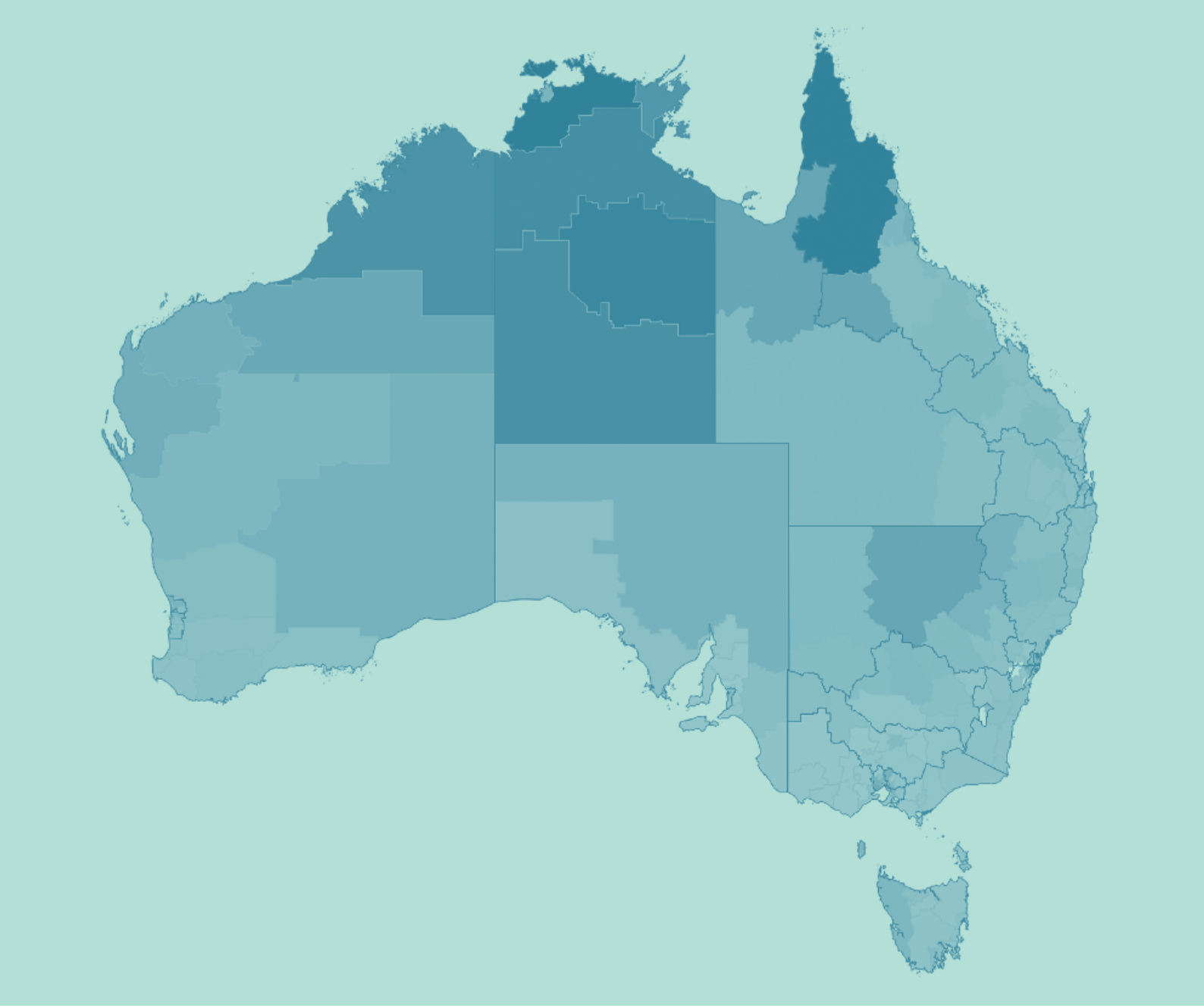

# VIRAL HEPATITIS MAPPING PROJECT: HEPATITIS C

## Geographic diversity in chronic hepatitis C prevalence and treatment

NATIONAL REPORT 2023–2024

ashm

WHO Collaborating Centre for Viral Hepatitis VIDRL

Doherty Institute

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WHO COLLABORATING CENTRE FOR VIRAL HEPATITIS, THE PETER DOHERTY INSTITUTE FOR INFECTION AND IMMUNITY
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# PUBLISHING INFORMATION

Viral Hepatitis Mapping Project: Hepatitis C
Geographic diversity in chronic hepatitis C prevalence and treatment
National Report 2023–2024

**Published by:**

ASHM Health
Head Office – Sydney
Level 3, 160 Clarence Street
Sydney, NSW 2000
Telephone (+61) (02) 8204 0700
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Email ashm@ashm.org.au
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Published 2025
Language: English only

ISBN: 978-1-921850-90-5

Authors: Jennifer MacLachlan, Isabelle Purcell, Adrienne Mondel, Benjamin C Cowie
With thanks to Edan Campbell-O'Brien and the ASHM Hepatitis C program for their review

**Suggested citation:**

MacLachlan JH, Purcell I, Mondel A, Cowie BC. Viral Hepatitis Mapping Project: Hepatitis C National Report 2023–2024. Darlinghurst, NSW, Australia: ASHM; 2025. https://ashm.org.au/vh-mapping-project/

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# ACKNOWLEDGMENTS


We thank the following national and jurisdictional organisations and projects for producing and providing data used in this report:

- Australian Bureau of Statistics
- Australian Government Department of Health and Aged Care
- The Kirby Institute, University of New South Wales
- Services Australia

We thank the individuals and health care providers who provided permission for their data to be used.

We would also like to acknowledge the oversight and guidance of the Epidemiology and Public Health Research Advisory Group of the WHO Collaborating Centre for Viral Hepatitis.

## DECLARATION REGARDING THE USE OF PLIDA DATA

The results in this report are based, in part, on data supplied by the Department of Social Services to the Australian Bureau of Statistics (ABS) under the *Social Security (Administration) Act 1999* (Cth), *A New Tax System (Family Assistance) (Administration) Act 1999* (Cth), *Paid Parental Leave Act 2010* (Cth) and the *Student Assistance Act 1973* (Cth). Such data may only be used for the purposes of the *Census and Statistics Act 1905* (Cth) or performance of functions of the ABS as set out in section 6 of the *Australian Bureau of Statistics Act 1975* (Cth) (ABS Act). Any discussion of data limitations or weaknesses is in the context of using the data for statistical purposes, and not related to the ability of the data to support the Department of Social Services' core operational requirements.

Legislative requirements ensure privacy and secrecy of these data are followed. For access to Person Level Integrated Data Asset (PLIDA) data under section 16A of the ABS Act or enabled by section 15 of the *Census and Statistics (Information Release and Access) Determination 2018*, source data are de-identified and so data about specific individuals have not been viewed in conducting this analysis. In accordance with the *Census and Statistics Act 1905*, results have been treated where necessary to ensure that they are not likely to enable identification of a particular person or organisation.

The results are also based, in part, on migration data supplied by Home Affairs to the ABS under the *Australian Border Force Act 2015* (Cth), which requires that such data are only used for the purposes of the *Census and Statistics Act 1905* or performance of functions of the ABS as set out in section 6 of the ABS Act. Any discussion of data limitations or weaknesses is in the context of using the data for statistical purposes, and not related to the ability of the data to support Home Affairs' core operational requirements.

Legislative requirements ensure privacy and secrecy of these data are followed. For access to PLIDA data under section 16A of the ABS Act or enabled by section 15 of the *Census and Statistics (Information Release and Access) Determination 2018*, source data are de-identified and so data about specific individuals have not been viewed in conducting this analysis. In accordance with the *Census and Statistics Act 1905*, results have been treated where necessary to ensure that they are not likely to enable identification of a particular person or organisation.

## FUNDING

### The Australian Government Department of Health and Aged Care

While the Australian Government Department of Health and Aged Care provides financial support for this project, the material contained in this resource should not be taken to represent the views of the Australian Government Department of Health and Aged Care.

# ABBREVIATIONS

| | |
|---|---|
| ABS | Australian Bureau of Statistics |
| ACT | Australian Capital Territory |
| CHC | chronic hepatitis C |
| DAA | direct-acting antiviral |
| HCV | hepatitis C virus |
| MBS | Medicare Benefits Schedule |
| NNDSS | National Notifiable Diseases Surveillance System |
| NSW | New South Wales |
| NT | Northern Territory |
| PBS | Pharmaceutical Benefits Scheme |
| PHN | Primary Health Network |
| PLIDA | Person Level Integrated Data Asset |
| Qld | Queensland |
| SA | South Australia |
| Tas | Tasmania |
| Vic | Victoria |
| WA | Western Australia |
| WHO | World Health Organization |

For a list of data terms and definitions, see Section B: Data sources and methodology.

# EXECUTIVE SUMMARY

## SECTION A: HEPATITIS C

### TREATMENT NUMBERS AND TRENDS OVER TIME

- Between March 2016 and June 2024, a total of 108,459 people received hepatitis C treatment through the Pharmaceutical Benefits Scheme (PBS).
- There were annual declines in the monthly average number of people treated each year from 2016 to 2022 of between 20 and 45%. Due to an increase in treatment in NSW and the ACT, and stable numbers in the NT and WA, between 2022 and 2024 there was only a 3.2% decline nationally.

### TREATMENT UPTAKE VARIATION AND TRENDS BY PRIMARY HEALTH NETWORK

- Estimated treatment uptake varied widely by Primary Health Network (PHN) and continued to be generally lower in remote and very remote regions, and regions of higher hepatitis C prevalence.
- The number of people receiving treatment declined overall in all PHNs between 2016 and 2024, with the largest decline occurring in **Northern Sydney**, followed by **Central and Eastern Sydney**, **Eastern Melbourne**, **Australian Capital Territory**, **South Eastern Melbourne**, **Northern Territory** and **North Western Melbourne**.
- In a number of PHNs, a disproportionate number of which were located in NSW, the monthly average number of people treated each year increased between 2022 and 2024 (**Nepean Blue Mountains**, **Hunter New England and Central Coast**, **Murray**, **Central Queensland, Wide Bay and Sunshine Coast**, **Australian Capital Territory**, **Gippsland**, **South Eastern NSW**, **Central and Eastern Sydney** and **South Western Sydney** PHNs).

Data regarding hepatitis C prescribing by specialty in 2024, including general practitioner and nurse practitioner prescribing, are not yet available and will be released in a future Supplementary.

## HEPATITIS B

- The equivalent report on the geographic diversity, prevalence and care and treatment uptake of hepatitis B, as well as liver cancer data and serology testing for hepatitis B and C, is presented in the Viral Hepatitis Mapping Project: Hepatitis B National Report 2023.

# MAPPING REPORT AT A GLANCE

## The Hepatitis C Mapping Report – overview of concepts, methods and outputs

### Data reported:

#### Hepatitis C prevalence variation

**The variation from the national average in the proportion of the total population living with chronic hepatitis C**

**Source:** mathematical model of chronic hepatitis C prevalence, adjusted using notified cases of diagnosed hepatitis C according to geographic region

*Notifications data are adjusted to account for correctional facilities which influence case rates by region*

**Geography available:**
state and territory, remoteness area, Primary Health Network

**Time period available:**
2016 (using National Strategy Baseline for treatment uptake)

#### Hepatitis C treatment uptake variation

**The variation from the national average in the proportion of the people living with chronic hepatitis C who have received direct-acting antiviral treatment**

**Source:** Medicare data for hepatitis C treatment

*Data include those treated in correctional facilities, and count each person only once in measuring uptake*

**Geography available:**
state and territory, remoteness area, Primary Health Network

**Time period available:**
cumulative uptake for March 2016 – June 2024

Raw monthly average data by year for 2016 – 2024

Data regarding prevalence and treatment uptake are presented as variation from the average, to account for lack of certainty in underlying source data regarding the number of people living with hepatitis C by geographic region.

### Geographic areas used for reporting:

Data by Statistical Area 3 (SA3) are not available for the hepatitis C report due to lack of granular data regarding hepatitis C prevalence

**8** states and territories

**31** Primary Health Networks (population 45,000–1.6 million)

**5** remoteness areas (major cities to very remote)

Geographic region is based on the residence of the person living with hepatitis C, not the location of the service provider

Click here to look up a Primary Health Network or remoteness area for an address

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# TABLES AND FIGURES

# INTRODUCTION

## BACKGROUND

The Viral Hepatitis Mapping Project aims to assess geographic variations in the prevalence of hepatitis B and hepatitis C and disparities in access to care to identify priority areas for response. The most recent data regarding hepatitis B prevalence, care and treatment uptake, serology testing for hepatitis B and C, and liver cancer are presented in the Viral Hepatitis Mapping Project: Hepatitis B National Report 2023 (published 2025).

This report presents the most recent available treatment data on hepatitis C through June 2024 and an assessment of ongoing trends from 2016. The data enable readers to identify hepatitis C treatment uptake variation in local areas and to assess progress in delivering care to those affected. Improving access to care and treatment for hepatitis B and hepatitis C is needed to reduce the burden of attributable liver disease and cancer, the distribution of which is also geographically disparate.

This report is informed by the targets set out in the Fifth National Hepatitis C Strategy 2018–2022. Future versions of the report will assess progress towards new targets contained in the Sixth National Hepatitis C Strategy 2023–2030, which is yet to be released.

The authors acknowledge communities and individuals affected by hepatitis C. We thank all people with a living and lived experience of hepatitis C and/or injecting drug use, and acknowledge those who have lost their lives to hepatitis C.

This report highlights a range of disparities which must be addressed to meet Australia's 2030 elimination goals for hepatitis C, focusing on geographic inequities. These often reflect health disparities between Aboriginal and/or Torres Strait Islander peoples and non-Indigenous Australians. The findings in this report highlight the enduring traumatic legacy of colonisation and recognise the historical disadvantage perpetuated by institutional racism and systemic failures that collectively contribute to these disparities. This emphasises the urgent need for culturally appropriate care and programs led by Aboriginal and/or Torres Strait Islander peoples that address the root causes of health inequities. Furthermore, Aboriginal and/or Torres Strait Islander peoples' overrepresentation in the criminal justice system can be inextricably linked to the consequences of colonisation further contributing to poorer health outcomes.

Inequities exist between people who have ever been incarcerated and those who have not. Effective interventions require a focus on prevention and appropriate harm reduction, as well as increased testing and treatment. The criminalisation of drugs exacerbates the risk of hepatitis C transmission by fostering environments where individuals who inject drugs face heightened stigma, barriers to harm-reduction services, and increased likelihood of sharing contaminated needles due to the lack of legal and safe spaces for drug use.

By acknowledging, understanding and addressing systemic issues leading to inequities, comprehensive and equitable approaches to hepatitis C prevention and management in Australia can be supported.

## WHAT'S NEW IN THIS REPORT?

This 2023–2024 report contains the following new information:

- Further assessment of trends in treatment for hepatitis C through June 2024.
- More accurate geographic location information for hepatitis C treatment.

# HOW TO USE THE DATA

Treatment uptake and prevalence data are now presented as ratios relative to the national average, reflecting the greater uncertainty in point estimates and the need for ongoing updates as the understanding of the epidemiology of hepatitis C in Australia continues to evolve. This also reflects the uncertainty in the prevalence of hepatitis C according to geographic area, as estimates of reinfection, re-treatment and correctional facility treatment are not yet available at a granular level. Previous reporting also provided estimates at the granularity of Statistical Area 3 regions; however, this has not been undertaken for this report due to greater uncertainty in geographically specific estimates of uptake. Monthly averages have also been used to account for the partial years available, to allow assessment of trends using the most recent data.

The data presented in this report allow for assessment of the estimated relative uptake of chronic hepatitis C (CHC) treatment in each region, through assessment of how much higher or lower uptake is compared to the national average. For example, if a given PHN has uptake 25% higher than a national average level of 50% uptake, this would represent uptake of 62.5% in that PHN.

These variations are limited by the underlying source data for estimating the number of people living with hepatitis C according to geographic region. For example, estimation of uptake variation is influenced by underlying notifications data, and issues such as disproportionate jurisdictional movement and duplication of notifications may lead to overestimation of prevalence in some regions, particularly in the NT, Tas and the ACT (see 2023 Mapping Report Supplement).

Estimates of treatment uptake variation are intended to be used to identify regions which may be of greater priority for intervention and increased resourcing, and do not intend to suggest that those regions are not providing effective service delivery to those living with hepatitis C.

The report can also be used to assess how treatment numbers have changed over time, enabling evaluation of the impact of specific changes in access to hepatitis C treatment (e.g. the health services impact of COVID-19) or policies and programs aiming to improve uptake.

To explore the data further, visit the online portal, which provides interactive visualisations of hepatitis C prevalence and treatment Australia-wide. More detailed and geographically granular estimates may be available through direct request via the contact information below.

The findings presented in this report should be interpreted in the context of underlying uncertainties in source data, particularly notified cases of hepatitis C. Notifications are used to estimate the number of people living with hepatitis C in Australia, and to generate estimates of the variation in prevalence according to region. For further discussion of these limitations, see the Prevalence and Methods sections. This report includes treatment delivered in prisons; however, this cannot reliably be separately categorised. Data collected directly from correctional facilities and identifying uptake in these settings are reported elsewhere.[1]

# REPORT STRUCTURE

The Mapping Project is divided into two reports. This report includes:

- Section A: hepatitis C prevalence and treatment
- Section B: data sources and methodology.

The hepatitis B report, along with associated data and methodology as well as sections on viral hepatitis serology testing trends and liver cancer, will be published separately.

# MORE INFORMATION

For further information about the Mapping Project and to access previous reports, please visit the project website. For further information or resources related to hepatitis B, hepatitis C and the Mapping Project, visit www.ashm.org.au/resources/viral-hepatitis-mapping-project/ and www.doherty.edu.au/viralhepatitis. The Mapping Project is constantly evolving in response to valued feedback and guidance. To provide feedback, or to request further information or specific data, please contact jennifer.maclachlan@mh.org.au.

This report would not be possible without the contributions of the data custodians who provided information, and we gratefully acknowledge their support.

# SECTION A: HEPATITIS C

# PREVALENCE

Australia's Fifth National Hepatitis C Strategy 2018–2022[2] set a target of 65% of people living with hepatitis C in 2016 (when direct-acting antivirals [DAAs] became available) to have received curative treatment. Treatment uptake estimates therefore relate to this baseline year, consistent with other reports,[3] and prevalence data for 2016 are presented to provide context to treatment uptake metrics.

The Kirby Institute estimates that there were 162,590 people living with CHC (viraemic infection) in Australia in 2016, representing 0.66% of the total population.[3] Since the introduction of DAA treatments and their associated high cure rates, and after accounting for curative treatment, mortality and new infections, the number of people estimated to be living with CHC at the end of 2023 was 68,890.[3,4] For further information regarding these estimates, see the hepatitis C annual surveillance report for 2023.

As the understanding of hepatitis C epidemiology in Australia evolves, the estimated number of people living with chronic infection (hepatitis C RNA positive)[3] is revised. For this reason, the estimates in this report are presented as ratios relative to the national average to provide an indication of the relative burden of CHC in different geographic areas in the context of changing point estimates (see How to use the data for further information).

Additionally, geographically specific estimates are subject to considerable uncertainty, due to the lack of available data regarding new hepatitis C infections (e.g. through reinfection). This means that no estimates of changing prevalence over time can reliably be reported beyond the national level; however, this may be possible in the future.

## PREVALENCE VARIATION BY STATE AND TERRITORY

In 2016 (the baseline year used for measuring treatment uptake), the prevalence of CHC was estimated to be highest in the NT (98.3% higher than the national average) and lowest in SA (33.7% lower than the national average) (Table A.1). The prevalence of CHC was also estimated to be above the national average in Qld (15.3% higher), NSW (10.5% higher) and Tas (8.9% higher); and below the national average in WA (6.3% lower), the ACT (11.1% lower) and Vic (16.8% lower) (Table A.1).

Due to the reliance on notifications to estimate hepatitis C virus (HCV) prevalence, estimation of treatment uptake variation is influenced by the level of movement and of duplicate notifications among people diagnosed with hepatitis C (if people diagnosed with hepatitis C in each region are no longer living there when they receive treatment). Analysis of movement among people living with CHC has indicated that this may be most pronounced the NT, Tas and the ACT, and may therefore lead to underestimation of uptake (see 2023 Mapping Report Supplement).

CHC prevalence[5,6] and injecting drug use prevalence data do suggest that the variation by state and territory estimated here is consistent with other indicators, for example, being higher than average in the NT. However, the magnitude of the variation may not be accurate when using notifications.

Accurate, systematically collected data on CHC testing and seroprevalence would assist in clarifying these regional variations and allow for verification of treatment uptake estimates. Additionally, linkage of data regarding CHC notifications and treatment would also provide far more information regarding treatment uptake at an individual level.

Table A.1: Variation in estimated prevalence of CHC in 2016, relative to the national average, by state and territory

| State/territory | Estimated CHC prevalence in 2016 relative to national average (% higher or lower) |
|---|---|
| ACT | -11.1% |
| NSW | +10.5% |
| NT | +98.3% |
| Qld | +15.3% |
| SA | -33.7% |
| Tas | +8.9% |
| Vic | -16.8% |
| WA | -6.3% |

CHC, chronic hepatitis C.

Data source: CHC prevalence estimates based on published national estimates and notifications distribution. 2016 is used as the baseline for National Strategy treatment uptake targets.

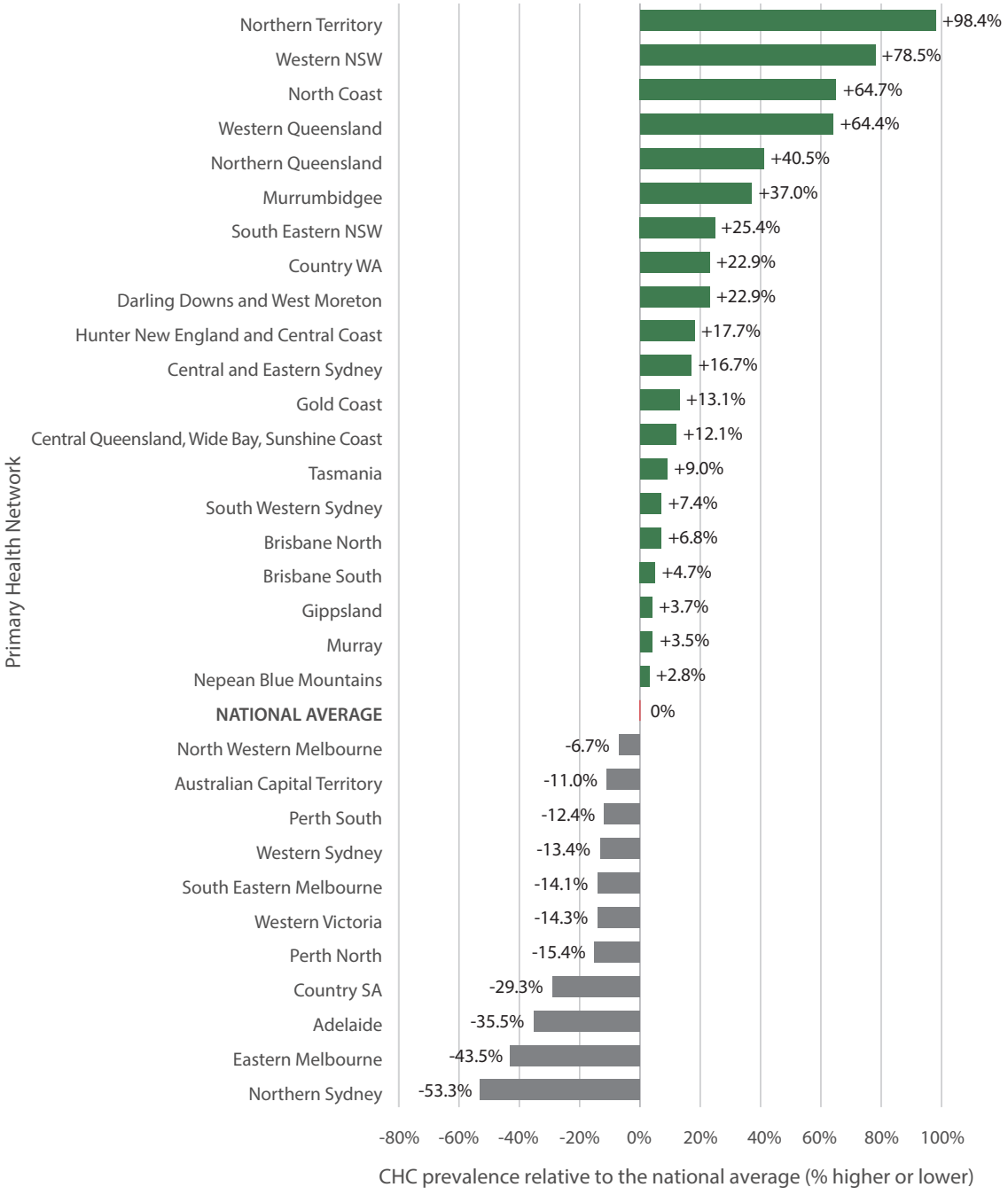
Prevalence may be overestimated or underestimated in a given region due to limitations in notifications as a source for the number living with CHC. For more information, see How to use the data.

# PREVALENCE VARIATION BY PRIMARY HEALTH NETWORK

The estimated prevalence of CHC also varied considerably by PHN (Figure A.1). Reflecting the findings by state and territory, prevalence was estimated to be highest in the **Northern Territory** PHN (98.3% higher than the national average) as well as the **Western NSW** (78% higher), **North Coast** NSW (65% higher) and **Western Queensland** (64% higher) PHNs. Prevalence was generally estimated to be higher in rural and regional PHNs; however, due to urban population concentration, this does not always reflect the greatest absolute numbers of people living with CHC. The relatively greater burden of CHC in non-metropolitan areas presents challenges for access to care and treatment, particularly in regions where specialist services may be limited.[4,7]

As for the findings by state and territory, estimation of uptake variation by PHN is influenced by underlying notifications data, and issues such as disproportionate jurisdictional movement and duplication of notifications may lead to overestimation of prevalence in some regions, particularly in the NT, Tas and the ACT.

## Figure A.1: Estimated variation in prevalence of CHC in 2016, compared to the national average, by PHN




CHC, chronic hepatitis C. PHN, Primary Health Network.

Data source: CHC prevalence estimates based on published national estimates and notifications distribution. 2016 is used as baseline for the National Strategy treatment uptake targets.

Prevalence may be overestimated or underestimated in a given region due to limitations in notifications as a source for the number living with CHC. For more information, see How to use the data.

(See data for this figure)

# TREATMENT

## TREATMENT NUMBERS AND TRENDS OVER TIME

A total of 108,459 people received DAA treatment for hepatitis C between March 2016 and June 2024. These data include all PBS prescriptions delivered through both the Section 85 and Section 100 schemes and include those who were treated while residing in correctional facilities.

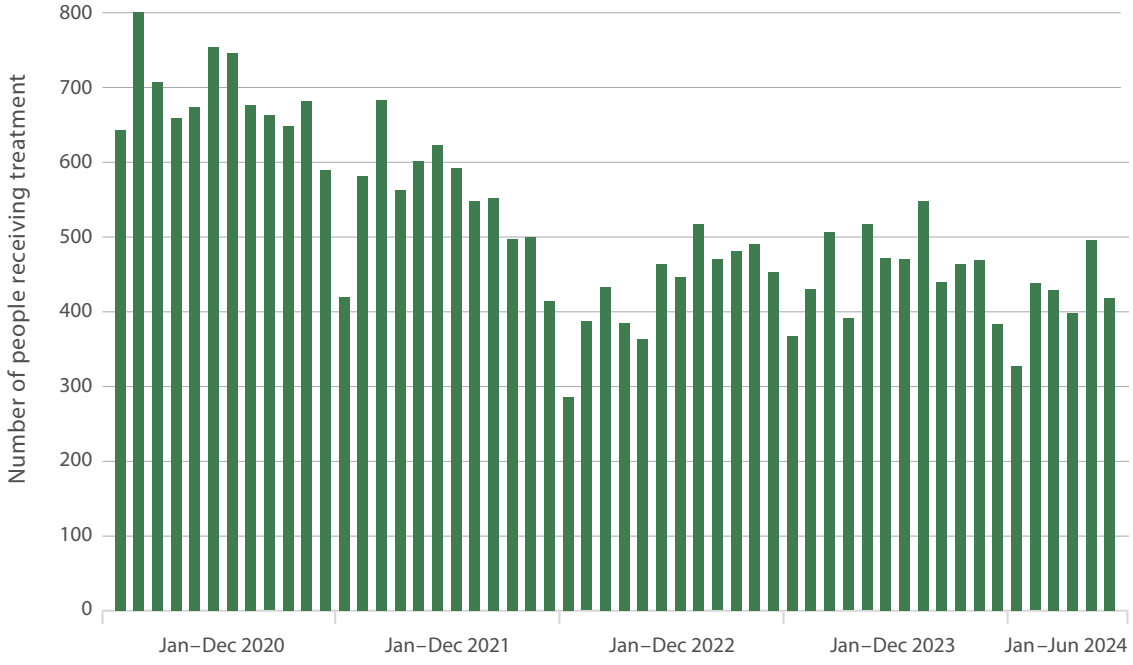
During January–June 2024, a total of 2,507 people received treatment. The number of people treated in each month from 2020 to 2024 is shown in Figure A.2, while the monthly average number of people treated per year from 2016 to 2024 is shown in Figure A.3. Monthly averages have been used to account for the partial years available.

The monthly average number of people who received treatment was declining steadily over time, from 3,241 per month in 2016 to 432 per month in 2022 (Figure A.3). However, in 2023 the average number receiving treatment stabilised at 455 per month, and in January–June 2024 only declined slightly to 418 per month. These trends by state and territory are discussed further in Treatment numbers and trends over time by state and territory.

The monthly average decline was most pronounced between 2016 and 2017 (45.4% decline), with smaller reductions during 2018, 2019 and 2020 (26–28% per year) and during 2021 and 2022 (20–22%; Figure A.3, Table A.4). In 2023 the monthly average increased by 5.3% and in 2024 declined by 8.1%. These reduction trends varied widely by region, as discussed in each section below.

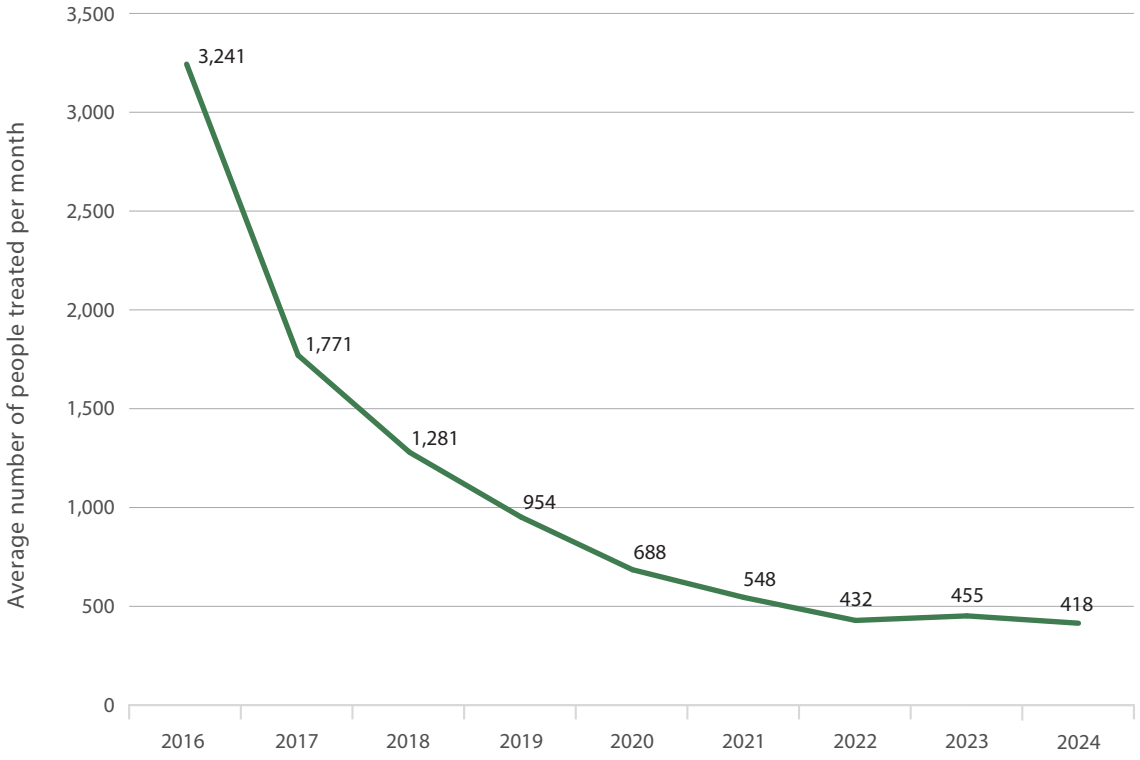
Of those treated, the majority (87.1%) received only a single course of treatment, while 12.9% received more than one course of treatment. All uptake data reported here count each individual treated once regardless of the total number of courses, and re-treatment data are identified separately below (see Re-treatment).

### Figure A.2: Number of people receiving CHC treatment in Australia, by month, January 2020 – June 2024




CHC, chronic hepatitis C.
Data source: Treatment data sourced from Services Australia Medicare statistics. (See data for this figure)

Figure A.3: Monthly average number of people receiving CHC treatment in Australia, by year, March 2016 – June 2024




CHC, chronic hepatitis C.

Data source: Treatment data sourced from Services Australia Medicare statistics.

For more information regarding the presentation of data in this report, see How to use the data.

(See data for this figure)

# TREATMENT UPTAKE

It is estimated that 68% of the 162,590 people living with CHC at the start of 2016 had received treatment by the end of 2023.[3] In this report, treatment uptake is estimated for each geographic region relative to this national average (% higher or lower), based on the estimated prevalence in 2016 and the number of people who received treatment through the PBS (see How to use the data and Prevalence variation by state and territory for further information).

Although the national estimate of treatment uptake incorporates new infections into the denominator, the lack of reliable data on new infections by geographic region means that this number is unchanged regardless of area, and so local estimates that account for reinfection are not available. This may have the impact of underestimating or overestimating uptake in a given area if new infections are occurring at a higher or lower rate than average. Further data are required to validate estimates of uptake variation by geographic region.

# TREATMENT UPTAKE VARIATION BY STATE AND TERRITORY

Treatment uptake at the end of June 2024 was estimated to be higher than the national average in SA (22.7% higher) and Vic (9.7% higher); similar to the national average in Tas (0.2% higher) and Qld (0.7% lower); lower than the national average in NSW (3.9% lower), WA (4.0% lower) and the ACT (7.4% lower); and substantially lower than the national average in the NT (58.5% lower) (Table A.2).

Table A.2: Estimated CHC treatment uptake variation by state/territory, March 2016 – June 2024

| State/ territory | Number of people who received treatment, March 2016 – June 2024 | Estimated uptake relative to national average (% higher or lower) |
|---|---|---|
| ACT | 1,510 | -7.4% |
| NSW | 36,520 | -3.9% |
| NT | 876 | -58.5% |
| Qld | 24,968 | -0.7% |
| SA | 6,316 | 22.7% |
| Tas | 2,580 | 0.2% |
| Vic | 25,376 | 9.7% |
| WA | 10,313 | -4.0% |
| **AUSTRALIA** | **108,459** | – |

CHC, chronic hepatitis C.

Data source: CHC prevalence estimates based on published national estimates and notifications distribution. Treatment data sourced from Medicare statistics.

Totals may not add up due to inclusion of people without a state or territory of residence recorded in source data.

For more information regarding the presentation of data in this report, see How to use the data.

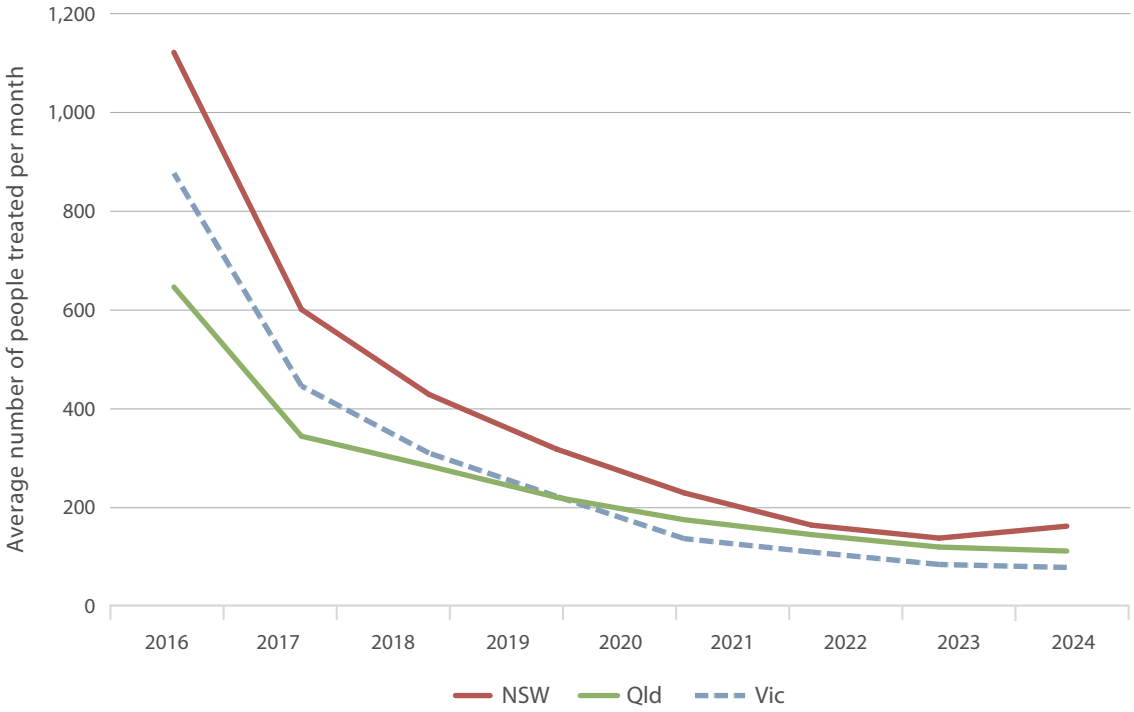
# TREATMENT NUMBERS AND TRENDS OVER TIME BY STATE AND TERRITORY

The number of people receiving hepatitis C treatment has declined overall since 2016 in all states and territories; however, trends have varied. The monthly average number of people treated, which accounts for variations in available time periods, is shown in Figures A.4 and A.5 and Table A.3, while the proportional change in the monthly average is shown in Table A.4. It should be noted that data for 2024 only cover the period January–June, and changes in the second part of the year could influence these observed monthly average trends.

When comparing the overall period from 2016 to 2024, the largest declines in the monthly average number of people treated occurred in Vic, SA and Tas, which all saw a 92% decline, while a smaller-than-average decline occurred in WA (78% decline) and Qld (84% decline) (Table A.4).

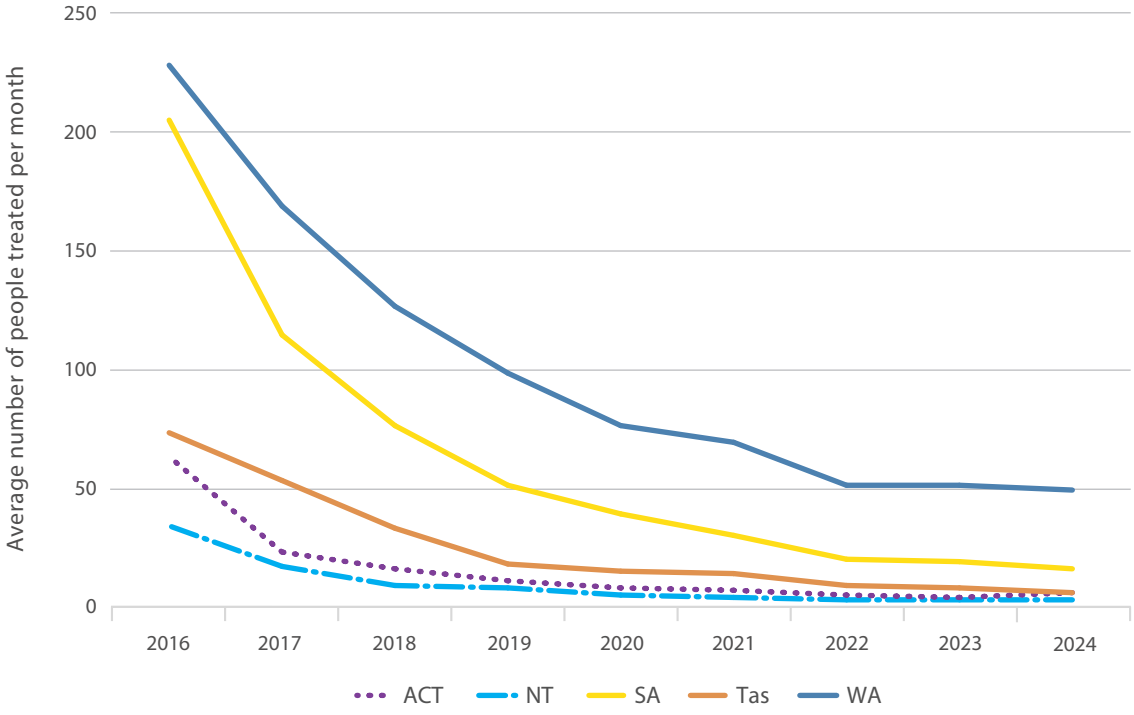
As uptake was highest in 2016 immediately after DAAs became available, the largest decline was seen between 2016 and 2017 in most jurisdictions (Table A.4). The monthly average number of people treated nationally declined each year between 2016 and 2022 in all states and territories, with varying patterns between 2022 and 2024 (Table A.3). Data by state over time are presented in Figures A.4 and A.5, separated according to population size in order to allow visualisation of trends.

## Figure A.4: Monthly average number of people receiving CHC treatment by state/territory, March 2016 – June 2024 (NSW, Qld, Vic)




(See data for this figure)

## Figure A.5: Monthly average number of people receiving CHC treatment by state/territory, March 2016 – June 2024 (ACT, NT, SA, Tas, WA)




CHC, chronic hepatitis C.

Data source: CHC prevalence estimates based on published national estimates and notifications distribution. Treatment data sourced from Medicare. For more information, see How to use the data. (See data for this figure)

In NSW, the monthly average number of people who received treatment increased in 2023, and in 2024 declined slightly but remained above 2022 levels (Figure A.4, Table A.3). As NSW is the jurisdiction with the largest yearly number of people treated, this had a substantial impact on national trends (Table A.3). A similar pattern occurred in Qld, where treatment numbers increased in 2023 and decreased in 2024, but by less than in previous years (Figure A.4, Table A.3).

In the ACT, treatment numbers declined during 2022 and 2023, but in 2024 increased to levels higher than those seen in 2022; in the NT, treatment numbers remained stable between 2022 and 2024 (though noting low numbers in both jurisdictions limit assessment of trends). In SA, Tas and Vic, treatment numbers declined in both 2023 and 2024, contributing to those states having the largest declines between 2016 and 2024 of all jurisdictions (Table A.3, Table A.4). In WA, treatment numbers were steady between 2022 and 2023 with only a small decline in 2024 (Table A.3, Table A.4).

### Table A.3: Monthly average number of people receiving CHC treatment by state/territory, March 2016 – June 2024

| | Monthly average number of people who received treatment | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **State/ territory** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** |
| ACT | 63 | 23 | 16 | 11 | 8 | 7 | 5 | 4 | 6 |
| NSW | 1,116 | 599 | 422 | 320 | 229 | 166 | 138 | 166 | 160 |
| NT | 34 | 17 | 9 | 8 | 5 | 4 | 3 | 3 | 3 |
| Qld | 667 | 360 | 294 | 227 | 179 | 147 | 121 | 126 | 109 |
| SA | 204 | 114 | 76 | 51 | 39 | 30 | 20 | 19 | 16 |
| Tas | 73 | 53 | 33 | 18 | 15 | 14 | 9 | 8 | 6 |
| Vic | 857 | 437 | 306 | 221 | 137 | 111 | 84 | 79 | 69 |
| WA | 227 | 168 | 126 | 98 | 76 | 69 | 51 | 51 | 49 |
| **AUSTRALIA** | **3,241** | **1,771** | **1,281** | **954** | **688** | **548** | **432** | **455** | **418** |

CHC, chronic hepatitis C.

Data source: CHC prevalence estimates based on published national estimates and notifications distribution. Treatment data sourced from Medicare statistics.

For more information regarding the presentation of data in this report, see How to use the data.

All monthly averages reported based on total annual counts of individuals; therefore, suppression has not been applied for figures where the monthly average is <10.

Table A.4: Proportional change in monthly average number of people receiving CHC treatment, compared to the previous year, by state/territory, March 2016 – June 2024

| | Annual change in monthly average | | | | | | | | Total change |
|---|---|---|---|---|---|---|---|---|---|
| State/ territory | 2016–2017 | 2017–2018 | 2018–2019 | 2019–2020 | 2020–2021 | 2021–2022 | 2022–2023 | 2023–2024 | 2016–2024 |
| ACT | -63.5% | -30.4% | -31.3% | -27.3% | -12.5% | -28.6%^ | -20.0%^ | +50.0% | -90.5% |
| NSW | -46.3% | -29.5% | -24.2% | -28.4% | -27.5% | -16.9% | +20.3% | -3.6% | -85.7% |
| NT | -50.0% | -47.1% | -11.1% | -37.5%^ | -20.0%^ | -25.0%^ | 0.0%^ | 0.0%^ | -91.2% |
| Qld | -46.0% | -18.3% | -22.8% | -21.1% | -17.9% | -17.7% | +4.1% | -13.5% | -83.7% |
| SA | -44.1% | -33.3% | -32.9% | -23.5% | -23.1% | -33.3% | -5.0% | -15.8% | -92.2% |
| Tas | -27.4% | -37.7% | -45.5% | -16.7% | -6.7% | -35.7% | -11.1% | -25.0% | -91.8% |
| Vic | -49.0% | -30.0% | -27.8% | -38.0% | -19.0% | -24.3% | -6.0% | -12.7% | -91.9% |
| WA | -26.0% | -25.0% | -22.2% | -22.4% | -9.2% | -26.1% | 0.0% | -3.9% | -78.4% |
| **AUSTRALIA** | **-45.4%** | **-27.7%** | **-25.5%** | **-27.9%** | **-20.3%** | **-21.2%** | **+5.3%** | **-8.1%** | **-87.1%** |

CHC, chronic hepatitis C.

Data source: CHC prevalence estimates based on published national estimates and notifications distribution. Treatment data sourced from Medicare.

For more information regarding the presentation of data in this report, see How to use the data.

Key: Green denotes greatest proportional increase with the colour gradient through to red, which denotes greatest proportional decrease. Grey denotes low monthly average number, which limits interpretation of proportional change.

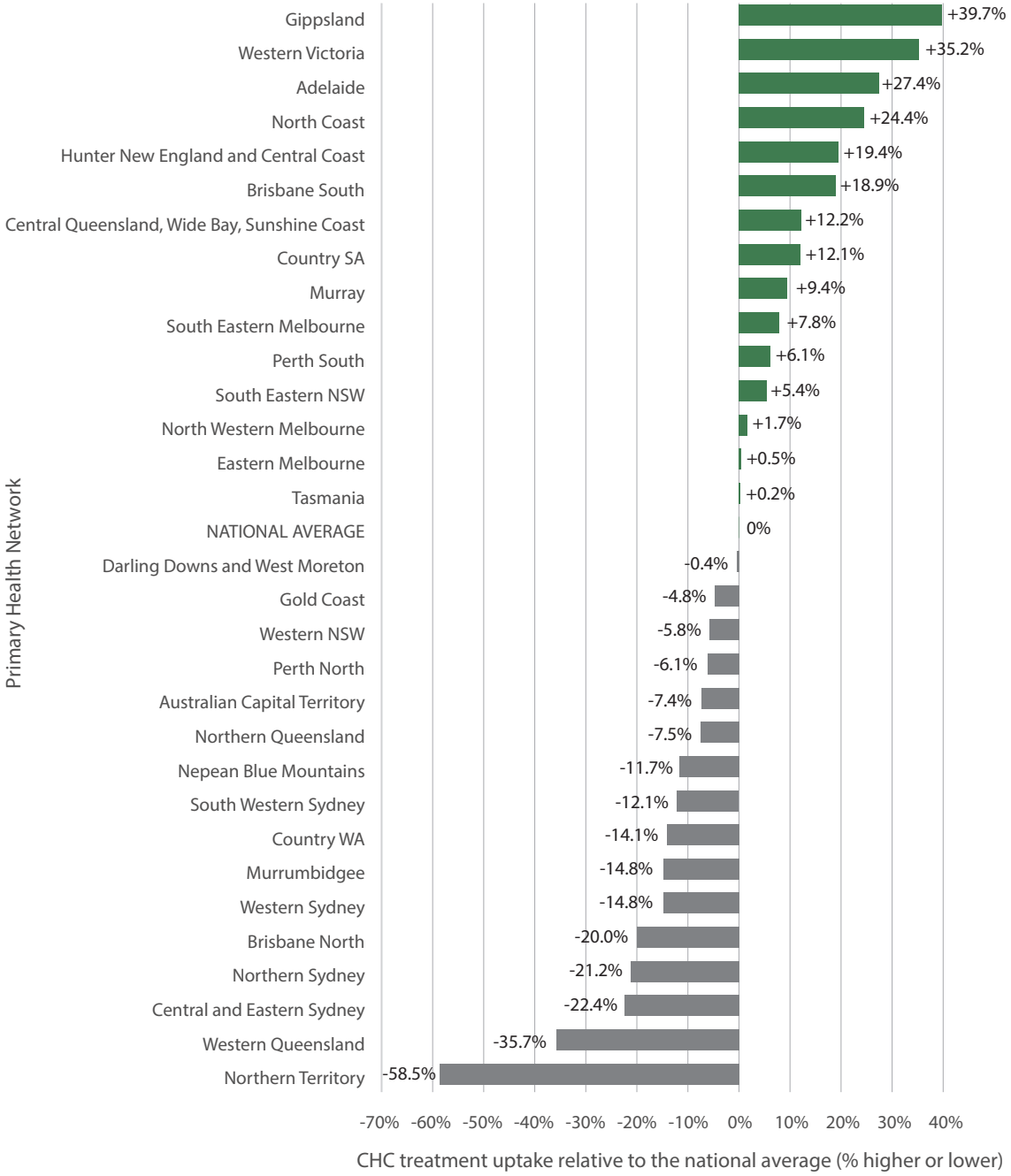
^Low monthly average number; interpret change with caution. Grey denotes low monthly average number, which limits interpretation of proportional change.

# TREATMENT UPTAKE VARIATION BY PRIMARY HEALTH NETWORK

Estimated treatment uptake to June 2024 varied by PHN (Figure A.6), often reflecting state and territory findings. Treatment uptake was estimated to be highest in **Gippsland** (39.7% higher than the national average), **Western Victoria** (35.2% higher), **Adelaide** (27.4% higher) and **North Coast** NSW (24.4% higher) PHNs (Figure A.6; see How to use the data for further information about uptake measurement). Treatment uptake was estimated to be lowest in the **Northern Territory** (58.5% lower than the national average) and **Western Queensland** (35.7% lower) PHNs. Treatment uptake variation by PHN is shown in map form in Figures A.7 and A.8.

Estimation of uptake variation by state and territory is influenced by the level of movement and number of duplicate notifications among people diagnosed with hepatitis C. This may lead to underestimation of uptake in some regions, particularly the NT, Tas and the ACT.

## Figure A.6: CHC treatment uptake variation in Australia by PHN, relative to the national average, March 2016 – June 2024

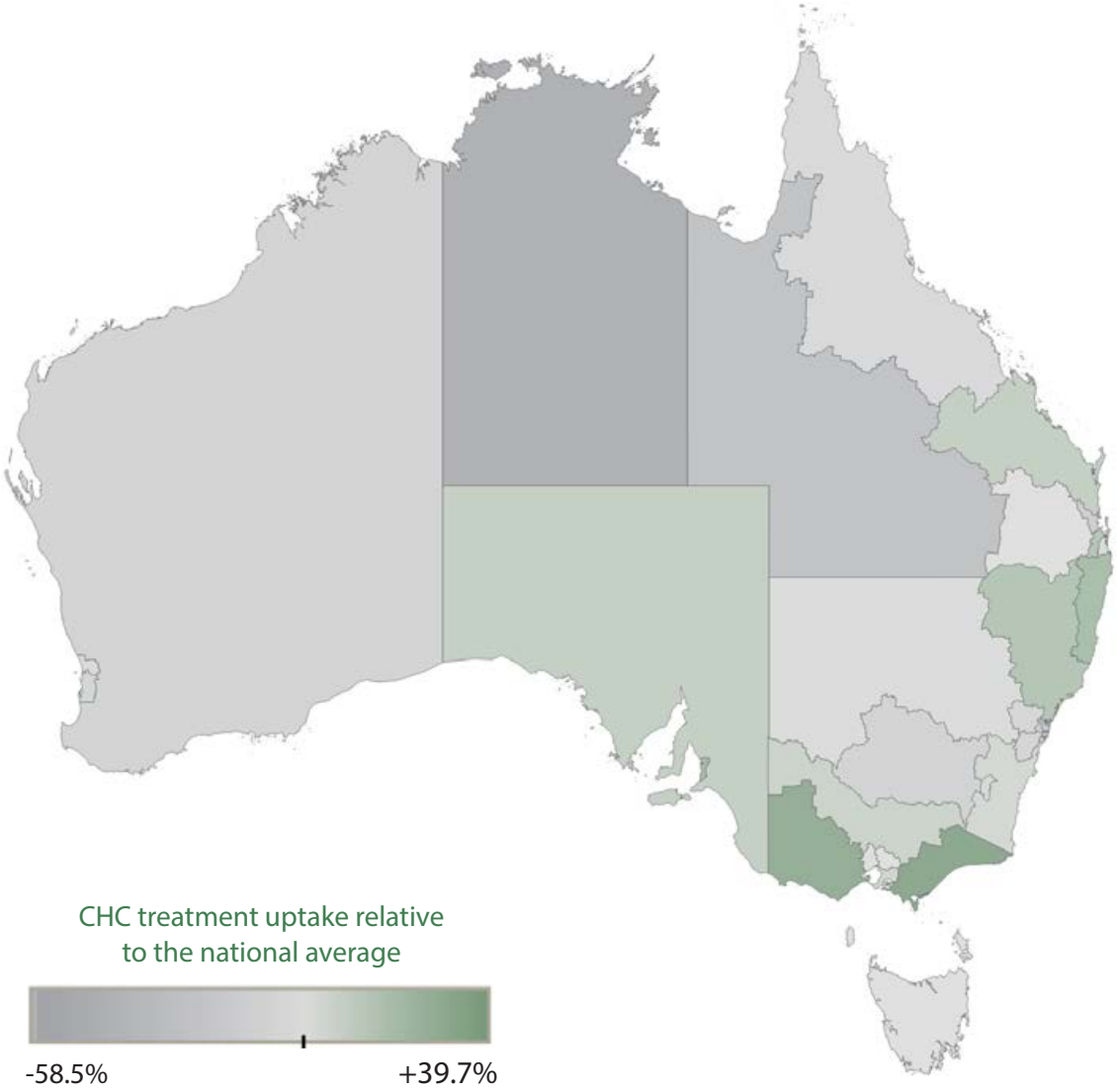



CHC, chronic hepatitis C. PHN, Primary Health Network.

Data source: CHC prevalence estimates based on published national estimates and notifications distribution. Treatment data sourced from Medicare.

Treatment uptake may be underestimated in a given region due to limitations in notifications as a source for the number living with CHC. For more information, see How to use the data.
(See data for this figure)

Figure A.7: Map of CHC treatment uptake in Australia by PHN, relative to the national average, March 2016 – June 2024

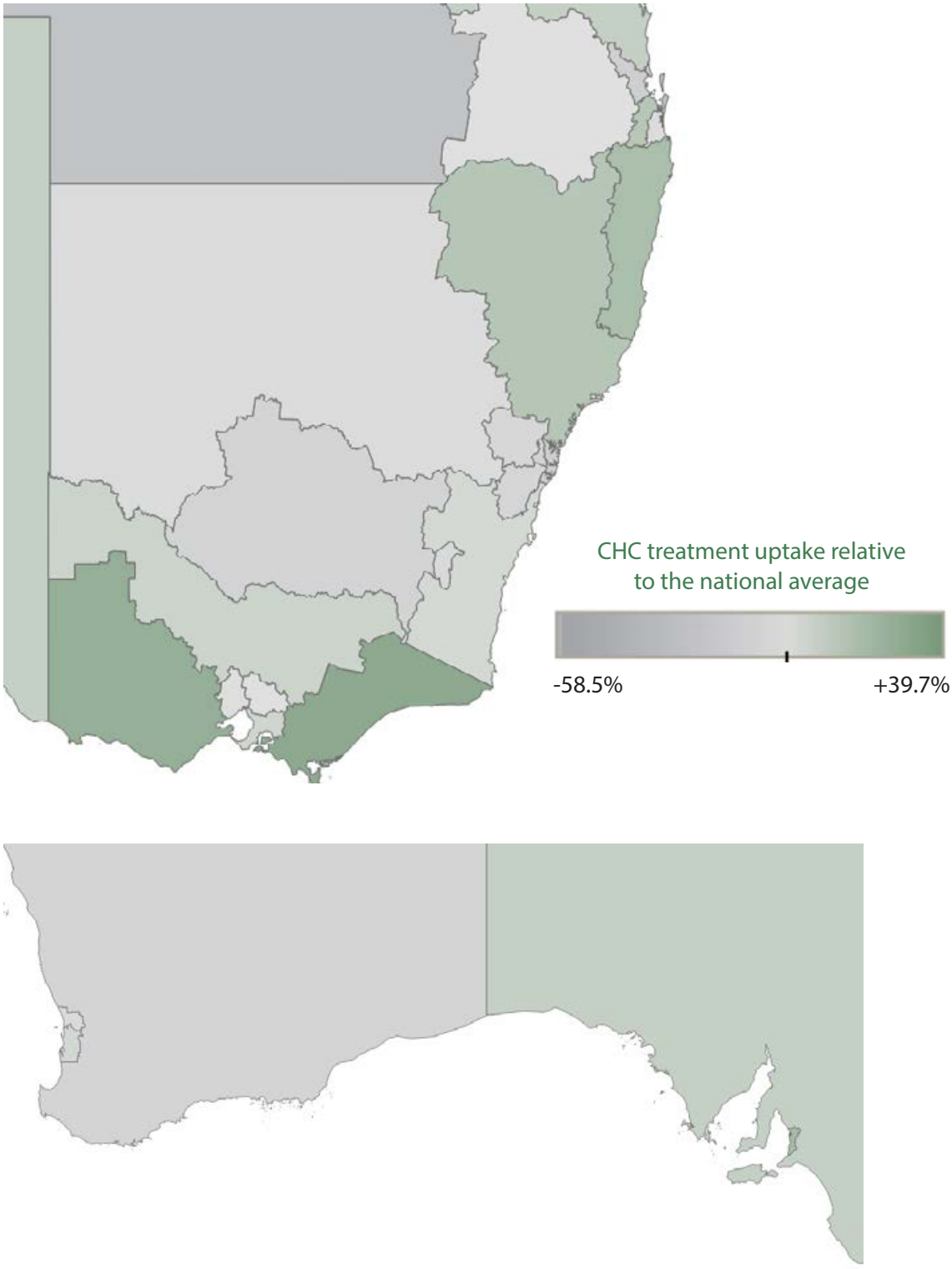



CHC, chronic hepatitis C. PHN, Primary Health Network.

Data source: CHC prevalence estimates based on published national estimates and notifications distribution. Treatment data sourced from Medicare.

Treatment uptake may be underestimated in a given region due to limitations in notifications as a source for the number living with CHC. For more information, see How to use the data.

Figure A.8: Map of CHC treatment uptake in Australia by PHN, relative to the national average, March 2016 – June 2024 (capital city PHNs in ACT, NSW, Qld, SA, Vic and WA)




CHC, chronic hepatitis C. PHN, Primary Health Network.

Data source: CHC prevalence estimates based on published national estimates and notifications distribution. Treatment data sourced from Medicare.

Treatment uptake may be underestimated in a given region due to limitations in notifications as a source for the number living with CHC. For more information, see How to use the data.

# TREATMENT TRENDS OVER TIME BY PRIMARY HEALTH NETWORK

Reflecting variation by state and territory, the trends in hepatitis C treatment during 2016–2024 varied by PHN (Table A.5). PHNs with the greatest overall decline in the number of people treated between 2016 and 2024, a disproportionate number of which were located in Vic, included the **Eastern Melbourne**, **South Eastern Melbourne**, **Northern Sydney**, **Country SA**, **North Western Melbourne**, **Central and Eastern Sydney** and **Tasmania** PHNs (Table A.6). Many of these PHNs had above-average treatment uptake in 2016 (particularly the **Northern Sydney**, **South Eastern Melbourne**, **Eastern Melbourne** and **Australian Capital Territory** PHNs) which contributed to greater relative decline.

Although the magnitude of changes varied by PHN and year, there was an annual decline in the number of people receiving treatment between 2016 and 2022 in all PHNs except **Murrumbidgee** (Table A.5).

There were then increases in the number of people treated in a number of PHNs in 2022 and/or 2023 (Table A.6). Increases occurred in both years in the **Nepean Blue Mountains**, **Hunter New England and Central Coast**, **Murray** and **Central Queensland, Wide Bay and Sunshine Coast** PHNs (Tables A.5 and A.6). Increases overall between 2022 and 2024 also occurred in **Australian Capital Territory**, **Central and Eastern Sydney**, **Darling Downs and West Moreton**, **Gippsland**, **Murrumbidgee**, **South Eastern NSW**, **South Western Sydney**, **Western NSW** and **Western Sydney** PHNs).

Table A.5: Monthly average number of people who received CHC treatment by PHN, March 2016 – June 2024

| | Monthly average number of people who received treatment | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Primary Health Network** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** |
| Adelaide | 148 | 82 | 55 | 38 | 28 | 22 | 15 | 14 | 13 |
| Australian Capital Territory | 63 | 23 | 16 | 11 | 8 | 7 | 5 | 4 | 6 |
| Brisbane North | 110 | 55 | 52 | 36 | 28 | 22 | 19 | 20 | 14 |
| Brisbane South | 135 | 83 | 69 | 57 | 45 | 37 | 29 | 29 | 24 |
| Central and Eastern Sydney | 255 | 104 | 66 | 49 | 33 | 23 | 18 | 22 | 20 |
| Central Queensland, Wide Bay, Sunshine Coast | 124 | 72 | 60 | 41 | 35 | 24 | 22 | 23 | 25 |
| Country SA | 56 | 32 | 21 | 13 | 11 | 8 | 5 | 5 | 4 |
| Country WA | 58 | 41 | 29 | 25 | 19 | 16 | 12 | 13 | 12 |
| Darling Downs and West Moreton | 72 | 45 | 39 | 34 | 26 | 24 | 15 | 18 | 16 |
| Eastern Melbourne | 154 | 64 | 42 | 32 | 22 | 15 | 11 | 11 | 9 |
| Gippsland | 55 | 32 | 24 | 16 | 9 | 7 | 6 | 5 | 7 |
| Gold Coast | 94 | 51 | 29 | 21 | 15 | 13 | 13 | 11 | 9 |
| Hunter New England and Central Coast | 200 | 133 | 98 | 73 | 51 | 40 | 30 | 38 | 41 |
| Murray | 91 | 51 | 39 | 29 | 19 | 15 | 11 | 13 | 14 |
| Murrumbidgee | 24 | 21 | 17 | 13 | 10 | 6 | 7 | 7 | 8 |
| Nepean Blue Mountains | 34 | 26 | 22 | 14 | 11 | 6 | 5 | 7 | 8 |
| North Coast | 178 | 74 | 45 | 38 | 28 | 19 | 17 | 19 | 16 |
| North Western Melbourne | 229 | 117 | 87 | 61 | 39 | 35 | 23 | 23 | 17 |
| Northern Queensland | 127 | 52 | 41 | 35 | 29 | 25 | 22 | 21 | 20 |
| Northern Sydney | 60 | 25 | 16 | 12 | 7 | 5 | 4 | 4 | 4 |
| Northern Territory | 34 | 17 | 9 | 8 | 5 | 4 | 3 | 3 | 3 |
| Perth North | 90 | 64 | 45 | 33 | 26 | 25 | 17 | 16 | 16 |

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| | Monthly average number of people who received treatment | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Primary Health Network** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** |
| Perth South | 79 | 63 | 52 | 40 | 31 | 27 | 21 | 22 | 20 |
| South Eastern Melbourne | 234 | 111 | 70 | 53 | 33 | 25 | 19 | 16 | 15 |
| South Eastern NSW | 103 | 58 | 37 | 29 | 20 | 17 | 13 | 18 | 15 |
| South Western Sydney | 119 | 64 | 46 | 35 | 26 | 17 | 17 | 19 | 19 |
| Tasmania | 73 | 53 | 33 | 18 | 15 | 14 | 9 | 8 | 6 |
| Western NSW | 56 | 41 | 33 | 26 | 20 | 17 | 13 | 14 | 14 |
| Western Queensland | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 |
| Western Sydney | 87 | 53 | 43 | 31 | 24 | 15 | 14 | 18 | 15 |
| Western Victoria | 95 | 62 | 44 | 30 | 15 | 15 | 13 | 11 | 8 |
| **AUSTRALIA** | **3,241** | **1,771** | **1,281** | **954** | **688** | **548** | **432** | **455** | **418** |

CHC, chronic hepatitis C. PHN, Primary Health Network.

Data source: Treatment data sourced from Medicare.

For more information regarding the presentation of data in this report, see How to use the data.

Table A.6: Proportional change in monthly average number of people who received CHC treatment by PHN, compared to the previous year, March 2016 – June 2024

| | Annual change in monthly average | | | | | | | | Total change |
|---|---|---|---|---|---|---|---|---|---|
| **Primary Health Network** | **2016–2017** | **2017–2018** | **2018–2019** | **2019–2020** | **2020–2021** | **2021–2022** | **2022–2023** | **2023–2024** | **2016–2024** |
| Adelaide | -44.6% | -32.9% | -30.9% | -26.3% | -21.4% | -31.8% | -6.7% | -7.1% | -91.2% |
| Australian Capital Territory | -63.5% | -30.4% | -31.3% | -27.3% | -12.5% | -28.6%^ | -20.0%^ | +50.0% | -90.5% |
| Brisbane North | -50.0% | -5.5% | -30.8% | -22.2% | -21.4% | -13.6% | +5.3% | -30.0% | -87.3% |
| Brisbane South | -38.5% | -16.9% | -17.4% | -21.1% | -17.8% | -21.6% | 0.0% | -17.2% | -82.2% |
| Central and Eastern Sydney | -59.2% | -36.5% | -25.8% | -32.7% | -30.3% | -21.7% | +22.2% | -9.1% | -92.2% |
| Central Queensland, Wide Bay, Sunshine Coast | -41.9% | -16.7% | -31.7% | -14.6% | -31.4% | -8.3% | +4.5% | +8.7% | -79.8% |
| Country SA | -42.9% | -34.4% | -38.1% | -15.4% | -27.3% | -37.5%^ | 0.0%^ | -20.0%^ | -92.9%^ |
| Country WA | -29.3% | -29.3% | -13.8% | -24.0% | -15.8% | -25.0% | +8.3% | -7.7% | -79.3% |
| Darling Downs and West Moreton | -37.5% | -13.3% | -12.8% | -23.5% | -7.7% | -37.5% | +20.0% | -11.1% | -77.8% |
| Eastern Melbourne | -58.4% | -34.4% | -23.8% | -31.3% | -31.8% | -26.7% | 0.0% | -18.2% | -94.2% |
| Gippsland | -41.8% | -25.0% | -33.3% | -43.8% | -22.2% | -14.3% | -16.7%^ | +40.0% | -87.3% |
| Gold Coast | -45.7% | -43.1% | -27.6% | -28.6% | -13.3% | 0.0% | -15.4% | -18.2% | -90.4% |
| Hunter New England and Central Coast | -33.5% | -26.3% | -25.5% | -30.1% | -21.6% | -25.0% | +26.7% | +7.9% | -79.5% |
| Murray | -44.0% | -23.5% | -25.6% | -34.5% | -21.1% | -26.7% | +18.2% | +7.7% | -84.6% |
| Murrumbidgee | -12.5% | -19.0% | -23.5% | -23.1% | -40.0% | +16.7% | 0.0% | +14.3% | -66.7% |
| Nepean Blue Mountains | -23.5% | -15.4% | -36.4% | -21.4% | -45.5% | -16.7%^ | +40.0% | +14.3% | -76.5% |
| North Coast | -58.4% | -39.2% | -15.6% | -26.3% | -32.1% | -10.5% | +11.8% | -15.8% | -91.0% |
| North Western Melbourne | -48.9% | -25.6% | -29.9% | -36.1% | -10.3% | -34.3% | 0.0% | -26.1% | -92.6% |
| Northern Queensland | -59.1% | -21.2% | -14.6% | -17.1% | -13.8% | -12.0% | -4.5% | -4.8% | -84.3% |
| Northern Sydney | -58.3% | -36.0% | -25.0% | -41.7% | -28.6%^ | -20.0%^ | 0.0%^ | 0.0%^ | -93.3%^ |
| Northern Territory | -50.0% | -47.1% | -11.1% | -37.5%^ | -20.0%^ | -25.0%^ | 0.0%^ | 0.0%^ | -91.2%^ |

*Continued next page*

| Primary Health Network | Annual change in monthly average | | | | | | | | Total change |
|---|---|---|---|---|---|---|---|---|---|
| | 2016–2017 | 2017–2018 | 2018–2019 | 2019–2020 | 2020–2021 | 2021–2022 | 2022–2023 | 2023–2024 | 2016–2024 |
| Perth North | -28.9% | -29.7% | -26.7% | -21.2% | -3.8% | -32.0% | -5.9% | 0.0% | -82.2% |
| Perth South | -20.3% | -17.5% | -23.1% | -22.5% | -12.9% | -22.2% | +4.8% | -9.1% | -74.7% |
| South Eastern Melbourne | -52.6% | -36.9% | -24.3% | -37.7% | -24.2% | -24.0% | -15.8% | -6.3% | -93.6% |
| South Eastern NSW | -43.7% | -36.2% | -21.6% | -31.0% | -15.0% | -23.5% | +38.5% | -16.7% | -85.4% |
| South Western Sydney | -46.2% | -28.1% | -23.9% | -25.7% | -34.6% | 0.0% | +11.8% | 0.0% | -84.0% |
| Tasmania | -27.4% | -37.7% | -45.5% | -16.7% | -6.7% | -35.7% | -11.1% | -25.0% | -91.8% |
| Western NSW | -26.8% | -19.5% | -21.2% | -23.1% | -15.0% | -23.5% | +7.7% | 0.0% | -75.0% |
| Western Queensland | -50.0%^ | 0.0%^ | 0.0%^ | 0.0%^ | 0.0%^ | 0.0%^ | +50.0%^ | -33.3%^ | -50.0%^ |
| Western Sydney | -39.1% | -18.9% | -27.9% | -22.6% | -37.5% | -6.7% | +28.6% | -16.7% | -82.8% |
| Western Victoria | -34.7% | -29.0% | -31.8% | -50.0% | 0.0% | -13.3% | -15.4% | -27.3% | -91.6% |
| **AUSTRALIA** | **-45.4%** | **-27.7%** | **-25.5%** | **-27.9%** | **-20.3%** | **-21.2%** | **+5.3%** | **-8.1%** | **-87.1%** |

CHC, chronic hepatitis C. PHN, Primary Health Network.

Data source: Treatment data sourced from Medicare.

For more information regarding the presentation of data in this report, see How to use the data.

Key: Green denotes greatest proportional increase with the colour gradient through to red, which denotes greatest proportional decrease. Grey denotes low monthly average number, which limits interpretation of proportional change.

^Low monthly average number; interpret change with caution.

# TREATMENT UPTAKE VARIATION BY REMOTENESS AREA

CHC treatment uptake was above the national average in inner regional areas (14.3% higher) and substantially lower than the national average in remote (34.9% lower) and very remote (37.7% lower) regions (Table A.7). This geographic disparity in treatment uptake is reflected in state- and territory-based indicators, where jurisdictions with the largest non-urban populations (such as the NT and WA) had estimated lower-than-average treatment uptake (Table A.7).

### Table A.7: Estimated CHC treatment uptake variation by remoteness area, relative to the national average, March 2016 – June 2024

| Remoteness area | Number of people who received treatment | Estimated uptake relative to national average, Mar 2016 – Jun 2024 (% higher or lower) |
|---|---|---|
| Major cities | 69,957 | 0.2% |
| Inner regional | 23,448 | 14.3% |
| Outer regional | 12,827 | -1.9% |
| Remote | 1,256 | -34.9% |
| Very remote | 969 | -37.7% |
| **AUSTRALIA** | **108,459** | **-** |

CHC, chronic hepatitis C.

Data source: CHC prevalence estimates based on published national estimates and notifications distribution. Treatment data sourced from Medicare.

Totals may not add up due to inclusion of people without a remoteness area of residence recorded in source data.

For more information regarding the presentation of data in this report, see How to use the data.

A decline in treatment uptake occurred between 2016 and 2024 regardless of remoteness area; however, it was smaller than average in remote areas (74.1% decline) and very remote areas (81.8% decline) compared to the national average decline of 87.1% (Table A.9).

### Table A.8: Monthly average number of people receiving CHC treatment, by remoteness area, March 2016 – June 2024

| Remoteness area | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|
| Major cities | 672 | 382 | 276 | 201 | 157 | 115 | 96 | 95 | 237 |
| Inner regional | 2,140 | 1,142 | 819 | 596 | 423 | 339 | 260 | 265 | 87 |
| Outer regional | 354 | 198 | 146 | 115 | 81 | 73 | 57 | 57 | 62 |
| Remote | 27 | 17 | 14 | 12 | 12 | 7 | 8 | 7 | 7 |
| Very remote | 22 | 13 | 11 | 9 | 7 | 7 | 6 | 7 | 4 |
| **AUSTRALIA** | **3,215** | **1,752** | **1,266** | **932** | **680** | **542** | **428** | **431** | **418** |

CHC, chronic hepatitis C.

Data source: Treatment data sourced from Medicare.

Totals may not add up due to inclusion of people without a remoteness area of residence recorded in source data.

For more information regarding the presentation of data in this report, see How to use the data.

Table A.9: Proportional change in monthly average number of people receiving CHC treatment, compared to the previous year, by remoteness, March 2016 – June 2024

| | Annual change in monthly average | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Remoteness level** | **2016–2017** | **2017–2018** | **2018–2019** | **2019–2020** | **2020–2021** | **2021–2022** | **2022–2023** | **2023–2024** | **2016–2024** |
| Major cities | -46.6% | -28.3% | -27.2% | -29.0% | -19.9% | -23.3% | +1.9% | -10.6% | -88.9% |
| Inner regional | -43.2% | -27.7% | -27.2% | -21.9% | -26.8% | -16.5% | -1.0% | -8.4% | -87.1% |
| Outer regional | -44.1% | -26.3% | -21.2% | -29.6% | -9.9% | -21.9% | 0.0% | +8.8% | -82.5% |
| Remote | -37.0% | -17.6% | -14.3% | 0.0% | -41.7% | +14.3% | -12.5% | 0.0% | -74.1% |
| Very remote | -40.9% | -15.4% | -18.2% | -22.2% | 0.0% | -14.3% | +16.7% | -42.9%^ | -81.8% |
| **AUSTRALIA** | **-45.4%** | **-27.7%** | **-25.5%** | **-27.9%** | **-20.3%** | **-21.2%** | **+5.3%** | **-8.1%** | **-87.1%** |

CHC, chronic hepatitis C.

Data source: Treatment data sourced from Medicare.

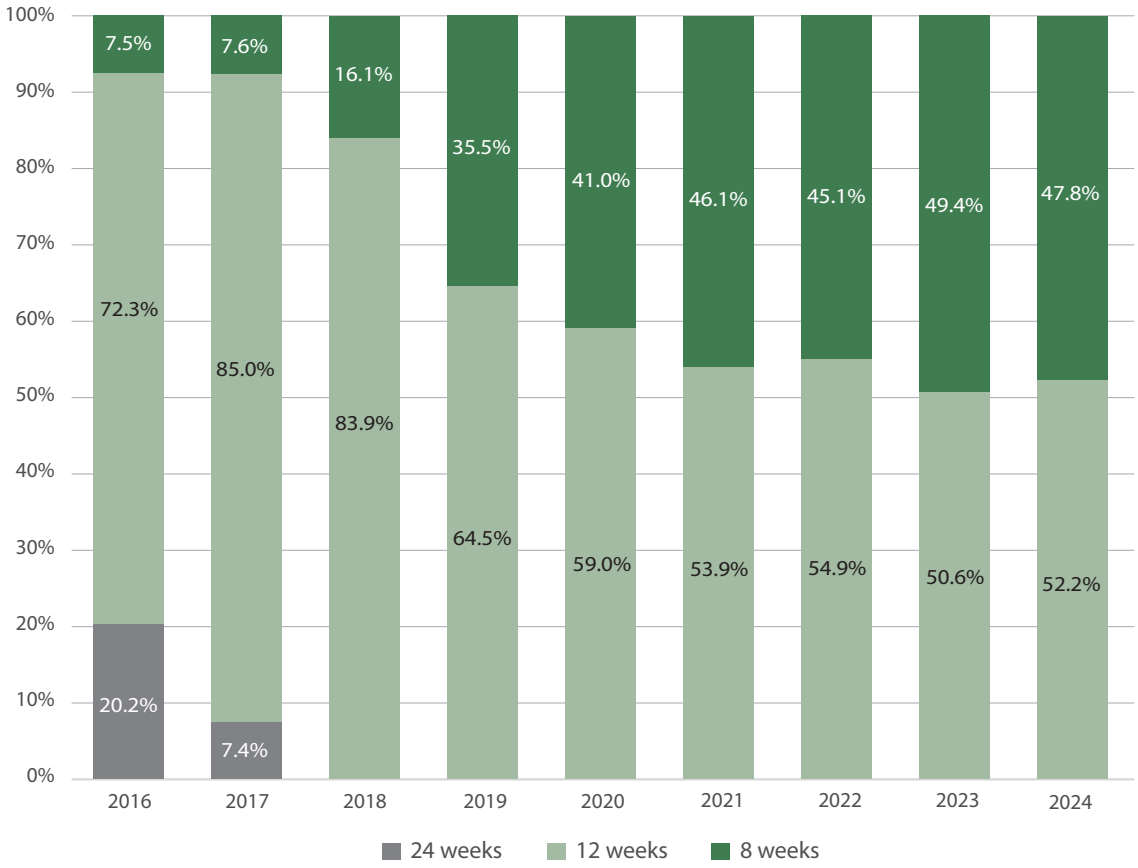
Key: Green denotes greatest proportional increase with the colour gradient through to red, which denotes greatest proportional decrease. Grey denotes low monthly average number, which limits interpretation of proportional change.

^Low monthly average number; interpret change with caution.

# TREATMENT DURATION

The distribution of treatment course duration has shifted substantially over time, with an increase in the proportion of eight-week scripts (from 7.5% in 2016 to 47.8% in 2024) and a decrease in the proportion of 12-week scripts (from 72.3% to 52.2%) (Figure A.9). The proportion of 24-week scripts reduced from 20.2% to <0.1% during the same period, reflecting the reduced prevalence of cirrhosis among those currently receiving treatment[8] and the increased availability of newer DAAs with shorter treatment durations for those with cirrhosis.[9]

## Figure A.9: Proportion of CHC treatment by course duration, by year, March 2016 – June 2024




CHC, chronic hepatitis C.

Data source: Treatment data sourced from Medicare statistics. Treatment duration is based on the number of weeks of dispensing indicated in the Medicare item code.

2016–2024 data for 16-week duration treatment and 2018–2024 data for 24-week duration treatment not displayed due to representing <1% of people treated.

(See data for this figure)

# RE-TREATMENT

Of those treated for CHC during 2016–2024, the majority (94,448 people, 87.1%) received only a single course of treatment, while 14,011 people (12.9%) received more than one course of treatment.

The proportion of people who received more than one course of treatment varied according to state and territory, and was highest in Qld, where 15.4% of people treated received more than one course. The proportion was similar to the national average of 12.9% in NSW (12.9%), WA (12.6%), Tas (12.0%) and Vic (11.9%), and lower than the national average in the ACT (10.9%), the NT (9.7%) and SA (9.5%).

Re-treatment was more common among males, among whom 14.8% of those ever treated were re-treated, compared to females, of whom 8.7% of those treated were re-treated. Re-treatment was most common among those aged 20–29 (29.6%).

It has been estimated that reinfection represented 56% of re-treatment instances during 2016–2022, while treatment failure represented 44%.[1] These demographic characteristics observed, including variation by state and territory, likely reflect variation in the populations who are more likely to be exposed to hepatitis C reinfection or experience treatment failure, due to factors such as the prevalence of injecting drug use and social factors which may impact the ability to continue treatment.

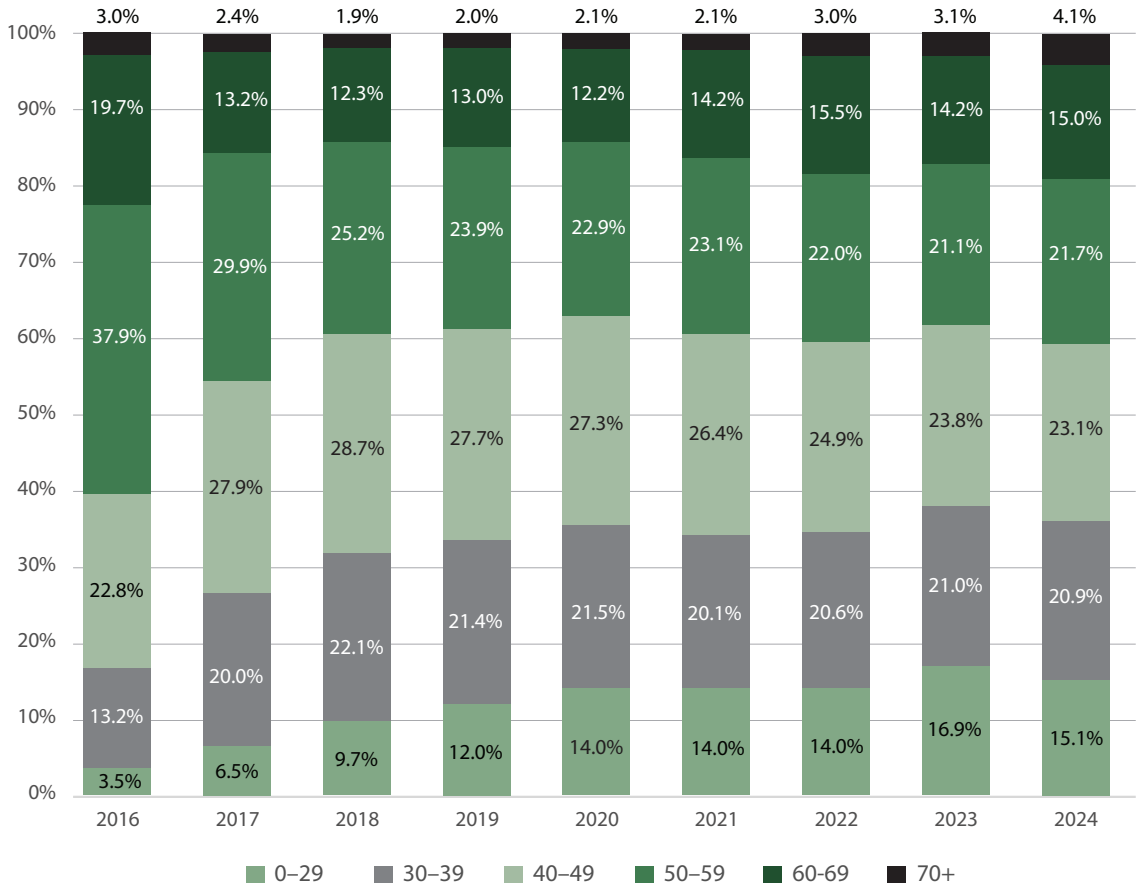
# TREATMENT VARIATION BY AGE AND SEX

The age distribution of people treated for CHC has shifted over time, with a reduction in the proportion aged over 50 and an increase in younger age groups. In 2016, people aged 50–59 were the most common group treated, making up 37.9% of the total (Figure A.10); however, by 2024, people treated were most commonly aged 40–49 years (23.1% of the total). The proportion aged under 30 has increased from 3.5% to 15.1% between 2016 and 2024.

This shift in the predominant age groups receiving treatment likely reflects the initial uptake being concentrated in people who were older and who had more severe liver disease. Now that many of those older people have been treated, a higher proportion of treatment is prescribed to younger people whose risk of adverse outcomes is less immediate.

Most people treated for CHC were male (68.7%), which reflects the epidemiology of CHC in Australia;[3] this was also consistent across age groups.

## Figure A.10: Proportion of CHC treatment by age group, by year, March 2016 – June 2024




CHC, chronic hepatitis C.

Data source: Treatment data sourced from Medicare statistics.

Age group based on age at the time of the first dispensed script for that person.

(See data for this figure)

# SECTION B: DATA SOURCES AND METHODOLOGY

If you have questions regarding methodology, data sources, or findings of the Mapping Report, or would like to provide feedback, please contact **jennifer.maclachlan@mh.org.au**.

Table B.1: Hepatitis C: summary of data sources

| Indicator | Method of estimation | Source | Basis of geographic data |
|---|---|---|---|
| CHC prevalence relative to the national average, start of 2016 | Calculated by applying national prevalence data proportionally to geographic areas according to the distribution of notified cases, and deriving the prevalence ratio relative to the national average | Published modelled national prevalence data and NNDSS data (for the period 2007–2016)[3] | Postcode of residence when the person tested positive for hepatitis C |
| CHC treatment | Number of individuals prescribed DAA medications indicated for hepatitis C during the period March 2016 – June 2024) | PBS data | Region of residence when a person was first dispensed DAA treatment (as recorded in Medicare data) |

CHC, chronic hepatitis C. DAA, direct-acting antiviral. NNDSS, National Notifiable Diseases Surveillance System. PBS, Pharmaceutical Benefits Scheme.

Table B.2: Common data terms

| Term | Definition |
|---|---|
| PHN | Geographic area derived as part of the national health reform agenda; populations range between 50,000 and 2 million residents. There are 31 PHNs in Australia. |
| Remoteness area | Geographic area defined by the ABS based on measures of relative access to services; categories are major cities, inner regional, outer regional, remote and very remote. |
| Prevalence | The proportion of the total population living with a health condition. For example, if CHC prevalence is 1%, this means 1% of people in a given population have CHC. |

ABS, Australian Bureau of Statistics. CHC, chronic hepatitis C. PHN, Primary Health Network.

# DETAILED STATISTICAL METHODOLOGY

## Hepatitis C prevalence

### Data sources

The data sources used were:

- published estimates of national prevalence
- notifications from the National Notifiable Diseases Surveillance System (NNDSS).

### Details

Estimates of the number of people living with CHC and the population prevalence were derived by applying published national prevalence estimates[10] to each geographic area proportionally, according to the distribution of diagnosed cases reported to the NNDSS. The estimated number of people living with CHC was used as a denominator to estimate relative treatment uptake; however, raw data are not reported due to ongoing uncertainties in these estimates according to geographic region. Estimates of prevalence relative to the national averages are presented as ratios in order to provide an indication of the relative burden of CHC according to area.

All positive diagnoses of hepatitis C (defined as a positive HCV [hepatitis C virus] antibody *or* positive HCV nucleic acid test result) are legally required to be reported to jurisdictional departments of health by the diagnosing laboratory, and are collated and published by the NNDSS. Notifications are de-duplicated by jurisdictions, and the aim is to record only one positive diagnosis per individual per state or territory. However, duplicates may exist if individuals have been diagnosed in multiple jurisdictions. Use of these data was approved by the Department of Health and Aged Care and the Communicable Diseases Network Australia. Due to the inclusion of antibody-positive cases as notifications, the data used are likely to have included a proportion of people who had previously been infected but did not have active infection at the time of testing. However, the denominator data used, and therefore the prevalence data generated, only include people living with chronic infection.

Data were provided according to postcode and were assigned to each remoteness area and PHN using the concordances published by the Australian Bureau of Statistics (ABS)[11] and the Department of Health and Aged Care.[12] Cases in which the postcode was unknown but the jurisdiction was provided were distributed proportionally to each region across each jurisdiction. All estimates were based on diagnosed cases which occurred during the period 2007 to 2016, but sensitivity analyses were conducted to assess the effect of different years of source data (the periods 1997–2016 and 2016 only), and the 10-year period was then selected as the most representative (see Viral Hepatitis Mapping Project National Report 2017, Section C: Data sources and methodology for further detail).

### Correctional facility adjustments

The number of hepatitis C notifications is disproportionately concentrated in some geographic regions due to the presence of correctional facilities, which often have high rates of both CHC prevalence and screening, leading to a higher number of infections detected each year. Data facilitating assessment of the effect of correctional facilities on the overall number of notifications in each area and through the collection of a correctional facility status variable were readily available from jurisdictional departments of health in Vic and Qld. Data were requested to provide the proportion of hepatitis C notifications from correctional facilities in each region. Prevalence calculations for hepatitis C were adjusted when the data indicated that more than 50% of notifications originated from a correctional facility, so that notifications by correctional facilities were excluded from the data for that region and redistributed across the rest of the state or territory.

Adjustments were applied to selected regions in NSW, the NT, SA, Tas and WA and were identified using Census data that indicated the presence of correctional facilities[13] and outliers in hepatitis C notification rates.

## Hepatitis C treatment

### Data source

The data source used was Pharmaceutical Benefits Scheme records.

### Details

These sources include all services provided through Australia's national subsidised health care system, Medicare. Data were provided regarding the period 1 March 2016 to 30 June 2024. Hepatitis C treatment uptake is measured cumulatively as the total proportion of people treated of those living with hepatitis C at the start of 2016.

Data were accessed through the ABS Person Level Integrated Data Asset (PLIDA), which provides Medicare data linked to other Australian Government datasets, including the ABS Census, and social services and taxation databases.

Regions of residence were generated using this linked PLIDA data and reflect where a person was living at the time of prescription dispensing or service provision (not the location of the service provider, such as pharmacy or laboratory). All time periods are based on the date of supply/date of service, which represents the date the patient was supplied with their medication by a pharmacy (for treatment) or the date a test was performed (for testing).

These data do not include services that were not provided by Medicare, such as those paid for out of pocket or subsidised by state government services (including services provided to hospital inpatients). The data also do not include pharmaceutical company compassionate-access programs or clinical trials, but access to hepatitis C treatment through these channels will mostly have been limited to the period before the listing of DAAs on the PBS in March 2016, which is not assessed in this report. Medicare Benefits Schedule (MBS) and PBS data also do not include those who are ineligible for Medicare; for example, due to their visa status.

### Ascertainment of age and sex in Medicare

Age was ascertained as age at the time of the most recent demographic record available. Sex is ascertained from combined data across the PLIDA linked dataset, and is provided as only male, female or missing.

### Treatment

Treatment data for CHC represent the number of individuals prescribed any DAA drug listed on the PBS[9] for the treatment of CHC. These drugs and drug combinations included daclatasvir +/– sofosbuvir; glecaprevir + pibrentasvir; grazoprevir + elbasvir +/– ribavirin; sofosbuvir +/– ledipasvir; sofosbuvir + ribavirin; paritaprevir + ritonavir + ombitasvir + dasabuvir +/– ribavirin; and sofosbuvir + velpatasvir. Individuals treated multiple times were only counted once in overall figures, to effectively measure overall uptake as a proportion of the number living with CHC. Re-treatment was estimated separately, using the assumption that either a different drug combination commenced at any time after the estimated completion of the initial course, or that a treatment course of the same drug combination more than one month after the estimated completion of the initial course represented a re-treatment course.

Treatment uptake was derived by dividing the number of people receiving treatment by the total estimated population living with CHC in each geographic area (see Prevalance for details).

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# DATA TABLES TO ACCOMPANY FIGURES

Figure A.1: Estimated variation in prevalence of CHC in 2016, compared to the national average, by PHN

| Primary Health Network | CHC prevalence relative to the national average (% higher or lower) |
|---|---|
| Northern Territory | +98.4% |
| Western NSW | +78.5% |
| North Coast | +64.7% |
| Western Queensland | +64.4% |
| Northern Queensland | +40.5% |
| Murrumbidgee | +37.0% |
| South Eastern NSW | +25.4% |
| Country WA | +22.9% |
| Darling Downs and West Moreton | +22.9% |
| Hunter New England and Central Coast | +17.7% |
| Central and Eastern Sydney | +16.7% |
| Gold Coast | +13.1% |
| Central Queensland, Wide Bay, Sunshine Coast | +12.1% |
| Tasmania | +9.0% |
| South Western Sydney | +7.4% |
| Brisbane North | +6.8% |
| Brisbane South | +4.7% |
| Gippsland | +3.7% |
| Murray | +3.5% |
| Nepean Blue Mountains | +2.8% |
| **NATIONAL AVERAGE** | — |
| North Western Melbourne | -6.7% |
| Australian Capital Territory | -11.0% |
| Perth South | -12.4% |
| Western Sydney | -13.4% |
| South Eastern Melbourne | -14.1% |
| Western Victoria | -14.3% |
| Perth North | -15.4% |
| Country SA | -29.3% |
| Adelaide | -35.5% |
| Eastern Melbourne | -43.5% |
| Northern Sydney | -53.3% |

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Figure A.2: Number of people receiving CHC treatment in Australia, by month, January 2020 – June 2024

| Month-Year | Number of people |
|---|---|
| Jan-20 | 643 |
| Feb-20 | 802 |
| Mar-20 | 708 |
| Apr-20 | 660 |
| May-20 | 674 |
| Jun-20 | 755 |
| Jul-20 | 747 |
| Aug-20 | 677 |
| Sep-20 | 663 |
| Oct-20 | 649 |
| Nov-20 | 682 |
| Dec-20 | 590 |
| Jan-21 | 420 |
| Feb-21 | 582 |
| Mar-21 | 684 |
| Apr-21 | 563 |
| May-21 | 602 |
| Jun-21 | 624 |
| Jul-21 | 593 |
| Aug-21 | 548 |
| Sep-21 | 553 |
| Oct-21 | 497 |
| Nov-21 | 500 |
| Dec-21 | 414 |
| Jan-22 | 286 |
| Feb-22 | 387 |
| Mar-22 | 433 |
| Apr-22 | 385 |
| May-22 | 364 |
| Jun-22 | 464 |
| Jul-22 | 447 |
| Aug-22 | 518 |
| Sep-22 | 470 |
| Oct-22 | 482 |
| Nov-22 | 491 |
| Dec-22 | 453 |
| Jan-23 | 368 |
| Feb-23 | 430 |

*Continued next page*

| Month-Year | Number of people |
|---|---|
| Mar-23 | 507 |
| Apr-23 | 391 |
| May-23 | 517 |
| Jun-23 | 472 |
| Jul-23 | 471 |
| Aug-23 | 548 |
| Sep-23 | 440 |
| Oct-23 | 464 |
| Nov-23 | 469 |
| Dec-23 | 384 |
| Jan-24 | 328 |
| Feb-24 | 438 |
| Mar-24 | 429 |
| Apr-24 | 398 |
| May-24 | 496 |
| Jun-24 | 418 |

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Figure A.3: Average monthly number of people receiving CHC treatment in Australia, by year, March 2016 – June 2024

| Year | Average per month |
|---|---|
| 2016 | 3,241 |
| 2017 | 1,771 |
| 2018 | 1,281 |
| 2019 | 954 |
| 2020 | 688 |
| 2021 | 548 |
| 2022 | 432 |
| 2023 | 455 |
| 2024 | 418 |

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Figure A.4: Monthly average number of people receiving CHC treatment by state/territory, March 2016 – June 2024 (NSW, Qld, Vic)

| State | 2016 | 2017 | 2018 | 2019 | 220 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|
| NSW | 1,116 | 599 | 422 | 320 | 229 | 166 | 138 | 166 | 160 |
| Qld | 667 | 360 | 294 | 227 | 179 | 147 | 121 | 126 | 109 |
| Vic | 857 | 437 | 306 | 221 | 137 | 111 | 84 | 79 | 69 |

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Figure A.5: Monthly average number of people receiving CHC treatment by state/territory, March 2016 – June 2024 (ACT, NT, SA, Tas, WA)

| State | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|
| ACT | 63 | 23 | 16 | 11 | 8 | 7 | 5 | 4 | 6 |
| NT | 34 | 17 | 9 | 8 | 5 | 4 | 3 | 3 | 3 |
| SA | 204 | 114 | 76 | 51 | 39 | 30 | 20 | 19 | 16 |
| Tas | 73 | 53 | 33 | 18 | 15 | 14 | 9 | 8 | 6 |
| WA | 227 | 168 | 126 | 98 | 76 | 69 | 51 | 51 | 49 |

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Figure A.6: CHC treatment uptake variation in Australia by PHN, relative to the national average, March 2016 – June 2024

| Primary Health Network | CHC treatment uptake relative to the national average (% higher or lower) |
|---|---|
| Gippsland | 39.7% |
| Western Victoria | 35.2% |
| Adelaide | 27.4% |
| North Coast | 24.4% |
| Hunter New England and Central Coast | 19.4% |
| Brisbane South | 18.9% |
| Central Queensland, Wide Bay, Sunshine Coast | 12.2% |
| Country SA | 12.1% |
| Murray | 9.4% |
| South Eastern Melbourne | 7.8% |
| Perth South | 6.1% |
| South Eastern NSW | 5.4% |
| North Western Melbourne | 1.7% |
| Eastern Melbourne | 0.5% |
| Tasmania | 0.2% |
| **NATIONAL AVERAGE** | — |
| Darling Downs and West Moreton | -0.4% |
| Gold Coast | -4.8% |
| Western NSW | -5.8% |
| Perth North | -6.1% |
| Australian Capital Territory | -7.4% |
| Northern Queensland | -7.5% |
| Nepean Blue Mountains | -11.7% |
| South Western Sydney | -12.1% |
| Country WA | -14.1% |
| Murrumbidgee | -14.8% |
| Western Sydney | -14.8% |
| Brisbane North | -20.0% |
| Northern Sydney | -21.2% |
| Central and Eastern Sydney | -22.4% |
| Western Queensland | -35.7% |
| Northern Territory | -58.5% |

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Figure A.9: Proportion of CHC treatment by course duration, by year, March 2016 – June 2024

| Year | 8 Weeks | 12 Weeks | 24 Weeks |
|---|---|---|---|
| 2016 | 7.5% | 72.3% | 20.2% |
| 2017 | 7.6% | 85.0% | 7.4% |
| 2018 | 16.1% | 83.9% | – |
| 2019 | 35.5% | 64.5% | – |
| 2020 | 41.0% | 59.0% | – |
| 2021 | 46.1% | 53.9% | – |
| 2022 | 45.1% | 54.9% | – |
| 2023 | 49.4% | 50.6% | – |
| 2024 | 47.8% | 52.2% | – |

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Figure A.10: Proportion of CHC treatment by age group, by year, March 2016 – June 2024

| Year | 0–29 | 30–39 | 40–49 | 50–59 | 60–69 | 70+ |
|---|---|---|---|---|---|---|
| 2016 | 3.5% | 13.2% | 22.8% | 37.9% | 19.7% | 3.0% |
| 2017 | 6.5% | 20.0% | 27.9% | 29.9% | 13.2% | 2.4% |
| 2018 | 9.7% | 22.1% | 28.7% | 25.2% | 12.3% | 1.9% |
| 2019 | 12.0% | 21.4% | 27.7% | 23.9% | 13.0% | 2.0% |
| 2020 | 14.0% | 21.5% | 27.3% | 22.9% | 12.2% | 2.1% |
| 2021 | 14.0% | 20.1% | 26.4% | 23.1% | 14.2% | 2.1% |
| 2022 | 14.0% | 20.6% | 24.9% | 22.0% | 15.5% | 3.0% |
| 2023 | 16.9% | 21.0% | 23.8% | 21.1% | 14.2% | 3.1% |
| 2024 | 15.1% | 20.9% | 23.1% | 21.7% | 15.0% | 4.1% |

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