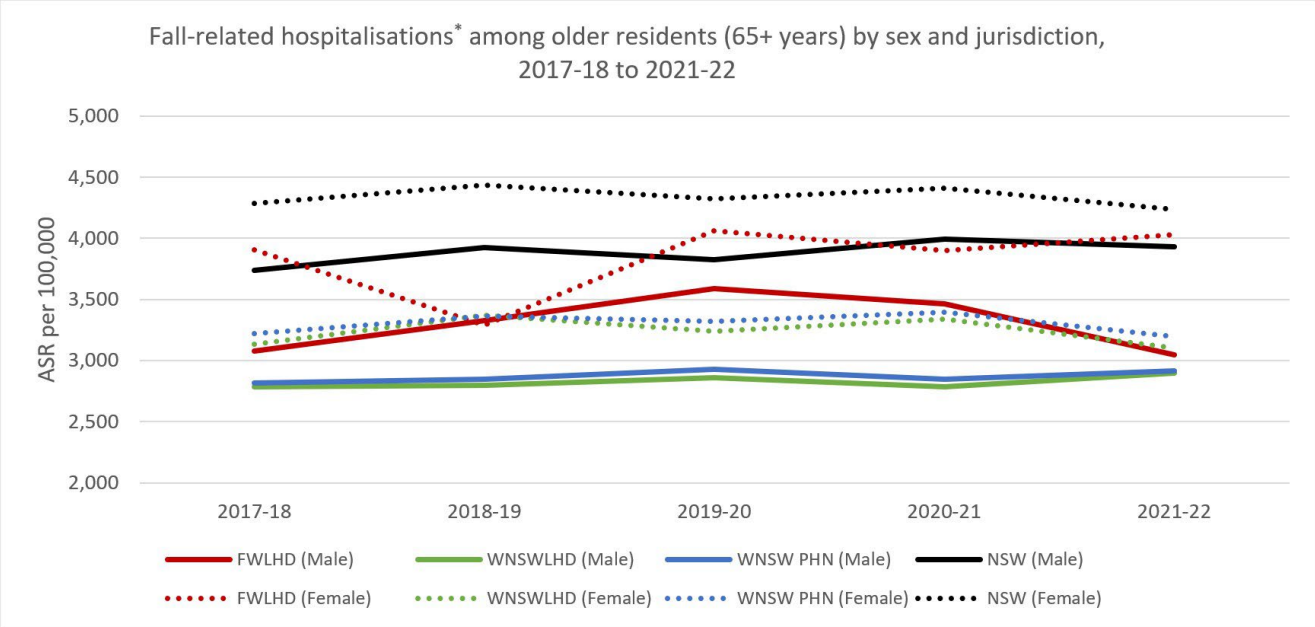



***Figure 13.3 Trends in fall-related hospitalisations for residents aged 65+ years by sex and jurisdiction, 2017-18 to 2021-22.***

* Fall as principal diagnosis or first external cause diagnosis ASR=age-standardised rate

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

## Vaccination status

### Influenza vaccination

Between 2015-16 and 2019-20, the average annual percentage of older people vaccinated for influenza was 73% for both WNSW PHN and WNSWLHD, 77% for FWLHD and 75% for NSW (Figure 13.3). Compared to 2015-16, vaccination rates for influenza in 2019-20 were 13% higher for both WNSW PHN and WNSWLHD, and higher by 5% for FWLHD and by 11% for NSW.

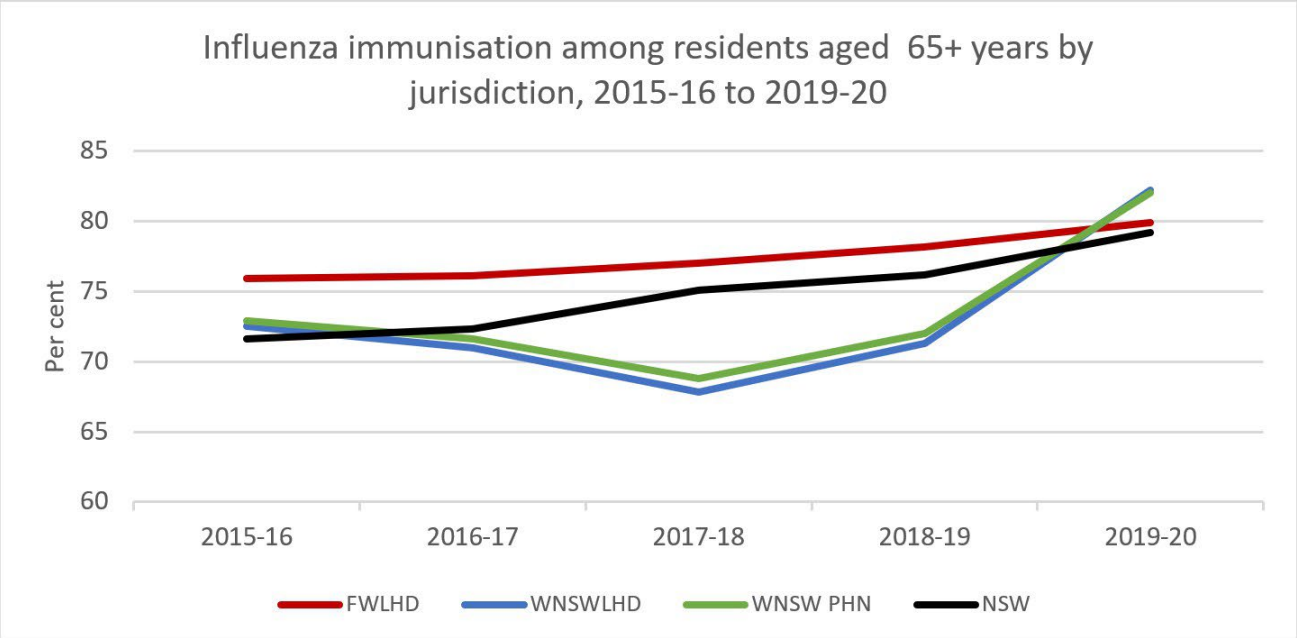



***Figure 13.3 Trends in influenza vaccination coverage for residents aged 65+ years by jurisdiction, 2015-16 to 2019-20.***

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### Pneumonia and influenza hospitalisations (older people)

Between 2015-16 and 2019-20, the average annual age-standardised rate of hospitalisations for pneumonia and influenza among people aged 65+ years was higher in WNSW PHN and WNSWLHD than for NSW by 25% and 26%, respectively (Figure 13.4). Compared to 2015-18, rates of pneumonia and influenza hospitalisations were lower in 2018-20 by 15% for WNSW PHN and 20% for WNSWLHD.

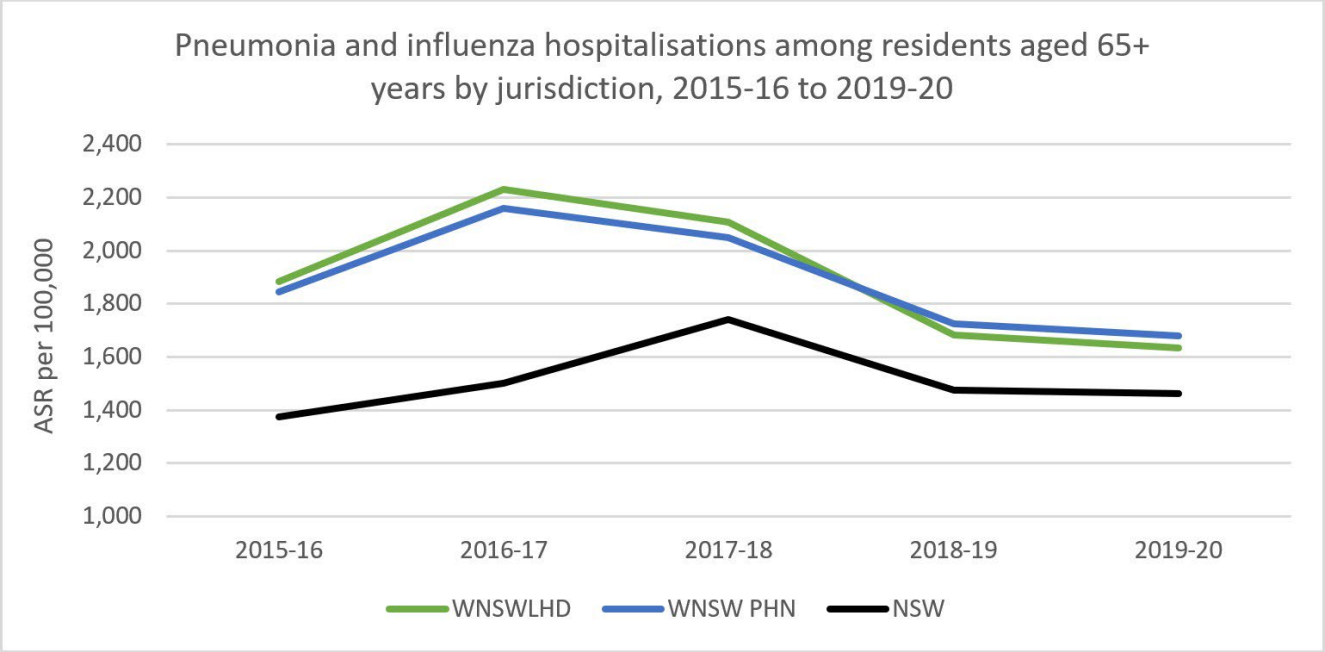



***Figure 13.4 Trends in hospitalisations for pneumonia and influenza among residents aged 65+ years by jurisdiction, 2015-16 to 2019-20.***

ASR=age-standardised rate Note: FWLHD data not available

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

# Chapter 14. Health Workforce, Service Mapping and Market Analysis

## Health Workforce Across the WNSW PHN Region

The health workforce is considerably strained across WNSW PHN. Ongoing work has been conducted by the PHN and other organisations to encourage and support staff to work in the region. Stability and sustainability in the health workforce still, however, remain a priority for the region.

### General Practitioner (GP) Workforce

Sustaining the GP workforce in WNSW PHN has been a priority with the focus on strategies that support our ageing GP workforce and GPs with increasing workload burden. It was reported in consultations that many GPs, particularly younger GPs, feel pressure to move patients through quickly to maximise time efficiency. This was reported as causing ethical distress for some GPs due to the importance of providing the best and most appropriate care for patients. It was reported that many GPs have built long standing relationships with patients and communities across multiple generations. GPs noted this was a catalyst to investing more time in building trust and rapport with patients, greater job satisfaction and delivering better holistic care to patients.

Consultations with clinicians also revealed that GPs found it difficult to manage patient chronic conditions and mental and emotional health due to a lack of appropriate services to refer into. This placed additional stress and burden on GPs to assist patients as they felt they were not able to support patients to receive the most appropriate care needed.

General practice registrars are a significant part of the GP workforce in WNSW and are relied on to fill critical gaps in the GP workforce. While this provides opportunity for trainees to gain skills in regional and rural communities, support for registrars is critical particularly in social, community and workplace settings to ensure they don't feel isolated. It has been reported that when registrars have a positive experience and feel embedded in community and the workplace, registrars may remain in the region. The reliance on GP registrars can perpetuate a model that uses short term transient workforce. This was raised as a concern in consultations as a significant risk to the WNSW PHN GP workforce and primary care services in the long term.

### Nurse workforce

Nurses were identified as a more stable part of the health workforce compared to other clinicians, with suggestions that nurses are often more integrated into the community long term. It was raised in a number of consultations that nurses should be considered as a larger part of the solution to addressing GP shortages across the region with nurse-led models of care suggested as the most popular solution.

It was reported in consultations that there was a high turnover of nursing workforce in aged care due to high rates of burnout, overwhelming workloads and a lack of support from employers.

## Aboriginal health workers

Aboriginal health workers are an important element of culturally safe care and ensuring that Aboriginal perspectives and needs are considered for patients.

Consultations revealed that many Aboriginal people attend mainstream medical practices. The distribution of the Aboriginal health workers across general practice is therefore an important consideration for the PHN. The presence of Aboriginal health workers and Aboriginal clinicians are important elements of cultural safety in primary care and increasing numbers in mainstream services should be considered as part of the solution to improve the cultural safety of care across the region.

It was raised in consultations that the high rates of ED presentations for Aboriginal people for poorly managed chronic conditions, complex mental health issues and alcohol and other drug misuse, required a greater level of cultural context for Aboriginal people presenting to ED. It was noted that the WNSW LHD currently had one position for an Aboriginal alcohol and other drug support worker but the position is not filled, leaving Aboriginal people in the region without the culturally informed support for care in ED.

## Allied health workforce

The allied health workforce plays a critical role in meeting the health and wellbeing needs of the WNSW population.

Shortages in occupational therapists, speech pathologists and registered psychologists were raised in a number of consultations with clinicians and service providers. It was noted that the difference between NDIS and Medicare funded services placed additional strain on the workforce as clinicians perceived conditions and remuneration to be preferable under NDIS funding, further diminishing the workforce available through Medicare funded services.

Social workers were noted in consultations as an under-utilised part of the allied health workforce across the region. It was suggested that social workers could be used in models of care that address mental and emotional health needs, support care coordination, early childhood development and health literacy.

## Locum workforce

The use of locum workforce was raised as a significant concern in many consultations across the region. Locum positions are seen as necessary to fill urgent and critical gaps in the workforce. They were however seen to offer a perverse incentive for clinicians to work in casual, short term patterns of locum roles rather than taking on permanency due to the significantly higher pay and flexibility without the need to commit long term.

Locum roles were viewed as further eroding the stability of an already fragile workforce in many communities and perpetuating the reliance on such models to supply critical health services across the region. Community and clinicians raised concerns that patient care suffered as a result of short-term clinician-patient relationships having negative impacts on continuity of care, patient trust and rapport and missed details about patient history by incoming doctors.

Aspects of the locum model that were raised as appealing for clinicians included their ability to explore new regions and parts of the country while working, gain skills at a faster rate than a permanent role in a fixed location and receive higher rates of pay. Addressing some of these factors by finding creative solutions to permanent roles in communities may improve workforce recruitment and retention in the region.

## Factors that influence the health workforce in WNSW PHN

There were several factors raised in consultations as influencing the stability of the health workforce in WNSW PHN.

Job satisfaction and enjoyment were raised as important to all members of the health workforce. In consultation, it was suggested that greater consideration for flexible working arrangements, supportive work environment, opportunities to learn, and incentives for younger clinicians need to be factored into workforce planning in the region. Some feedback suggested that younger clinicians were not attracted to the positions offered in the region as they were not competitive with metropolitan employers in terms of flexibility, including part time options and consideration for work-life balance.

Support for clinicians moving into new locations and strategies to help settle into the community was frequently raised as a priority for establishing stability in the workforce. The NSW government's "Welcome Experience" program was used as an example to help essential workers establish connections within a new community that are tailored to the individual. There was both positive and negative feedback regarding the program, stating that it had been successful in some communities but lacked local design and was not successful in smaller communities.

Accommodation for staff and students was raised as a critical barrier to workforce stability across the region. A number of examples were provided in consultations of clinicians being unable to secure rental or permanent accommodation when moving into a new location for their job. This resulted in significant expense on temporary accommodation such as hotels for extended periods until accommodation could be secured.

Media perception of general practice as a medical specialty was also raised as an issue for the GP workforce. It was suggested that media creates a perception that general practice is a lower paid, less skilled medical specialty and discourages medical students and medical officers from pursuing general practice. Initiatives to encourage trainees and new medical workforce to connect with longer term, more experienced medical workforce across the region has been made resulting in welcome dinners for students and new interns, career speed networking, and gratitude gathering for registrars completing their training.

High workload and burnout are concerns for workforce across the region. The increased responsibility and scope of practice for many rural and regional clinicians mean that many clinicians work under increased pressure. This was raised in consultations as a reason for people leaving the workforce and changing jobs as the conditions are not sustainable. It was also reported in consultations that some clinicians in small communities, GPs in particular, are often the sole practitioner in the community experiencing greater pressure to be available for the community. This can mean that they are reluctant to take holidays or leave including sick leave and delay retiring in order to preserve essential services to the community.

It was also highlighted in consultations that the health workforce strains in other states across Australia heavily influences workforce stability in NSW. More enticing incentives offered to clinicians to take roles in other states, particularly in Victoria and Queensland, may attract staff from the NSW health workforce. This movement of workforce across state boundaries shifts the distribution of workforce strain rather than addressing shortages in the overall workforce. It was raised that incentives offered in WNSW struggle to compete with incentives and salaries offered interstate.

## Service Mapping and Market Analysis

The service mapping and market analysis aims to identify the range of health services currently available within the WNSW PHN region, with a focus on accessibility, quality, and gaps in service delivery. This chapter outlines the key health services, including primary care, specialist services, mental health, and aged care, and highlights areas where service provision is either lacking or requires strengthening. The results of this mapping supplement the priority needs identified for the region to inform future commissioning priorities, particularly in underserviced populations including rural and remote areas.

Service mapping and market analysis was conducted using a mixed method approach incorporating data from the following sources:

- PHN commissioned services and contracts
- PMHC MDS reports
- NADAbase reports
- GEN Aged care website
- NSW health and Far West and Western NSW LHD websites
- National Health Service Directory and Healthmap websites
- Stakeholder consultations

The service mapping and market analysis has highlighted significant strains in health service provision across the WNSW PHN region, particularly for GP sustainability, allied health and specialist services access, mental health and alcohol and other drug services. While the larger regional centres have more services available, rural and remote communities face critical shortages across several services. Addressing these gaps will require targeted commissioning of services, improved integration between all services including mainstream and Aboriginal health services, and innovative approaches such as outreach, non-clinicians led models and digital health to extend the reach of services into rural and remote areas.

Analysis was conducted to consider service delivery at a regional level, LHD level and Local Government Area (LGA) level.

### Whole of WNSW PHN

Consultations highlighted the need for increased coverage and timely access to mental and emotional wellbeing services, specialists including paediatrics, psychiatry and endocrinology, allied health including occupational therapy, speech pathology and podiatry and alcohol and other drug services.

Health workforce is under strain across the region with particular concern for general practitioners, specialists, and allied health. There is reliance within the system on locum workforce and trainees including GP registrars and provisional psychologists to fill positions, creating instability for services and patients.

Transport and geographic isolation create significant barriers for many communities across the region.

Coordination of care, particularly transfer of accurate patient records and medical information, was highlighted as a significant issue for patient trust and quality of care.

### Western NSW LHD

Western NSW LHD encompasses 22 of the 27 LGAs in the WNSW PHN region and makes up 90.5% of the population. This population is concentrated in the 3 regional centres of Dubbo Regional, Orange and Bathurst Regional LGAs, which account for 50.3% of the PHN population. This uneven distribution of population creates significant disparity in services coverage and accessibility across the region, with many services concentrated in regional centres or within more highly populated areas. Consultation highlighted the need to engage communities in service design and procurement processes to ensure services meet the needs of smaller communities and leverage local services and capabilities in service delivery. This was particularly important for Aboriginal communities.

### Far West LHD

Far West LHD comprises 9.5% of the WNSW NSW population. It encompasses the most remote and isolated communities in the region. Most services in the Far West LHD are located in Broken Hill and many of the communities across the LHD have limited access to services.

### Local Government Areas:

Access to services was raised as a concern for all LGAs across the region. The LGAs that occurred most frequently in the data as experiencing higher rates of health conditions, most disadvantaged in economic and social determinant factors including housing and transport are: Brewarrina, Central Darling, Walgett, Wentworth, Bourke and Broken Hill.

The below table shows the total number of PHN and LHD services delivered in each LGA, with the above mentioned LGAs with high need highlighted in blue.

| LGA | Number of PHN Commissioned Services and LHD Facilities |
|---|---|
| Dubbo Regional Council | 11 |
| Broken Hill City Council | 10 |
| Parkes Shire Council | 10 |
| Whole of Region | 10 |
| Cobar Shire Council | 8 |
| Forbes Shire Council | 8 |
| Gilgandra Shire Council | 8 |
| Walgett Shire Council | 8 |
| Coonamble Shire Council | 7 |
| Cowra Council | 7 |
| Mid-Western Regional Council | 7 |
| Orange City Council | 7 |

| | |
|---|---|
| Bourke Shire Council | 6 |
| Narromine Shire Council | 6 |
| Warren Shire Council | 6 |
| Bogan Shire Council | 5 |
| Brewarrina Shire Council | 5 |
| Cabonne Shire Council | 5 |
| Lachlan Shire Council | 5 |
| Warrumbungle Shire Council | 5 |
| Wentworth Shire Council | 5 |
| Balranald Shire Council | 4 |
| Bathurst Regional Council | 4 |
| Central Darling Shire Council | 4 |
| Unincorporated NSW | 4 |
| Blayney Shire Council | 3 |
| Oberon Council | 3 |
| Weddin Shire Council | 2 |

## Services Across the WNSW PHN Region

Many gaps in services have been identified throughout the HNA across the region including primary and acute care, and some of the non-health services that impact on people's health and wellbeing.

Smaller and rural and remote communities, and communities that are located in close proximity to state borders continue to experience gaps in services, and poor integration and communication between services, particularly when people are required to travel long distances or to other health jurisdictions for care.

Health workforce remains a significant driver of the service gaps across the WNSW PHN region. Service funding models including Medicare, NDIS and private funding are creating gaps in the market in some regions and influence patient access and delivery of services.

### General Practice and Primary Care

There are currently 110 general practices across the WNSW PHN region with GP full time equivalent (FTE) 97.5 of per 100,000 residents.

Over the last three years since 2021, GP practices are closing at a rate slightly higher than they are opening meaning overall there is a decline in the number of general practices.

Approximately 85% of general practices in the region have a practice nurse. Practices nurses were identified in consultation as a critical element of sustainable workforce in the region, with scope of practice, training and support and remuneration being raised as factors to support nurse-led models of care. Approximately 36% of practices have allied health professionals and 14% have Aboriginal Health workers.

### Allied Health Services

Allied health services, including physiotherapy, occupational therapy, podiatry, and dietetics, are available through both public and private providers. The service mapping reveals significant disparities in access across the region with insufficient services to provide coverage to the region.

Early intervention and prevention services for chronic disease including diabetes, chronic kidney disease, COPD and cardiovascular disease were raised requiring increased funding to reach the communities who need the services.

Podiatry services were also mentioned in consultations as crucial to supporting people with chronic conditions, playing a role in early detection and intervention for people experiencing neuropathy as a complication of diabetes.

| Allied Health Services | | |
|---|---|---|
| WNSW LHD | FW LHD | **WNSW PHN** |
| 483 | 29 | **512** |

| Service type | Number of services |
|---|---|
| Audiological Service | 53 |
| Chiropractic | 19 |
| Diabetic Education | 44 |
| Dietetics | 56 |
| Exercise Physiology | 16 |
| Midwifery | 3 |
| Nursing | 32 |
| Nutrition | 5 |
| Occupational Therapy | 38 |
| Optometry | 38 |
| Orthoptics | 0 |
| Osteopathy | 2 |
| Physiotherapy | 63 |
| Podiatry | 47 |
| Prosthetics And Orthotics | 1 |
| Social Work | 44 |
| Speech And Language Therapy | 51 |

## Mental Health Services

Mental health services within the WNSW PHN region are provided through a combination of public and private sector providers. Public mental health services, including those delivered by Local Health Districts, focus on acute and complex care, while community-based providers, including PHN commissioned services, offer early intervention and ongoing support for mild to moderate mental health issues.

Consultations highlighted a significant shortage of mental health professionals, particularly registered psychologists and psychiatrists, in rural and remote areas. It was frequently raised in

consultations that many people across the region often face extended wait times to access specialist mental health services, with some required to travel to regional hubs for care.

The high rates of mental health related ED presentations and low rates of hospitalisations also highlighted the lack of appropriate acute care and high level services available in the region. This was supported in consultations with feedback that there was significant unmet demand for support in the community for primary care services for mental and emotional health issues.

| Mental Health | | |
|---|---|---|
| WNSW LHD | FW LHD | **WNSW PHN** |
| 150 | 8 | **158** |

| Service type | Number of services |
|---|---|
| Acute Mental Health Inpatient | 10 |
| Adult Mental Health | 5 |
| Child And Adolescent Mental Health | 9 |
| Clinical Psychology | 3 |
| Mental Health | 56 |
| Mental Health Advocacy | 0 |
| Mental Health Case Management | 2 |
| Mental Health Crisis Assessment And Treatment | 2 |
| Mental Health Information And Referral | 4 |
| Mental Health Non-Residential Rehabilitation | 2 |
| Mental Health Residential Rehabilitation | 7 |
| Neuropsychology | 0 |
| Perinatal Mental Health | 1 |
| Psychiatry | 11 |
| Psychology | 46 |

## Aged Care Services

Aged care services within the region include residential aged care facilities (RACFs), in-home care packages, and community-based programs. In 2021 in WNSW PHN, 12.3% of people over the age of 55 years required assistance with core activities, which was slightly lower than the median rate for PHNs nationally.

In the period between 2019 – 2023, WNSW PHN has seen a steady decrease in available places per 1,000 people aged over 70. The rates of people in permanent residential aged care who have

dementia in WNSW PHN is 47.9% which is low for PHNs across the country (ref: Table 3.3: People in permanent residential care, by dementia status, by PHN, 30 June 2022).

WNSW had an occupancy rate in 2023 in residential aged care of 86.5% which is around the median for PHNs across the country (Table 13.1). Most people in WNSW PHN are receiving aged care services for home support for domestic assistance, transport and meals (Table 13.2).

***Table 13.1: Number of aged care services and outlets, by PHN, 30 June 2023***

Data Source: My aged care region dashboard – PHN, Supplementary tables, 2022-23 https://www.gen-agedcaredata.gov.au/

| Program group | Program type | Number of services |
|---|---|---|
| Residential care | Residential care | 56 |
| Home care | Home care | 47 |
| Home support | Home support | 122 |
| Flexible care | Transition care | 2 |
| Flexible care | Short-term restorative care | 4 |
| Flexible care | Multi-purpose service | 27 |
| Flexible care | Innovative pool | 0 |
| Flexible care | National Aboriginal and Torres Strait Islander Flexible Aged Care Program | 1 |

***Table 13.2: Number of people using home support, by service type, by ACPR, 2022–23)***

Data Source: My aged care region dashboard – PHN, Supplementary tables, 2022-23 https://www.gen-agedcaredata.gov.au/

| Service type | Number of people |
|---|---|
| Domestic Assistance | 4,695 |
| Transport | 3,931 |
| Meals | 3,047 |
| Social Support Individual | 2,337 |
| Nursing | 2,132 |
| Home Maintenance | 1,783 |
| Allied Health and Therapy Services | 1,600 |
| Social Support Group | 1,195 |
| Personal Care | 624 |

| | |
|---|---|
| Home Modifications | 616 |
| Flexible Respite | 541 |
| Specialised Support Services | 271 |
| Centre-based Respite | 117 |
| Assistance with Care and Housing | 68 |
| Cottage Respite | 68 |
| Goods, Equipment and Assistive Technology | 39 |
| Other Food Services | 1 |

## Aboriginal Health Services

There are 12 Aboriginal Medical Services (AMS)'s operating in the WNSW PHN region as of 2024, providing culturally safe primary care and preventive health services to Aboriginal people and communities. These services play a critical role in supporting the health and wellbeing of Aboriginal communities. They are well connected to communities across the region and work closely with other system partners such as regional assemblies and land councils.

Consultations highlighted a need for greater integration between health services, particularly in rural areas to allow patients to move easily between services when they are moving between communities.

It was raised in consultation that small AMS's require greater support from WNSW PHN to participate in the design and delivery of services. It was suggested that this would help to improve the service delivery for local communities and patients.

# Chapter 15. Prioritised List of Needs

WNSW PHN's HNA has produced a list of health and service needs in the community. Following a rigorous Triangulation and Prioritisation processes, the list of needs has been reviewed and developed. These needs along with possible actions identified to address them have been included in a separate document titled WNSW PHN Priority Areas.

# Appendix Supplementary Data Tables

## Contents

| CHAPTER | TABLE | |
|---|---|---|
| **No. & Title** | **No.** | **Title** |
| **6. Notifiable Conditions** | Nil | |
| **7. Injury & Poisoning** | A.7.1 | Trends in mortality due to injury and/or poisoning by local government area compared to NSW, 2013-2015 to 2017-2019. |
| | A.7.2 | Trends in hospitalisations due to injury and/or poisoning by local government area compared to NSW, 2014-15 to 2018-19. |
| **8. Alcohol & Illicit Drugs** | A.8.1 | Trends in alcohol-attributed deaths by local government area compared to NSW, 2014-2015 to 2018-2019. |
| | A.8.2 | Emergency department presentations due to alcohol problems by local government area compared to NSW, 2016-17 to 2020-21 (financial years). |
| **9. Mental Health** | A.9.1 | Hospitalisations for self-harm by local government area compared to NSW, 2014/15-2015/16 to 2018/19-2019/20. |
| **10. Oral Health** | Nil | |
| **11. Maternal & Infant Health** | Nil | |
| **12. Child & Adolescent Health** | A.12.1 | Developmentally vulnerable children commencing full-time school by domain & jurisdiction, 2021. |
| **13. Older People's Health** | Nil | |

# Chapter 1. Population Characteristics

## Contents

*Table A.1.1. Estimated resident population and projected population by local government area, 2021 and 2041.*

| JURISDICTION (LGA/LHD/PHN) | ESTIMATED RESIDENT POPULATION, 2021 | % of LHD/ PHN/NSW | PROJECTED POPULATION | | |
|---|---|---|---|---|---|
| | | | 2021 | 2041 | % change |
| Balranald | 2,207 | 7.4% | 2,269 | 1,817 | -19.9% |
| Broken Hill | 17,661 | 59.5% | 16,946 | 10,596 | -37.5% |
| Central Darling | 1,760 | 5.9% | 1,812 | 1,311 | -27.6% |
| Unincorporated FW^ | 576 | 1.9% | 534 | 386 | -27.7% |
| Wentworth | 7,487 | 25.2% | 7,074 | 6,831 | -3.4% |
| **FWLHD^** | **29,691** | **9.5% of PHN** | **28,635** | **20,941** | **-26.9%** |
| Bathurst Regional | 43,653 | 15.4% | 44,370 | 57,060 | 28.6% |
| Blayney | 7,508 | 2.6% | 7,327 | 7,861 | 7.3% |
| Bogan | 2,481 | 0.9% | 2,500 | 1,581 | -36.7% |
| Bourke | 2,417 | 0.9% | 2,578 | 1,556 | -39.6% |
| Brewarrina | 1,488 | 0.5% | 1,522 | 931 | -38.8% |
| Cabonne | 13,760 | 4.8% | 13,783 | 15,657 | 13.6% |
| Cobar | 4,098 | 1.4% | 4,329 | 2,555 | -41.0% |
| Coonamble | 3,834 | 1.3% | 3,888 | 2,965 | -23.7% |
| Cowra | 12,753 | 4.5% | 12,838 | 14,265 | 11.1% |
| Dubbo Regional | 55,518 | 19.5% | 54,411 | 63,599 | 16.9% |
| Forbes | 9,383 | 3.3% | 10,023 | 13,231 | 32.0% |
| Gilgandra | 4,319 | 1.5% | 4,187 | 3,353 | -19.9% |
| Lachlan* | 6,149 | 2.2% | 6,041 | 4,769 | -21.1% |
| Mid-Western Regional | 25,704 | 9.0% | 25,445 | 29,649 | 16.5% |
| Narromine | 6,448 | 2.3% | 6,304 | 4,695 | -25.5% |
| Oberon | 5,564 | 2.0% | 5,421 | 5,432 | 0.2% |
| Orange | 43,736 | 15.4% | 42,976 | 51,161 | 19.0% |
| Parkes | 14,453 | 5.1% | 14,683 | 15,847 | 7.9% |
| Walgett | 5,590 | 2.0% | 5,747 | 3,732 | -35.1% |
| Warren | 2,586 | 0.9% | 2,667 | 1,755 | -34.2% |
| Warrumbungle Shire | 9,254 | 3.3% | 9,092 | 7,598 | -16.4% |
| Weddin | 3,589 | 1.3% | 3,640 | 3,292 | -9.6% |
| **WNSWLHD** | **284,285** | **90.5% of PHN** | **283,772** | **312,544** | **10.1%** |
| **WNSW PHN^** | **313,976** | **3.9% of NSW** | **312,407** | **333,485** | **6.7%** |
| **NSW** | **8,093,815** | **NA** | **8,166,757** | **9,872,934** | **20.9%** |

LGA=local government area, LHD=local health district, PHN=primary health network, FW=Far West, WNSW=Western NSW, NA=Not applicable.

^Best estimate based upon Unincorporated FW population = (Unincorporated NSW - Lord Howe Island) = (1020-444)

*Includes all Lachlan LGA Data sources:

1. Estimated Residential Population: ABS Census 2021
2. Projected Population: Department of Planning & Environment, 2022

### *Table A.1.2. Aboriginal Estimated Resident Population by Local Government Area, WNSW PHN & NSW, 2021*

| LOCAL GOVERNMENT AREA | ABORIGINAL ERP, 2021 (N) | TOTAL POPULATION (N) | ABORIGINAL RESIDENTS AS % OF TOTAL POPULATION |
|---|---|---|---|
| Balranald | 185 | 2,208 | 8.4% |
| Broken Hill | 2,204 | 17,662 | 12.5% |
| Central Darling | 836 | 1,758 | 47.6% |
| Unincorporated FW^ | 35 | 576 | 6.1% |
| Wentworth | 821 | 7,490 | 11.0% |
| **FWLHD** | **4,081** | **29,694** | **13.7%** |
| Bathurst Regional | 3,782 | 43,674 | 8.7% |
| Blayney | 519 | 7,511 | 6.9% |
| Bogan | 525 | 2,480 | 21.2% |
| Bourke | 1,000 | 2,416 | 41.4% |
| Brewarrina | 932 | 1,487 | 62.7% |
| Cabonne | 859 | 13,767 | 6.2% |
| Cobar | 797 | 4,098 | 19.4% |
| Coonamble | 1,694 | 3,833 | 44.2% |
| Cowra | 1,389 | 12,759 | 10.9% |
| Dubbo Regional | 11,508 | 55,528 | 20.7% |
| Forbes | 1,572 | 9,385 | 16.8% |
| Gilgandra | 813 | 4,318 | 18.8% |
| Lachlan* | 1,465 | 6,153 | 23.8% |
| Mid-Western Regional | 2,179 | 25,714 | 8.5% |
| Narromine | 1,743 | 6,448 | 27.0% |
| Oberon | 329 | 5,567 | 5.9% |
| Orange | 4,066 | 43,750 | 9.3% |
| Parkes | 2,327 | 14,451 | 16.1% |
| Walgett | 1,810 | 5,588 | 32.4% |
| Warren | 509 | 2,584 | 19.7% |
| Warrumbungle Shire | 1,322 | 9,256 | 14.3% |
| Weddin | 199 | 3,592 | 5.5% |
| **WNSWLHD** | **41,339** | **284,359** | **14.5%** |
| **WNSW PHN** | **45,420** | **314,053** | **14.5%** |
| **NSW** | **339,710** | **8,097,062** | **4.2%** |

ERP=Estimated Resident Population, N=number, FWLHD=Far West Local Health District, WNSWLHD=Western NSW Local Health District, WNSW PHN=Western NSW Primary Health Network,

^Best estimate based upon Unincorporated FW population = (Unincorporated NSW) – (Lord Howe Island)

*Includes WNSWLHD and Murrumbidgee LHD portions.

Data source: ABS Estimated Resident Aboriginal and Torres Strait Islander Populations by LGA at 30 June 2021

*Table A.1.3. Estimated Resident Population by Aboriginality, age group & jurisdiction, 2021.*

| Age group | WNSW PHN | | | | NSW | | | |
|---|---|---|---|---|---|---|---|---|
| | Aboriginal | | Non-Aboriginal | | Aboriginal | | Non-Aboriginal | |
| (years) | N | % | N | % | N | % | N | % |
| 0-4 | 5,017 | 11.1 | 14,910 | 5.6 | 37,638 | 11.1 | 441,041 | 5.7 |
| 5-14 | 10,318 | 22.9 | 32,555 | 12.2 | 77,556 | 22.8 | 937,448 | 12.1 |
| 15-24 | 7,894 | 17.5 | 27,343 | 10.2 | 63,584 | 18.7 | 904,436 | 11.7 |
| 25-34 | 6,174 | 13.7 | 33,227 | 12.4 | 47,949 | 14.1 | 1,116,919 | 14.4 |
| 35-44 | 4,334 | 9.6 | 31,050 | 11.6 | 34,232 | 10.1 | 1,071,845 | 13.8 |
| 45-54 | 4,588 | 10.2 | 33,070 | 12.4 | 32,856 | 9.7 | 981,021 | 12.6 |
| 55-64 | 3,734 | 8.3 | 36,530 | 13.7 | 25,756 | 7.6 | 931,083 | 12.0 |
| 65+ | 2,995 | 6.6 | 58,511 | 21.9 | 20,138 | 5.9 | 1,373,531 | 17.7 |
| **Total** | **45,054** | **100.0** | **267,196** | **100.0** | **339,709** | **100.0** | **7,757,324** | **100.0** |

WNSW PHN=Western NSW Primary Health Network, N=number
Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

# Chapter 2. Health Determinants

## Contents



***Table A.2.1 Age standardised rate per 100 population of persons with one or more long-term health conditions by LGA and compared with NSW, 2021.***

| LGA | 2021 | | |
|---|---|---|---|
| | ≥1 long-term health condition (ASR/100) | Compared with NSW (Rate Ratio) (RR) | Compared with NSW (RR expressed as %) |
| Balranald (FW) | 27.3 | 0.89 | -11% |
| Bathurst Regional | 36.7 | 1.19 | 19% |
| Blayney | 34.3 | 1.11 | 11% |
| Bogan | 30.2 | 0.98 | -2% |
| Bourke | 27.3 | 0.89 | -11% |
| Brewarrina | 29.3 | 0.95 | -5% |
| Broken Hill (FW) | 39.3 | 1.28 | 28% |
| Cabonne | 32.3 | 1.05 | 5% |
| Central Darling (FW) | 28.2 | 0.92 | -8% |
| Cobar | 31 | 1.01 | 0% |
| Coonamble | 35.4 | 1.15 | 15% |
| Cowra | 35.4 | 1.15 | 15% |
| Dubbo Regional | 35.3 | 1.15 | 14% |
| Forbes | 33.9 | 1.10 | 10% |
| Gilgandra | 32.8 | 1.06 | 6% |
| Lachlan* | 32.9 | 1.07 | 7% |
| Mid-Western Regional | 33.5 | 1.09 | 9% |
| Narromine | 31.9 | 1.04 | 4% |
| Oberon | 30.6 | 0.99 | -1% |
| Orange | 37.4 | 1.21 | 21% |
| Parkes | 36.2 | 1.18 | 18% |

| | | | |
|---|---|---|---|
| Unincorporated (FW) | 24.7 | 0.80 | -20% |
| Walgett | 28.1 | 0.91 | -9% |
| Warren | 31 | 1.01 | 1% |
| Warrumbungle Shire | 32.7 | 1.06 | 6% |
| Weddin | 34.3 | 1.11 | 11% |
| Wentworth (FW) | 31.7 | 1.03 | 3% |
| **WNSW PHN** | **34.8** | **1.13** | **13%** |
| **NSW** | **30.8** | | |

LGA=local government area; ASR=age-standardised rate, FW=Far West Local Health District, WNSW PHN=Western NSW Primary Health Network.
Data source: PHIDU, 2023

# Chapter 3. Burden of Disease

## Contents

### *Table A.3.1. Mortality from all causes by local government area, 2017-2021.*

| LGA | ASR PER 100,000 2017-2021 | LGA:NSW (RR)* |
|---|---|---|
| Balranald (FW) | 586.8 | 1.14 |
| Bathurst | 563.1 | 1.10 |
| Blayney | 593.4 | 1.16 |
| Bogan | 715.2 | 1.39 |
| Bourke | 963.9 | 1.88 |
| Brewarrina | 934.3 | 1.82 |
| Broken Hill (FW) | 720.2 | 1.40 |
| Cabonne | 534.3 | 1.04 |
| Central Darling (FW) | 690.6 | 1.35 |
| Cobar | 650.0 | 1.27 |
| Coonamble | 865.4 | 1.69 |
| Cowra | 664.7 | 1.29 |
| Dubbo Regional | 623.4 | 1.21 |
| Forbes | 612.6 | 1.19 |
| Gilgandra | 687.3 | 1.34 |
| Lachlan** | 688.3 | 1.34 |
| Mid-Western Regional | 606.5 | 1.18 |
| Narromine | 643.2 | 1.25 |
| Oberon | 575.3 | 1.12 |
| Orange | 642.2 | 1.25 |
| Parkes | 655.8 | 1.28 |
| Walgett | 846.4 | 1.65 |
| Warren | 721.3 | 1.41 |
| Warrumbungle Shire | 645.2 | 1.26 |
| Weddin | 507.8 | 0.99 |
| Wentworth (FW) | 598.2 | 1.17 |
| Unincorporated (FW) | 677.6 | 1.32 |
| **NSW** | **513.4** | **1.00** |

LGA=local government area; RR=rate ratio; FW=Far West LHD;
*The ratio of LGA average mortality rate to NSW average mortality rate (rate ratio).
**Includes both Western NSW & Murrumbidgee LHD portions.
*Data source: AIHW MORT workbooks* Mortality Over Regions and Time (MORT) books, MORT Excel workbooks - Australian Institute of Health and Welfare (aihw.gov.au)-accessed 24/5/2024

*Table A.3.2. Potentially avoidable deaths among persons less than 75 years of age by local government area, 2017 to 2021.*

| LGA | AVERAGE ANNUAL ASR PER 100,000 | LGA:NSW (RR)* |
|---|---|---|
| | 2017 to 2021 | |
| Balranald (FW) | 133.4 | 1.17 |
| Bathurst Regional | 140.9 | 1.24 |
| Blayney | 148.9 | 1.31 |
| Bogan | 226.7 | 2.00 |
| Bourke | 325.1 | 2.86 |
| Brewarrina | 370.9 | 3.26 |
| Broken Hill (FW) | 216.8 | 1.91 |
| Cabonne | 121.0 | 1.06 |
| Central Darling (FW) | 345.8 | 3.04 |
| Cobar | 183.9 | 1.62 |
| Coonamble | 288.0 | 2.53 |
| Cowra | 166.7 | 1.47 |
| Dubbo Regional | 170.8 | 1.50 |
| Forbes | 173.5 | 1.53 |
| Gilgandra | 164.9 | 1.45 |
| Lachlan | 217.0 | 1.91 |
| Mid-Western Regional | 148.3 | 1.31 |
| Narromine | 191.9 | 1.69 |
| Oberon | 130.2 | 1.15 |
| Orange | 150.6 | 1.33 |
| Parkes | 186.6 | 1.64 |
| Walgett | 250.1 | 2.20 |
| Warren | 277.3 | 2.44 |
| Warrumbungle Shire | 177.2 | 1.56 |
| Weddin | 172.3 | 1.52 |
| Wentworth (FW) | 169.9 | 1.49 |
| **NSW** | **113.6** | **1.00** |

LGA=local government area, Av. ann.=average annual, RR=rate ratio, FW=Far West LHD.
*The ratio of LGA annual average mortality rate to NSW annual average mortality rate (rate ratio).
Data source: PHIDU.

### *Table A.3.3. Trends in hospitalisations (all causes) by local government area, NSW 2018-19 to 2022-23.*

| | AGE-STANDARDISED RATE (PER 100,000) | | | | | | | LGA:NSW |
|---|---|---|---|---|---|---|---|---|
| LGA | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Trend line | Ann Av | RR * |
| Balranald (FW) | 31220.5 | 36860.6 | 35432.5 | 33891.3 | 30413.1 | | 33563.6 | 0.98 |
| Bathurst Regional | 38129.4 | 38591.9 | 40028.9 | 34394.7 | 37156.7 | | 37660.3 | 1.10 |
| Blayney | 32035.1 | 28696.5 | 33840.1 | 33588.3 | 34225.3 | | 32477.1 | 0.95 |
| Bogan | 47063.0 | 38152.5 | 41172.3 | 38077.4 | 39298.2 | | 40752.7 | 1.19 |
| Bourke | 56783.4 | 51242.9 | 51358.2 | 40335.2 | 49291.4 | | 49802.2 | 1.45 |
| Brewarrina | 37872.1 | 35839.3 | 44187.4 | 35989.6 | 43142.8 | | 39406.2 | 1.15 |
| Broken Hill (FW) | 34093.8 | 33187.0 | 34466.9 | 31262.5 | 36581.7 | | 33918.4 | 0.99 |
| Cabonne | 31103.0 | 28457.2 | 31382.7 | 29749.2 | 30955.3 | | 30329.5 | 0.89 |
| Central Darling (FW) | 48627.3 | 52692.8 | 53729.8 | 52945.6 | 51093.2 | | 51817.7 | 1.51 |
| Cobar | 35939.9 | 33324.2 | 36489.2 | 31870.3 | 32601.4 | | 34045.0 | 0.99 |
| Coonamble | 37750.7 | 35320.2 | 35072.0 | 33864.0 | 37903.5 | | 35982.1 | 1.05 |
| Cowra | 30974.4 | 33108.2 | 34265.8 | 33483.8 | 33548.9 | | 33076.2 | 0.97 |
| Dubbo Regional | 40640.1 | 39181.7 | 38756.6 | 34982.9 | 36730.0 | | 38058.3 | 1.11 |
| Forbes | 34669.6 | 33550.8 | 37186.7 | 34150.6 | 34615.2 | | 34834.6 | 1.02 |
| Gilgandra | 40201.4 | 43068.3 | 36312.0 | 34360.4 | 37810.9 | | 38350.6 | 1.12 |
| Lachlan** | 35925.6 | 42005.1 | 48087.4 | 38915.3 | 43236.6 | | 41634.0 | 1.22 |
| Mid-Western Regional | 30060.0 | 29765.0 | 34057.5 | 31577.7 | 33312.2 | | 31754.5 | 0.93 |
| Narromine | 37099.7 | 34781.7 | 36648.6 | 30996.8 | 31882.6 | | 34281.9 | 1.00 |
| Oberon | 32590.8 | 32417.6 | 31323.7 | 29232.0 | 36247.3 | | 32362.3 | 0.94 |
| Orange | 35501.4 | 32498.7 | 35503.3 | 33058.1 | 34983.0 | | 34308.9 | 1.00 |
| Parkes | 32256.1 | 30175.1 | 33276.7 | 33789.8 | 34382.3 | | 32776.0 | 0.96 |
| Walgett | 41373.3 | 37174.9 | 38478.4 | 35965.4 | 39247.3 | | 38447.9 | 1.12 |
| Warren | 46357.4 | 41025.1 | 39047.3 | 34542.1 | 41806.1 | | 40555.6 | 1.18 |
| Warrumbungle Shire | 34776.8 | 32136.3 | 31468.5 | 31928.1 | 35227.8 | | 33107.5 | 0.97 |
| Weddin | 30318.1 | 30104.8 | 33040.8 | 28840.6 | 32338.2 | | 30928.5 | 0.90 |
| Wentworth (FW) | 35028.9 | 33612.0 | 34817.8 | 29677.7 | 30814.7 | | 32790.2 | 0.96 |
| Unincorporated (FW) | | | NA | | | | NA | NA |
| NSW | 35005.9 | 32859.0 | 35760.5 | 33373.7 | 34243.7 | | 34248.6 | 1.00 |

LGA=local government area, Av. ann.=average annual (financial year), RR=rate ratio, FW=Far West LHD, NA=data not available.

*The ratio of LGA average annual hospitalisation rate to that of NSW (rate ratio).

**Includes both WNSW PHN and Murrumbidgee PHN portions.

Data source: NSW: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health

# Chapter 4. Cancer

## Contents



*Table A.4.1. Newly diagnosed cancers (all types) by local government area, 2017 to 2021.*

| LGA | Cases (N) | | Age-standardised rate per 100,000 | | | Standardised ratio (LGA:NSW) | | | Statistically Significant* |
|---|---|---|---|---|---|---|---|---|---|
| | Actual | Expected | Rate | LL | UL | Ratio | LL | UL | |
| Balranald (FW) | 69 | 72 | 498.0 | 382.5 | 636.3 | 0.96 | 0.75 | 1.22 | No |
| Bathurst Regional | 1,391 | 1,291 | 531.4 | 503.3 | 560.7 | 1.08 | 1.02 | 1.14 | Yes |
| Blayney | 276 | 248 | 556.0 | 490.4 | 627.8 | 1.11 | 0.98 | 1.25 | No |
| Bogan | 108 | 85 | 639.5 | 520.9 | 776.3 | 1.27 | 1.04 | 1.54 | Yes |
| Bourke | 82 | 69 | 620.4 | 489.0 | 775.3 | 1.18 | 0.94 | 1.47 | No |
| Brewarrina | 35 | 42 | 435.4 | 292.8 | 618.9 | 0.84 | 0.59 | 1.17 | No |
| Broken Hill (FW) | 702 | 652 | 527.3 | 486.9 | 570.1 | 1.08 | 1.00 | 1.16 | No |
| Cabonne | 482 | 475 | 497.3 | 452.2 | 545.5 | 1.01 | 0.93 | 1.11 | No |
| Central Darling (FW) | 46 | 56 | 398.5 | 284.5 | 540.6 | 0.82 | 0.60 | 1.10 | No |
| Cobar | 118 | 126 | 452.0 | 372.8 | 542.9 | 0.94 | 0.78 | 1.12 | No |
| Coonamble | 156 | 128 | 591.8 | 500.4 | 694.7 | 1.22 | 1.03 | 1.42 | Yes |
| Cowra | 538 | 506 | 531.8 | 484.3 | 582.5 | 1.06 | 0.98 | 1.16 | No |
| Dubbo Regional^ | 1,711 | 1,585 | 535.0 | 509.5 | 561.5 | 1.08 | 1.03 | 1.13 | Yes |
| Forbes | 374 | 341 | 550.5 | 492.8 | 612.7 | 1.10 | 0.99 | 1.21 | No |
| Gilgandra | 157 | 166 | 476.9 | 400.5 | 562.8 | 0.95 | 0.81 | 1.11 | No |
| Lachlan** | 169 | 150 | 569.9 | 482.9 | 667.5 | 1.13 | 0.96 | 1.31 | No |
| Mid-Western Regional | 923 | 845 | 535.7 | 500.7 | 572.4 | 1.09 | 1.02 | 1.17 | Yes |
| Narromine | 260 | 225 | 572.1 | 501.2 | 649.8 | 1.16 | 1.02 | 1.31 | Yes |
| Oberon | 233 | 203 | 551.9 | 480.4 | 630.8 | 1.15 | 1.00 | 1.30 | No |
| Orange | 1,383 | 1,260 | 543.5 | 514.6 | 573.5 | 1.10 | 1.04 | 1.16 | Yes |
| Parkes | 516 | 492 | 530.6 | 483.8 | 580.7 | 1.05 | 0.96 | 1.14 | No |
| Walgett | 228 | 201 | 580.7 | 503.8 | 665.6 | 1.14 | 0.99 | 1.29 | Yes |
| Warren | 111 | 100 | 571.0 | 463.7 | 694.7 | 1.11 | 0.91 | 1.34 | No |
| Warrumbungle Shire | 411 | 398 | 529.6 | 474.0 | 589.5 | 1.03 | 0.94 | 1.14 | No |
| Weddin | 138 | 162 | 401.3 | 331.2 | 480.9 | 0.85 | 0.72 | 1.01 | No |
| Wentworth (FW) | 231 | 252 | 449.7 | 391.2 | 514.1 | 0.92 | 0.80 | 1.04 | No |
| Unincorporated (FW) | 9 | 31 | 127.9 | 56.1 | 246.8 | 0.29 | 0.13 | 0.55 | Yes |
| **NSW** | **237,858** | **237,858** | **494.6** | **492.6** | **496.7** | **1.00** | **1.00** | **1.00** | **NA** |

N=number, LGA=local government area, LL=lower limit of 95% confidence interval, UL=upper limit of 95% confidence interval, FW=Far West LHD, NA=not applicable.

*All LGAs with a 'Yes' result have incidence rates statistically significantly higher than that of NSW, except for Unincorporated (FW), where rates are statistically significantly lower than that of NSW. (*NB. Some FWLHD residents may access interstate services, with the potential for that data not being available to NSW.)*

^Previously known as Western Plains Regional LGA and includes Wellington.
**Western NSW LHD portion only
Data source: NSW Cancer Institute

### *Table A.4.2. Cancer deaths by local government area, 2017 to 2021.*

| LGA | Deaths (N) | | Age-standardised rate per 100,000 | | | Standardised ratio (LGA:NSW) | | | Statistically Significant* |
|---|---|---|---|---|---|---|---|---|---|
| | Actual | Expected | Rate | LL | UL | Ratio | LL | UL | |
| Balranald (FW) | 17 | 21 | 113.4 | 64.7 | 183.6 | 0.80 | 0.46 | 1.28 | No |
| Bathurst Regional | 412 | 410 | 147.8 | 133.6 | 163.0 | 1.01 | 0.91 | 1.11 | No |
| Blayney | 101 | 78 | 194.7 | 158.1 | 237.2 | 1.29 | 1.05 | 1.56 | Yes |
| Bogan | 32 | 28 | 173.0 | 117.4 | 245.4 | 1.15 | 0.79 | 1.63 | No |
| Bourke | 29 | 19 | 218.9 | 143.6 | 318.3 | 1.49 | 1.00 | 2.14 | No |
| Brewarrina | 10 | 13 | 93.8 | 43.1 | 175.5 | 0.79 | 0.38 | 1.46 | No |
| Broken Hill (FW) | 277 | 220 | 187.5 | 165.0 | 212.0 | 1.26 | 1.12 | 1.42 | Yes |
| Cabonne | 141 | 152 | 132.9 | 111.6 | 157.0 | 0.92 | 0.78 | 1.09 | No |
| Central Darling (FW) | 17 | 16 | 148.6 | 82.0 | 244.6 | 1.09 | 0.63 | 1.74 | No |
| Cobar | 48 | 38 | 186.7 | 137.1 | 248.2 | 1.25 | 0.92 | 1.66 | No |
| Coonamble | 58 | 41 | 205.0 | 155.3 | 265.5 | 1.43 | 1.08 | 1.84 | Yes |
| Cowra | 204 | 171 | 171.7 | 148.3 | 197.7 | 1.20 | 1.04 | 1.37 | Yes |
| Dubbo Regional^ | 546 | 504 | 159.9 | 146.5 | 174.1 | 1.08 | 0.99 | 1.18 | No |
| Forbes | 133 | 115 | 169.7 | 141.2 | 202.1 | 1.16 | 0.97 | 1.37 | No |
| Gilgandra | 63 | 55 | 174.6 | 132.0 | 225.9 | 1.15 | 0.88 | 1.47 | No |
| Lachlan** | 62 | 51 | 181.4 | 137.4 | 234.7 | 1.22 | 0.94 | 1.57 | No |
| Mid-Western Regional | 290 | 267 | 160.8 | 142.6 | 180.8 | 1.09 | 0.96 | 1.22 | No |
| Narromine | 91 | 74 | 187.1 | 149.4 | 231.2 | 1.23 | 0.99 | 1.51 | Yes |
| Oberon | 69 | 63 | 157.9 | 122.0 | 200.8 | 1.10 | 0.85 | 1.39 | No |
| Orange | 476 | 407 | 173.7 | 158.1 | 190.3 | 1.17 | 1.07 | 1.28 | Yes |
| Parkes | 176 | 164 | 163.3 | 139.2 | 190.3 | 1.07 | 0.92 | 1.24 | No |
| Walgett | 100 | 59 | 261.8 | 211.0 | 320.7 | 1.69 | 1.37 | 2.05 | Yes |
| Warren | 47 | 34 | 220.0 | 158.8 | 296.0 | 1.38 | 1.02 | 1.84 | Yes |
| Warrumbungle Shire | 148 | 136 | 164.8 | 137.3 | 195.9 | 1.09 | 0.92 | 1.28 | No |
| Weddin | 55 | 55 | 146.7 | 107.4 | 194.7 | 1.00 | 0.75 | 1.30 | No |
| Wentworth (FW) | 59 | 77 | 109.9 | 83.3 | 142.3 | 0.76 | 0.58 | 0.98 | Yes |
| Unincorporated (FW) | | | | | NA | | | | |
| **NSW** | **75,091** | **75,091** | **147.0** | **145.9** | **148.0** | **1.00** | **0.99** | **1.01** | **NA** |

N=number, LGA=local government area, LL=lower limit of 95% confidence interval, UL=upper limit of 95% confidence interval, FW=Far West LHD, NA=data not available.
*All LGAs with a 'Yes' result have death rates statistically significantly higher than that of NSW, except for Wentworth, where rates are statistically significantly lower than that of NSW.
^Previously known as Western Plains Regional LGA and includes Wellington.
**Western NSW LHD portion only.
Data source: NSW Cancer Institute

# Chapter 5. Chronic conditions

**Contents**

*Table A.5.1. Trends in cardiovascular disease deaths by local government area compared to NSW, 2013-2014 to 2017-2018.*

| | AGE-STANDARDISED RATE PER 100,000 | | | | | | LGA:NSW |
|---|---|---|---|---|---|---|---|
| LGA | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | Av. bienn. | RR* |
| Balranald | 186.7 | 178.3 | 173.1 | 163.0 | 149.9 | 170.2 | 1.15 |
| Bathurst Regional | 173.0 | 179.3 | 169.1 | 168.0 | 163.1 | 170.5 | 1.15 |
| Blayney | 181.9 | 178.2 | 162.9 | 165.6 | 162.5 | 170.2 | 1.15 |
| Bogan | 194.1 | 182.7 | 174.7 | 169.1 | 158.7 | 175.9 | 1.19 |
| Bourke | 193.4 | 183.6 | 177.0 | 168.9 | 156.6 | 175.9 | 1.19 |
| Brewarrina | 195.9 | 184.4 | 176.4 | 171.0 | 160.3 | 177.6 | 1.20 |
| Broken Hill | 192.3 | 192.9 | 196.4 | 177.6 | 151.1 | 182.1 | 1.23 |
| Cabonne | 187.1 | 179.6 | 167.2 | 166.8 | 162.0 | 172.5 | 1.17 |
| Central Darling | 190.1 | 181.7 | 175.7 | 165.5 | 152.7 | 173.1 | 1.17 |
| Cobar | 192.0 | 181.5 | 174.5 | 166.5 | 155.9 | 174.1 | 1.18 |
| Coonamble | 196.9 | 184.5 | 176.3 | 172.8 | 163.0 | 178.7 | 1.21 |
| Cowra | 184.3 | 178.6 | 168.1 | 165.2 | 157.4 | 170.7 | 1.16 |
| Dubbo Regional^ | 202.0 | 176.3 | 165.5 | 172.1 | 169.0 | 177.0 | 1.20 |
| Forbes | 190.5 | 180.1 | 169.7 | 166.6 | 158.8 | 173.1 | 1.17 |
| Gilgandra | 197.2 | 182.0 | 173.1 | 172.8 | 164.7 | 178.0 | 1.21 |
| Lachlan** | 192.5 | 180.8 | 171.8 | 167.5 | 159.1 | 174.3 | 1.18 |
| Mid-Western Regional | 181.6 | 179.2 | 172.8 | 168.2 | 160.7 | 172.5 | 1.17 |
| Narromine | 195.1 | 181.2 | 170.6 | 170.8 | 164.5 | 176.4 | 1.20 |
| Oberon | 172.1 | 171.2 | 160.4 | 158.1 | 155.3 | 163.4 | 1.11 |
| Orange | 186.5 | 180.0 | 152.8 | 158.5 | 161.6 | 167.9 | 1.14 |
| Parkes | 197.4 | 184.9 | 174.8 | 174.8 | 166.4 | 179.7 | 1.22 |
| Walgett | 199.9 | 188.0 | 178.9 | 173.4 | 162.7 | 180.6 | 1.22 |
| Warren | 195.9 | 183.4 | 174.6 | 171.5 | 162.2 | 177.5 | 1.20 |
| Warrumbungle Shire | 194.1 | 182.1 | 174.1 | 171.1 | 162.2 | 176.7 | 1.20 |
| Weddin | 187.9 | 177.0 | 166.7 | 162.1 | 154.2 | 169.6 | 1.15 |
| Wentworth | 189.2 | 184.8 | 178.5 | 164.6 | 150.1 | 173.4 | 1.17 |
| Unincorporated FW | | | | NA | | | NA |
| **NSW** | **157.4** | **154.6** | **147.6** | **142.6** | **136.0** | **147.6** | **1.00** |

LGA=local government area, Av. bienn.=average biennial (i.e. two calendar years), RR=rate ratio, FW=Far West, NA=data not available.

*The ratio of LGA average biennial mortality rate to that of NSW (rate ratio).

^Previously Western Plains LGA and includes Wellington.

**Includes both WNSWLHD and Murrumbidgee LHD portions.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

### *Table A.5.2. Trends in cardiovascular disease hospitalisations by local government area compared to NSW, 2014-16 to 2018-20*

| | AGE-STANDARDISED RATE PER 100,000 | | | | | | LGA:NSW |
|---|---|---|---|---|---|---|---|
| LGA | 2014-16 | 2015-17 | 2016-18 | 2017-19 | 2018-20 | Av. bienn. | (RR*) |
| Balranald | 1,838.5 | 1,851.1 | 1,777.9 | 1,773.8 | 1,800.8 | 1,808.4 | 1.11 |
| Bathurst Regional | 1,708.5 | 1,670.9 | 1,662.1 | 1,723.1 | 1,721.8 | 1,697.3 | 1.04 |
| Blayney | 1,656.0 | 1,694.3 | 1,749.4 | 1,844.8 | 1,731.4 | 1,735.2 | 1.06 |
| Bogan | 2,475.8 | 2,306.0 | 2,176.1 | 2,142.5 | 2,128.1 | 2,245.7 | 1.37 |
| Bourke | 2,456.2 | 2,260.0 | 2,125.9 | 2,146.7 | 2,160.9 | 2,229.9 | 1.36 |
| Brewarrina | 2,542.7 | 2,300.2 | 2,216.9 | 2,213.7 | 2,204.1 | 2,295.5 | 1.40 |
| Broken Hill | 1,833.6 | 1,838.3 | 1,815.7 | 1,840.3 | 1,881.5 | 1,841.9 | 1.13 |
| Cabonne | 1,709.7 | 1,740.4 | 1,705.4 | 1,703.6 | 1,729.4 | 1,717.7 | 1.05 |
| Central Darling | 2,113.7 | 2,055.8 | 1,945.4 | 1,936.0 | 1,953.6 | 2,000.9 | 1.22 |
| Cobar | 2,609.3 | 2,340.5 | 2,172.1 | 2,131.8 | 2,120.2 | 2,274.8 | 1.39 |
| Coonamble | 2,396.0 | 2,214.4 | 2,216.2 | 2,139.1 | 2,150.8 | 2,223.3 | 1.36 |
| Cowra | 1,797.4 | 1,808.0 | 1,805.7 | 1,786.6 | 1,710.6 | 1,781.7 | 1.09 |
| Dubbo Regional^ | 2,037.8 | 2,073.6 | 2,151.7 | 2,078.6 | 2,120.7 | 2,092.5 | 1.28 |
| Forbes | 1,957.4 | 1,818.0 | 1,732.3 | 1,814.3 | 1,817.1 | 1,827.8 | 1.12 |
| Gilgandra | 2,217.4 | 2,092.8 | 2,099.7 | 2,068.5 | 2,078.7 | 2,111.4 | 1.29 |
| Lachlan** | 2,331.5 | 2,183.7 | 2,101.0 | 2,049.0 | 1,996.7 | 2,132.4 | 1.30 |
| Mid-Western Regional | 1,765.0 | 1,744.4 | 1,756.7 | 1,758.7 | 1,747.4 | 1,754.4 | 1.07 |
| Narromine | 2,070.2 | 2,120.8 | 2,153.5 | 2,113.4 | 2,118.2 | 2,115.2 | 1.29 |
| Oberon | 1,526.1 | 1,556.0 | 1,609.6 | 1,682.6 | 1,662.9 | 1,607.4 | 0.98 |
| Orange | 1,654.5 | 1,745.5 | 1,802.0 | 1,875.9 | 1,801.6 | 1,775.9 | 1.09 |
| Parkes | 1,866.0 | 1,798.7 | 1,834.4 | 1,860.1 | 1,819.1 | 1,835.7 | 1.12 |
| Walgett | 2,468.0 | 2,277.6 | 2,275.5 | 2,312.4 | 2,209.0 | 2,308.5 | 1.41 |
| Warren | 2,383.0 | 2,274.3 | 2,233.5 | 2,172.5 | 2,152.9 | 2,243.2 | 1.37 |
| Warrumbungle Shire | 1,995.0 | 1,907.8 | 1,951.9 | 1,924.7 | 1,932.9 | 1,942.5 | 1.19 |
| Weddin | 1,952.2 | 1,881.2 | 1,855.8 | 1,844.0 | 1,813.1 | 1,869.3 | 1.14 |
| Wentworth | 1,707.7 | 1,786.2 | 1,664.8 | 1,679.7 | 1,727.5 | 1,713.2 | 1.05 |
| Unincorporated FW | | | NA | | | | NA |
| **NSW** | **1,608.3** | **1,624.8** | **1,648.0** | **1,667.1** | **1,628.4** | **1,635.3** | **1.00** |

LGA=local government area, Av. bienn.=average biennial (i.e. two financial years), RR=rate ratio, FW=Far West, NA=data not available.

*The ratio of LGA average biennial rate to that of NSW (rate ratio).

^Previously Western Plains LGA and includes Wellington.

**Includes both WNSWLHD and Murrumbidgee LHD portions.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

*Table A.5.3. Trends in hospitalisation by diabetes^, by local government area, 2020-21.*

| LGA/PHN/NSW | ASR per 100,000 | Rate ratio LGA:NSW |
|---|---|---|
| Balranald | NA | NA |
| Bathurst Regional | 323.16 | 2.00 |
| Blayney | 247.82 | 1.53 |
| Bogan | NA | NA |
| Bourke | NA | NA |
| Brewarrina | NA | NA |
| Broken Hill | 491.45 | 3.04 |
| Cabonne | NA | NA |
| Central Darling | NA | NA |
| Cobar | 216.23 | 1.34 |
| Coonamble | 186.18 | 1.15 |
| Cowra | 333.06 | 2.06 |
| Dubbo Regional | 251.43 | 1.56 |
| Forbes | 358.10 | 2.22 |
| Gilgandra | 331.39 | 2.05 |
| Lachlan - part a | 351.87 | 2.18 |
| Mid-Western Regional | 202.38 | 1.25 |
| Narromine | 344.28 | 2.13 |
| Oberon | 478.59 | 2.96 |
| Orange | 162.10 | 1.00 |
| Parkes | 340.15 | 2.11 |
| Unincorporated FW | NA | NA |
| Walgett | 870.19 | 5.39 |
| Warren | NA | NA |
| Warrumbungle Shire | 322.53 | 2.00 |
| Weddin | 232.87 | 1.44 |
| Wentworth | 453.74 | 2.81 |
| **WNSW PHN** | **240.12** | **1.49** |
| **NSW** | **161.49** | **1.00** |

LGA=local government area, FW=Far West, NA=data quality/accuracy was likely to be poor (as reported by PHIDU
^Principal diagnosis
Note: Data for 'hospitalisations' and 'PPH' are exactly the same. 'Hospitalisations' therefore has been chosen to include in the HNA. Data source: PHIDU

*Table A.5.4. Trends in COPD deaths by local government area compared to NSW, 2014-2015 to 2018-2019.*

| | AGE-STANDARDISED RATE PER 100,000 | | | | | | LGA:NSW |
|---|---|---|---|---|---|---|---|
| LGA | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | Av. bienn. | RR* |
| Balranald | 31.3 | 34.5 | 34.9 | 34.5 | 33.0 | 33.6 | 1.38 |
| Bathurst Regional | 31.1 | 33.0 | 39.8 | 37.5 | 30.2 | 34.3 | 1.41 |
| Blayney | 34.4 | 37.7 | 43.4 | 38.3 | 30.3 | 36.8 | 1.51 |
| Bogan | 33.6 | 37.9 | 39.5 | 36.7 | 34.6 | 36.5 | 1.49 |
| Bourke | 33.0 | 37.3 | 38.4 | 36.7 | 34.8 | 36.0 | 1.48 |
| Brewarrina | 33.8 | 38.0 | 40.3 | 37.4 | 35.1 | 36.9 | 1.51 |
| Broken Hill | 33.1 | 40.3 | 40.6 | 43.2 | 40.7 | 39.6 | 1.62 |
| Cabonne | 35.1 | 38.8 | 43.4 | 37.8 | 32.0 | 37.4 | 1.53 |
| Central Darling | 32.2 | 36.1 | 36.6 | 35.8 | 34.1 | 35.0 | 1.43 |
| Cobar | 32.9 | 37.2 | 38.1 | 36.1 | 34.3 | 35.7 | 1.46 |
| Coonamble | 34.1 | 38.1 | 41.9 | 37.6 | 34.9 | 37.3 | 1.53 |
| Cowra | 34.2 | 37.2 | 39.0 | 35.3 | 32.2 | 35.6 | 1.46 |
| Dubbo Regional^ | 39.0 | 42.9 | 51.4 | 41.4 | 35.9 | 42.1 | 1.72 |
| Forbes | 34.1 | 37.5 | 38.8 | 35.4 | 33.3 | 35.8 | 1.47 |
| Gilgandra | 35.3 | 39.2 | 43.6 | 38.1 | 34.6 | 38.2 | 1.56 |
| Lachlan** | 34.2 | 38.0 | 39.1 | 36.0 | 34.1 | 36.3 | 1.49 |
| Mid-Western Regional | 32.9 | 34.9 | 41.1 | 36.5 | 32.4 | 35.6 | 1.46 |
| Narromine | 35.9 | 39.8 | 43.2 | 38.1 | 34.8 | 38.4 | 1.57 |
| Oberon | 29.6 | 31.0 | 33.7 | 31.4 | 25.7 | 30.3 | 1.24 |
| Orange | 38.3 | 41.4 | 50.7 | 42.9 | 27.5 | 40.2 | 1.64 |
| Parkes | 35.5 | 39.0 | 40.2 | 37.1 | 35.7 | 37.5 | 1.54 |
| Walgett | 33.9 | 38.2 | 41.8 | 38.3 | 35.8 | 37.6 | 1.54 |
| Warren | 34.4 | 38.6 | 41.4 | 37.5 | 35.1 | 37.4 | 1.53 |
| Warrumbungle Shire | 33.7 | 37.3 | 41.7 | 36.2 | 32.7 | 36.3 | 1.49 |
| Weddin | 33.6 | 36.8 | 36.5 | 33.9 | 33.0 | 34.8 | 1.42 |
| Wentworth | 32.2 | 35.6 | 35.5 | 35.0 | 33.6 | 34.4 | 1.41 |
| Unincorporated FW | | | | NA | | | NA |
| **NSW** | **24.4** | **24.9** | **25.8** | **24.2** | **22.8** | **24.4** | **1.00** |

LGA=local government area, Av. bienn.=average biennial (i.e. two calendar years), RR=rate ratio, FW=Far West, NA=data not available.

*The ratio of LGA average biennial rate to that of NSW (rate ratio).

^Previously Western Plains LGA and includes Wellington.

**Includes both WNSWLHD and Murrumbidgee LHD portions.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

# Chapter 6. Notifiable Conditions

Nil contents & tables

# Chapter 7. Injury and Poisoning

## Contents

*Table A.7.1. Trends in mortality due to injury &/or poisoning (as the underlying cause) by local government area compared to NSW, 2013-2015 to 2017-2019.*

| LGA | AGE-STANDARDISED RATE (PER 100,000) | | | | | | LGA:NSW (RR)* |
|---|---|---|---|---|---|---|---|
| | 2013-2015 | 2014-2016 | 2015-2017 | 2016-2018 | 2017-2019 | Av. trienn. | |
| Balranald (FW) | 45.4 | 51.4 | 51.7 | 54.0 | 51.0 | 50.7 | 1.44 |
| Bathurst Regional | 45.3 | 50.8 | 48.7 | 46.1 | 42.8 | 46.7 | 1.33 |
| Blayney | 46.6 | 50.3 | 50.6 | 48.7 | 47.5 | 48.7 | 1.38 |
| Bogan | 47.8 | 51.7 | 52.1 | 52.8 | 50.6 | 51.0 | 1.45 |
| Bourke | 47.2 | 52.3 | 52.8 | 54.3 | 51.7 | 51.7 | 1.47 |
| Brewarrina | 48.5 | 52.3 | 52.5 | 53.0 | 50.8 | 51.4 | 1.46 |
| Broken Hill (FW) | 42.0 | 56.7 | 59.1 | 65.5 | 62.0 | 57.1 | 1.62 |
| Cabonne | 46.8 | 50.9 | 50.7 | 49.5 | 47.7 | 49.1 | 1.39 |
| Central Darling (FW) | 46.3 | 52.1 | 52.5 | 54.6 | 51.8 | 51.5 | 1.46 |
| Cobar | 47.0 | 51.3 | 51.7 | 53.1 | 50.8 | 50.8 | 1.44 |
| Coonamble | 49.0 | 51.7 | 52.0 | 51.8 | 50.2 | 50.9 | 1.44 |
| Cowra | 46.1 | 50.3 | 50.6 | 49.8 | 47.2 | 48.8 | 1.38 |
| Dubbo Regional^ | 45.1 | 49.2 | 49.3 | 49.5 | 49.8 | 48.6 | 1.38 |
| Forbes | 46.7 | 50.5 | 50.9 | 50.8 | 48.5 | 49.5 | 1.40 |
| Gilgandra | 47.0 | 50.6 | 51.1 | 51.1 | 49.8 | 49.9 | 1.42 |
| Lachlan** | 46.8 | 50.7 | 51.2 | 51.9 | 49.8 | 50.1 | 1.42 |
| Mid-Western Regional | 42.9 | 47.9 | 48.7 | 48.2 | 46.6 | 46.9 | 1.33 |
| Narromine | 46.7 | 50.7 | 50.9 | 51.0 | 49.7 | 49.8 | 1.41 |
| Oberon | 39.8 | 43.1 | 43.5 | 42.6 | 40.3 | 41.9 | 1.19 |
| Orange | 48.7 | 50.1 | 53.6 | 50.3 | 53.6 | 51.3 | 1.45 |
| Parkes | 46.7 | 51.0 | 51.4 | 51.7 | 49.8 | 50.1 | 1.42 |
| Walgett | 50.6 | 53.3 | 53.1 | 52.8 | 50.6 | 52.1 | 1.48 |
| Warren | 48.1 | 51.5 | 51.8 | 52.0 | 50.2 | 50.7 | 1.44 |
| Warrumbungle Shire | 46.5 | 49.9 | 51.4 | 51.1 | 49.4 | 49.7 | 1.41 |
| Weddin | 46.2 | 50.2 | 50.7 | 50.6 | 47.9 | 49.1 | 1.39 |
| Wentworth (FW) | 47.0 | 53.4 | 53.8 | 56.1 | 53.0 | 52.7 | 1.49 |
| Unincorporated (FW) | | | | NA | | | NA |
| **NSW** | **35.4** | **35.6** | **35.8** | **35.4** | **34.1** | **35.26** | **1.00** |

LGA=local government area, Av. trienn.=average triennial (i.e. 3 calendar years), RR=rate ratio, FW=Far West LHD, NA=data not available.

*The ratio of LGA average triennial mortality rate to that of NSW (rate ratio).

^Previously known as Western Plains Regional LGA and includes Wellington.

**Western NSW & Murrumbidgee LHD portions included.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

*Table A.7.2. Trends in hospitalisations due to injury &/or poisoning (as the underlying cause) by local government area compared to NSW, 2014-15 to 2018-19.*

| LGA | AGE-STANDARDISED RATE (PER 100,000) | | | | | | LGA:NSW (RR)* |
|---|---|---|---|---|---|---|---|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | Av. ann. | |
| Balranald (FW) | 2,138.4 | 2,166.7 | 2,209.0 | 2,243.5 | 2,210.3 | 2,193.6 | 1.09 |
| Bathurst Regional | 1,749.6 | 2,159.3 | 2,570.9 | 2,783.0 | 3,136.4 | 2,479.8 | 1.23 |
| Blayney | 2,083.2 | 2,118.1 | 2,371.3 | 2,610.5 | 2,644.4 | 2,365.5 | 1.18 |
| Bogan | 2,334.8 | 2,460.7 | 2,537.4 | 2,404.6 | 2,216.3 | 2,390.8 | 1.19 |
| Bourke | 2,602.7 | 2,745.0 | 2,762.7 | 2,567.0 | 2,452.1 | 2,625.9 | 1.30 |
| Brewarrina | 2,337.0 | 2,444.8 | 2,566.6 | 2,476.4 | 2,327.8 | 2,430.5 | 1.21 |
| Broken Hill (FW) | 2,594.1 | 2,437.1 | 2,327.5 | 2,472.0 | 2,495.0 | 2,465.1 | 1.22 |
| Cabonne | 2,083.5 | 2,024.4 | 2,203.9 | 2,381.5 | 2,330.7 | 2,204.8 | 1.10 |
| Central Darling (FW) | 2,379.9 | 2,446.7 | 2,476.9 | 2,393.0 | 2,292.0 | 2,397.7 | 1.19 |
| Cobar | 2,551.6 | 2,597.3 | 2,629.1 | 2,426.7 | 2,196.3 | 2,480.2 | 1.23 |
| Coonamble | 2,079.6 | 2,074.6 | 2,195.9 | 2,306.3 | 2,270.1 | 2,185.3 | 1.09 |
| Cowra | 1,896.0 | 2,062.2 | 2,301.5 | 2,284.5 | 2,185.0 | 2,145.8 | 1.07 |
| Dubbo Regional^ | 1,659.8 | 1,897.2 | 2,321.0 | 2,703.4 | 2,910.4 | 2,298.4 | 1.14 |
| Forbes | 2,154.5 | 2,084.7 | 2,228.0 | 2,208.8 | 2,102.7 | 2,155.7 | 1.07 |
| Gilgandra | 1,792.7 | 1,857.6 | 2,037.5 | 2,228.9 | 2,235.7 | 2,030.5 | 1.01 |
| Lachlan** | 2,166.5 | 2,169.8 | 2,330.5 | 2,309.8 | 2,131.6 | 2,221.6 | 1.10 |
| Mid-Western Regional | 1,539.1 | 1,499.0 | 1,550.1 | 1,764.2 | 1,806.3 | 1,631.7 | 0.81 |
| Narromine | 1,854.4 | 1,913.3 | 2,092.0 | 2,244.6 | 2,244.4 | 2,069.7 | 1.03 |
| Oberon | 1,980.0 | 2,119.0 | 2,383.7 | 2,551.9 | 2,565.9 | 2,320.1 | 1.15 |
| Orange | 2,292.0 | 2,264.9 | 2,448.3 | 2,629.8 | 2,547.5 | 2,436.5 | 1.21 |
| Parkes | 1,781.1 | 1,836.8 | 1,928.8 | 1,880.7 | 1,763.6 | 1,838.2 | 0.91 |
| Walgett | 2,300.9 | 2,519.7 | 2,769.9 | 2,706.7 | 2,487.7 | 2,557.0 | 1.27 |
| Warren | 2,114.9 | 2,211.1 | 2,378.1 | 2,414.9 | 2,281.7 | 2,280.1 | 1.13 |
| Warrumbungle Shire | 1,828.7 | 1,762.4 | 1,903.9 | 2,147.3 | 2,206.4 | 1,969.7 | 0.98 |
| Weddin | 1,978.5 | 2,034.4 | 2,262.6 | 2,249.1 | 2,107.4 | 2,126.4 | 1.06 |
| Wentworth (FW) | 2,086.1 | 2,223.4 | 2,305.1 | 2,228.7 | 2,107.3 | 2,190.1 | 1.09 |
| Unincorporated (FW) | NA | | | | | | NA |
| **NSW** | **2,025.9** | **1,877.3** | **1,926.9** | **2,077.2** | **2,154.7** | **2,012.4** | **1.00** |

LGA=local government area, Av. ann.=average annual (financial year), RR=rate ratio, FW=Far West LHD, NA=data not available.

*The ratio of LGA average annual hospitalisation rate to that of NSW (rate ratio).

^Previously known as Western Plains Regional LGA and includes Wellington.

**Includes both Western NSW & Murrumbidgee LHD portions.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

# Chapter 8. Alcohol and Illicit Substances

## Contents



***Table A.8.1 Trends in alcohol-attributed deaths by local government area compared to NSW, 2016-2017 to 2020- 2021.***

| | AGE-STANDARDISED RATE PER 100,000 | | | | | | LGA:NSW |
|---|---|---|---|---|---|---|---|
| **LGA** | **2016-2017** | **2017-2018** | **2018-2019** | **2019-2020** | **2020-2021** | **Av. bienn.** | **(RR*)** |
| Balranald | 25.5 | 23.7 | 23.6 | 23.1 | 22.7 | 23.7 | 1.20 |
| Bathurst Regional | 24.2 | 22.7 | 22.3 | 22.0 | 21.4 | 22.5 | 1.14 |
| Blayney | 24.6 | 22.9 | 22.6 | 22.3 | 22.0 | 22.9 | 1.16 |
| Bogan | 25.8 | 23.9 | 23.7 | 23.1 | 22.7 | 23.8 | 1.21 |
| Bourke | 26.0 | 24.2 | 24.0 | 23.4 | 22.9 | 24.1 | 1.22 |
| Brewarrina | 26.0 | 24.1 | 23.8 | 23.1 | 22.7 | 23.9 | 1.21 |
| Broken Hill | 29.2 | 25.7 | 26.4 | 25.1 | 24.3 | 26.1 | 1.32 |
| Cabonne | 24.6 | 23.0 | 22.9 | 22.5 | 22.1 | 23.0 | 1.16 |
| Central Darling | 26.0 | 24.0 | 24.0 | 23.4 | 23.0 | 24.1 | 1.22 |
| Cobar | 25.5 | 23.8 | 23.6 | 23.2 | 22.7 | 23.8 | 1.20 |
| Coonamble | 25.2 | 23.8 | 23.6 | 22.9 | 22.6 | 23.6 | 1.19 |
| Cowra | 24.3 | 22.7 | 22.6 | 22.4 | 21.9 | 22.8 | 1.15 |
| Dubbo Regional^ | 24.9 | 23.7 | 23.4 | 22.6 | 22.2 | 23.4 | 1.18 |
| Forbes | 25.0 | 23.2 | 23.1 | 22.7 | 22.1 | 23.2 | 1.17 |
| Gilgandra | 25.1 | 23.6 | 23.4 | 22.9 | 22.4 | 23.5 | 1.19 |
| Lachlan** | 25.3 | 23.6 | 23.4 | 22.9 | 22.4 | 23.5 | 1.19 |
| Mid-Western Regional | 24.2 | 23.1 | 22.7 | 22.3 | 22.0 | 22.9 | 1.16 |
| Narromine | 25.2 | 23.5 | 23.4 | 22.8 | 22.4 | 23.5 | 1.19 |
| Oberon | 22.9 | 21.9 | 21.6 | 21.2 | 20.4 | 21.6 | 1.09 |
| Orange | 24.8 | 23.1 | 23.1 | 22.7 | 22.6 | 23.3 | 1.18 |
| Parkes | 25.5 | 23.5 | 23.2 | 22.9 | 22.5 | 23.5 | 1.19 |
| Walgett | 25.5 | 24.0 | 23.6 | 23.0 | 22.9 | 23.8 | 1.20 |
| Warren | 25.4 | 23.8 | 23.5 | 22.9 | 22.5 | 23.6 | 1.19 |
| Warrumbungle Shire | 24.5 | 23.3 | 23.2 | 22.7 | 22.2 | 23.2 | 1.17 |
| Weddin | 24.4 | 22.9 | 22.9 | 22.7 | 22.2 | 23.0 | 1.16 |
| Wentworth | 26.2 | 24.1 | 24.1 | 23.5 | 23.2 | 24.2 | 1.22 |
| Unincorporated FW | | | | NA | | | |
| **NSW** | **20.6** | **20.0** | **19.9** | **19.6** | **18.8** | **19.8** | **1.00** |

LGA=local government area, Av. bienn=average biennial (calendar years), RR=rate ratio, FW=Far West.
*The ratio of LGA average biennial death rate to that of NSW (rate ratio).
^Previously known as Western Plains Regional LGA and includes Wellington.
**Includes Western NSW & Murrumbidgee LHD portions.
Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

# Chapter 9. Mental Health

## Contents



***Table A.9.1. Hospitalisation for intentional self-harm by local government area compared to NSW, 2014-16 to 2018- 20.***

| LGA | AGE-STANDARDISED RATE (PER 100,000) | | | | | | LGA:NSW (RR*) |
|---|---|---|---|---|---|---|---|
| | 2014/15-15/16 | 2015/16-16/17 | 2016/17-17/18 | 2017/18-18/19 | 2018/19-19/20 | Av. biennial | |
| Balranald (FW) | 122.1 | 131.4 | 135.3 | 135.0 | 128.5 | 130.5 | 1.31 |
| Bathurst Regional | 87.8 | 98.7 | 106.4 | 101.5 | 119.4 | 102.8 | 1.03 |
| Blayney | 109.0 | 108.4 | 123.5 | 127.1 | 124.0 | 118.4 | 1.19 |
| Bogan | 111.7 | 118.3 | 126.1 | 122.2 | 113.6 | 118.4 | 1.19 |
| Bourke | 127.5 | 138.9 | 142.6 | 136.0 | 133.6 | 135.7 | 1.36 |
| Brewarrina | 109.9 | 115.7 | 128.4 | 126.5 | 120.3 | 120.2 | 1.21 |
| Broken Hill (FW) | 264.6 | 261.2 | 224.0 | 254.6 | 265.2 | 253.9 | 2.55 |
| Cabonne | 88.1 | 94.4 | 102.2 | 99.2 | 89.7 | 94.7 | 0.95 |
| Central Darling (FW) | 130.9 | 142.5 | 142.5 | 142.2 | 142.7 | 140.2 | 1.41 |
| Cobar | 124.0 | 133.6 | 136.7 | 131.8 | 123.3 | 129.9 | 1.30 |
| Coonamble | 102.8 | 102.1 | 112.0 | 114.4 | 108.9 | 108.0 | 1.08 |
| Cowra | 103.0 | 117.8 | 129.2 | 119.3 | 112.5 | 116.4 | 1.17 |
| Dubbo Regional^ | 66.6 | 81.4 | 119.9 | 127.2 | 135.6 | 106.1 | 1.06 |
| Forbes | 109.8 | 117.4 | 125.9 | 121.0 | 106.4 | 116.1 | 1.16 |
| Gilgandra | 88.4 | 93.1 | 107.9 | 110.0 | 102.8 | 100.4 | 1.01 |
| Lachlan** | 103.6 | 109.4 | 120.8 | 116.3 | 105.1 | 111.0 | 1.11 |
| Mid-Western Regional | 81.4 | 77.1 | 73.3 | 74.7 | 61.6 | 73.6 | 0.74 |
| Narromine | 85.8 | 89.2 | 99.5 | 101.2 | 93.4 | 93.8 | 0.94 |
| Oberon | 95.2 | 96.3 | 98.0 | 86.7 | 75.0 | 90.2 | 0.91 |
| Orange | 138.2 | 147.6 | 209.1 | 210.1 | 182.8 | 177.6 | 1.78 |
| Parkes | 89.6 | 92.9 | 92.8 | 80.4 | 72.3 | 85.6 | 0.86 |
| Walgett | 104.9 | 108.1 | 132.0 | 136.7 | 128.9 | 122.1 | 1.23 |
| Warren | 100.4 | 104.8 | 116.8 | 117.1 | 109.6 | 109.7 | 1.10 |
| Warrumbungle Shire | 99.8 | 98.7 | 102.2 | 105.1 | 98.8 | 100.9 | 1.01 |
| Weddin | 114.4 | 128.4 | 133.9 | 123.2 | 118.9 | 123.8 | 1.24 |
| Wentworth (FW) | 139.6 | 153.0 | 144.7 | 157.0 | 164.0 | 151.7 | 1.52 |
| Unincorporated (FW) | | | | NA | | | NA |
| **NSW** | **101.9** | **105.0** | **106.7** | **94.6** | **90.2** | **119.7** | **1.00** |

LGA=local government area, Av. biennial=average biennial (i.e. 2 financial years), RR=rate ratio, FW=Far West LHD, NA=data not available.

*The ratio of LGA average biennial hospitalisation rate to that of NSW (rate ratio).

^Previously known as Western Plains Regional LGA and includes Wellington.

**Includes both Western NSW and Murrumbidgee LHD portions.

Data source: Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health.

# Chapter 10. Oral Health

Nil contents & tables

# Chapter 11. Maternal and Infant Health

Nil contents & tables

# Chapter 12. Health of Children and Young People

## Contents

*Table A.12.1. Developmentally vulnerable children commencing full-time school by domain & jurisdiction, 2021.*

| DEVELOPMENTALLY VULNERABLE CHILDREN BY DOMAIN & JURISDICTION, 2021 | | | | | | |
|---|---|---|---|---|---|---|
| LGA | Physical (%) | Social (%) | Emotional (%) | Language (%) | Communication (%) | 2 or more (%) |
| Balranald | 33.3 | 17.6 | 17.6 | 11.8 | 16.7 | 29.4 |
| Broken Hill | 13.5 | 8.5 | 6.5 | 13.5 | 6.0 | 9.5 |
| Central Darling | NA | NA | NA | NA | NA | NA |
| Wentworth | 16.2 | 22.1 | 23.1 | 21.0 | 18.1 | 26.0 |
| Unincorporated FW | NA | NA | NA | NA | NA | NA |
| **FWLHD** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |
| Bathurst Regional | 16.0 | 16.7 | 8.3 | 6.4 | 12.3 | 16.0 |
| Blayney | 15.4 | 11.5 | 7.7 | 7.7 | 5.1 | 14.1 |
| Bogan | 6.3 | 0.0 | 0.0 | 6.3 | 0.0 | 3.1 |
| Bourke | 40.0 | 30.0 | 24.0 | 32.0 | 30.0 | 40.0 |
| Brewarrina | 38.1 | 42.9 | 15.8 | 25.0 | 28.6 | 38.1 |
| Cabonne | 11.8 | 3.6 | 5.9 | 5.3 | 2.4 | 5.3 |
| Cobar | 42.6 | 31.9 | 6.5 | 19.1 | 19.1 | 31.9 |
| Coonamble | 31.6 | 17.5 | 15.8 | 24.6 | 21.1 | 31.6 |
| Cowra | 12.5 | 7.4 | 6.6 | 5.1 | 6.6 | 8.8 |
| Dubbo Regional | 15.4 | 12.8 | 7.7 | 7.6 | 10.7 | 14.3 |
| Forbes | 12.5 | 10.2 | 5.6 | 7.8 | 8.6 | 12.5 |
| Gilgandra | 8.9 | 8.9 | 4.4 | 8.9 | 11.1 | 15.6 |
| Lachlan* | 16.5 | 18.6 | 16.5 | 15.5 | 9.3 | 18.6 |
| Mid-Western Regional | 8.2 | 8.5 | 6.8 | 6.2 | 7.1 | 9.6 |
| Narromine | 14.8 | 8.6 | 2.5 | 9.9 | 11.1 | 12.3 |
| Oberon | 11.9 | 6.8 | 3.4 | 11.9 | 5.1 | 13.6 |
| Orange | 13.6 | 10.4 | 7.3 | 6.5 | 10.6 | 12.1 |
| Parkes | 17.8 | 11.7 | 8.8 | 9.8 | 12.3 | 16.0 |
| Walgett | 14.6 | 12.4 | 17.2 | 17.0 | 10.1 | 15.9 |
| Warren | 4.0 | 2.0 | 6.0 | 4.0 | 2.0 | 4.0 |
| Warrumbungle Shire | 16.5 | 10.3 | 10.3 | 10.3 | 10.3 | 14.4 |
| Weddin | 5.1 | 5.1 | 5.1 | 2.6 | 5.1 | 7.7 |
| **WNSWLHD** | **14.8** | **12.0** | **8.0** | **8.7** | **10.1** | **13.9** |
| **WNSW PHN** | **14.8** | **12.1** | **8.3** | **9.1** | **10.1** | **14.0** |
| **NSW** | **9.4** | **9.4** | **7.3** | **6.2** | **8.4** | **10.5** |

LGA=local government area, NA=data not available
*Includes both WNSWLHD & Murrumbidgee LHD portions.
NB. Data not available for Central Darling or Unincorporated FW in 2021, therefore nil result for FWLHD.
**Caveat:** The number of children tested for each domain was 50 or less in the following LGAs - Bogan, Bourke, Brewarrina, Cobar, Gilgandra, Warren & Weddin. Therefore, the results for these LGAs may need to be considered in the context of limited data.
*Data source: AEDC (LGAs & NSW), PHIDU (WNSW PHN)*

# Chapter 13. Older People's Health

Nil contents & tables

# Chapter 14. Health Workforce, Service Mapping and Market Analysis

Nil contents & tables

# Chapter 15. Prioritised List of Needs

*Table A.15.1 Prioritisation scoring criteria*

| | |
|---|---|
| Variation from benchmark | This score indicates the degree to which the health or service need varies (in an undesirable direction) from a reasonable and appropriate benchmark, such as a State or National average. Not all needs will be able to be scored against this criteria, however where possible, this variation is a useful consideration as part of prioritisation processes. |
| Magnitude of the problem/need | This is the number or proportion of the population affected by the health or service need. |
| Inequity | This score indicates the extent to which addressing the health or service need would reduce disparities between different population groups, especially vulnerable population groups. |
| Clinical severity | This score indicates the clinical seriousness or severity of the health or service need, and the impacts of the need on health, quality of life, quality of care and mortality. |
| Community seriousness | This score indicates the perceived seriousness of the health or service need in the community, and the impact of the need on people's quality of life. |
| Feasibility | This score indicates the feasibility for the PHN to address this health or service need, within current or anticipated future resources. It is also important to consider the PHN's willingness to act on the issue, as well as existing capacity and capability |

### *Table A.15.2 Prioritisation scoring rubric*

| Score | Variation from benchmark | Magnitude of the problem/need | Inequity | Clinical severity | Community seriousness | Feasibility |
|---|---|---|---|---|---|---|
| 4 | Greater than or equal to 80% variation from benchmark | Greater than or equal to 25% of population | There are opportunities to prevent inequity from occurring by addressing the need | The need requires urgent attention due to significant impact on quality of life/care and/or clinically significant risk of premature mortality | There are significant recognised health inequities associated with the need or the need significantly impacts on people's quality of life and their ability to complete necessary tasks | Addressing the need is within the core scope of PHN activities and can clearly be achieved with the existing resources and partnerships. Addressing the need would be considered business-as-usual for the PHN |
| 3 | Between 50.0% - 79.9% variation from benchmark | Between 15.0% - 24.9% of population | There are opportunities to address existing inequity by addressing the need | The need leads to certain hospitalisation and/or significantly impacts on quality of life/care | The need causes disruption to a person's life such as ability to work, maintain relationships and complete important daily household tasks. | Addressing the need may be feasible if additional funding is sourced, and/or strategic partnerships developed or additional workforce and infrastructure is developed. |
| 2 | Between 20.0% - 49.9% variation from benchmark | Between 5.0% - 14.9% of population | Inequity has been evidenced, but limited opportunities exist to address inequity in the need | The need requires regular primary care management to minimise adverse impacts on people's quality of life/care. | The need has minor impact on people's quality of life | Addressing the need may be feasible if local health care system and broader systemic challenges and barriers are addressed. AND/OR Other Stakeholders are better placed to address the need, and the PHN can offer support. |
| 1 | Similar to, or up to 20.0% variation from benchmark | Between 1.0% - 4.9% of population | Inequity is suspected, but yet to be evidenced | The need has minimal impact on people's quality of life/care and risk of hospitalisation | People still live a positive quality of life with the issue present and has minimal impact on their day to day lives | Addressing the need is unlikley to be feasible due to existing barriers in the local health and social care system which are not likely to be resolved in the next 3-5 years. |
| 0 | Better than benchmark | Less than 1.0% of population | There are no equity considerations for the need | The need has no impact on quality of life/care or risk of hospitalisation | The need has no impact on people's day to day life | Addressing the need is not feasible, as it is outside the scope or remit of the PHN. |

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