

# HEPATITIS B MAPPING PROJECT

Estimates of chronic hepatitis B prevalence and cultural and linguistic diversity by Medicare Local

NATIONAL REPORT 2011



**ashm**



**VIDRL**

Victorian Infectious Diseases  
Reference Laboratory

NATIONAL REPORT 2011

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AUSTRALASIAN SOCIETY FOR HIV MEDICINE & VICTORIAN INFECTIOUS DISEASES REFERENCE LABORATORY



***Hepatitis B Mapping Project: Estimates of chronic hepatitis B prevalence and cultural and linguistic diversity by Medicare Local, 2011 – National Report***

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# CHRONIC HEPATITIS B IN AUSTRALIA

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Chronic hepatitis B (CHB) is responsible for considerable morbidity and mortality worldwide with an estimated 786,000 attributable deaths in 2010<sup>1</sup> due to cirrhosis, liver failure, and hepatocellular carcinoma. It is estimated that without appropriate management and treatment, up to a quarter of people living with CHB will suffer premature death attributable to their condition; however there is now considerable evidence that appropriate monitoring and treatment profoundly reduces this risk<sup>2</sup>. Interventions necessarily rely on individuals being diagnosed, made aware of their infection, and linked to appropriate health care; however it is estimated that nearly half of people living with CHB in Australia remain undiagnosed<sup>3</sup>. There are gaps in the knowledge of both affected communities and the health workforce that impede proper care for those affected<sup>4</sup>.

The burden of hepatitis B in Australia is substantial with an estimated 218,000 people living with CHB in 2011<sup>3</sup>. Currently between 6000-7,000 people are diagnosed with CHB in Australia each year. The burden of CHB in Australia is not evenly distributed among the population, disproportionately affecting marginalised populations such as migrant communities with origins in Asia, the Pacific and Africa; people of Aboriginal and Torres Strait Islander background; individuals with a history of injecting drug use; and men who have sex with men. The distribution of these communities throughout Australia means that the burden of CHB varies widely. It is critical to identify the geographic areas carrying the highest burdens of CHB in order to best reach the affected communities and to provide cost-effective and targeted prevention and education programs.

Given that the population groups most affected by CHB are also generally subject to broader healthcare disparities, it is particularly important that awareness and interventions around CHB are targeted, culturally appropriate and safe.

The geographically uneven distribution of CHB presents the opportunity to engage with and improve awareness within affected communities though the targeting of high prevalence areas. Localised priority setting is a key objective of recent healthcare reform in Australia, and the geographic mapping of the burden of diseases such as CHB allows for individual Medicare Locals to identify the health issues that represent a significant burden in their communities, and design appropriate responses accordingly.

Additionally, identifying areas where access to appropriate diagnosis and treatment is lowest relative to the estimated burden of CHB and incidence of liver cancer provides the opportunity to prioritise health interventions and improve local service delivery.

In this context, the Australian Government Department of Health and Ageing funded the Australasian Society for HIV Medicine (ASHM) in partnership with the Victorian Infectious Diseases Reference Laboratory (VIDRL) to undertake an epidemiological mapping project of CHB across each Medicare Local throughout Australia. This project involved the collation and analysis of a range of disparate data sources which provide localised information regarding the estimated number of people living with CHB, the number of hepatitis B diagnoses, the incidence of liver cancer, and the extent of antiviral treatment coverage – in order to provide a national picture of the impact of CHB. Importantly, this approach also identifies the areas where greatest attention is needed to prevent future CHB-related deaths.

This report outlines the comprehensive mapping phase of the project, which identifies priority Medicare Locals based on CHB burden along with the major communities affected in each of these areas as gleaned from the 2011 Census. The report presents the number of people living with CHB in each

Medicare Local and the proportion of the population that number represents; what proportion of people living with CHB in each Medicare Local were born overseas or are Aboriginal and Torres Strait Islander people; how many speak little or no English; and the geographic breakdown within Medicare Locals according to constituent Local Government Areas (LGAs). A detailed methodology in the estimation of these parameters is provided in Appendix 3.

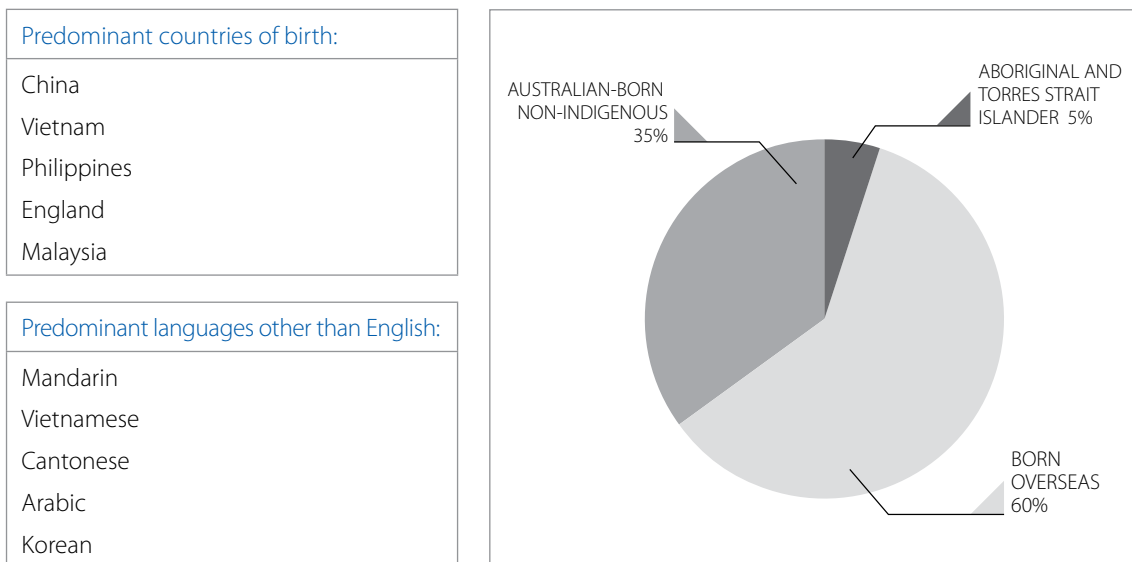
This report represents detailed estimates of the local, jurisdictional, and national prevalence of CHB, with further analysis of the predominantly affected communities in each state or territory. In addition, it explores in depth the priority populations of all Australian Medicare Locals with estimated prevalence above the Australian average of 1.02% - seven in NSW, six in Victoria, three in Queensland and Western Australia, and two in South Australia - as well as the Tasmania, NT and ACT Medicare Locals.

Future outputs of this project will include detailed analysis of surveillance notifications, liver cancer incidence, and antiviral treatment uptake by Medicare Local across Australia. These will be updated over time, to reflect both the shifting epidemiology of CHB in Australia, and the impact of interventions to address this emerging priority at a population level. These regular reports, when viewed together with the community profiles presented in this document, will provide an evolving picture of CHB across the nation, the communities and areas of greatest need, and the progress Australia is making in response.

# PRIORITY MEDICARE LOCALS IN AUSTRALIA BY STATE

## AUSTRALIAN CAPITAL TERRITORY

Medicare Local	2011 Population	Number of people living with CHB, prevalence (%)	
Australian Capital Territory	357,219	3,603	1.01%



An estimated 3,600 people in the Australian Capital Territory Medicare Local are living with CHB, a population prevalence of 1.01% - very similar to the overall Australian average. The majority of people living with CHB in the ACT were born overseas (60%), with the predominant source countries being China, Vietnam, Philippines, England (despite its low prevalence) and Malaysia. A further 5.3% of people with CHB in the ACT are Aboriginal and Torres Strait Islander people. A lower than average proportion of ACT residents speak little or no English, at 2.3%, compared to Australia overall. The unincorporated nature of the ACT limits geographic analysis, as it does not have constituent Local Government Areas as in other states and territories.



## NEW SOUTH WALES

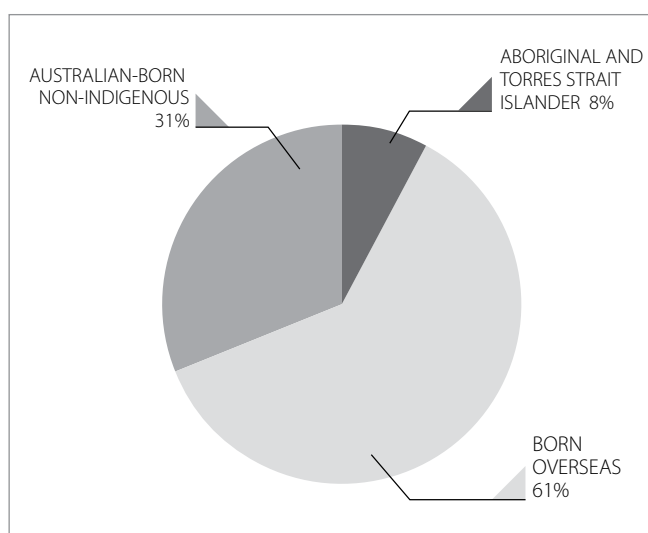
Medicare Local	2011 Population	Number of people living with CHB, prevalence (%)	
Central Coast NSW	312,187	2,069	0.66%
<b>Eastern Sydney</b>	<b>355,597</b>	<b>4,434</b>	<b>1.25%</b>
<b>Far West NSW</b>	<b>36,308</b>	<b>408</b>	<b>1.12%</b>
Hunter	667,076	4,444	0.67%
Illawarra-Shoalhaven	368,820	2,853	0.77%
<b>Inner West Sydney</b>	<b>548,631</b>	<b>9,172</b>	<b>1.67%</b>
Murrumbidgee	178,985	1,293	0.72%
Nepean-Blue Mountains	336,923	2,552	0.76%
New England	175,766	1,450	0.82%
North Coast NSW	478,169	3,265	0.68%
<b>Northern Sydney</b>	<b>380,766</b>	<b>5,129</b>	<b>1.35%</b>
<b>South Eastern Sydney</b>	<b>442,863</b>	<b>5,746</b>	<b>1.30%</b>
<b>South Western Sydney</b>	<b>840,610</b>	<b>13,513</b>	<b>1.61%</b>
Southern NSW	189,416	1,271	0.67%
Sydney North Shore And Beaches	427,889	4,031	0.95%
Western NSW	245,534	1,956	0.80%
<b>Western Sydney</b>	<b>810,727</b>	<b>12,644</b>	<b>1.56%</b>
<b>NEW SOUTH WALES</b>	<b>6,917,655</b>	<b>77,076</b>	<b>1.11%</b>

### Predominant countries of birth:

China  
Vietnam  
Philippines  
Italy  
Fiji

### Predominant languages other than English:

Mandarin  
Cantonese  
Vietnamese  
Greek  
Korean



An estimated 77,000 people in New South Wales were living with chronic hepatitis B (CHB) in 2011, representing around 1.1% of the population. In New South Wales an estimated 60% of people living with CHB were born overseas, and 8.3% are Aboriginal and Torres Strait Islander people. The seven Medicare Locals in New South Wales which have above-average prevalence, and which together comprise around two thirds of all people in the state living with CHB are profiled.

## EASTERN SYDNEY

Eastern Sydney Medicare Local is home to around 4,400 people living with CHB, or 1.25% of the population. 70% of those with CHB were born overseas, most commonly in China, Vietnam, Indonesia, Malaysia and the Philippines. An additional 2.7% of those living with CHB are Aboriginal and Torres Strait Islander people. 3.6% of the population in Eastern Sydney speaks little or no English. The higher prevalence LGAs in Eastern Sydney are Botany Bay, Randwick, and Sydney (split with Inner West Sydney Medicare Local), while Waverley and Woollahra LGAs have lower than average prevalence.

## FAR WEST NEW SOUTH WALES

The population of Far West NSW Medicare Local is considerably smaller than other Medicare Locals across Australia, which means that although the total number of people estimated to be living with CHB is relatively small (408 individuals), as a proportion of the population, the prevalence of 1.12% is above the Australian average. The majority of residents with CHB in Far West NSW are Aboriginal and Torres Strait Islander people (58%), as well as a further 7% who were born overseas. In the Far West NSW Medicare Local, only 0.4% of residents speak little or no English. There is diversity in the CHB burden among the LGAs that make up the Far West NSW Medicare Local, with the areas of Brewarrina, Bourke, Central Darling and Walgett having higher prevalence. However given its much larger population, the largest number of people with CHB reside in the Broken Hill LGA.

## INNER WEST SYDNEY

Inner West Sydney Medicare Local is the highest prevalence Medicare Local in New South Wales, with an estimated 1.67% of the population (9,140 people) living with CHB. Of those with CHB nearly 80% were born overseas, with the predominant countries being China, Vietnam, Greece, Italy and Korea. An estimated 2.0% of those with CHB are Aboriginal and Torres Strait Islander people. The large Chinese-born population in Inner West Sydney is estimated to represent one-tenth of all those born in China living with CHB in Australia. The Inner West Sydney area is also home to an estimated one-fifth of Australians with CHB born in Bangladesh and Nepal. Around 9% of residents of this Medicare Local report speaking little or no English. The highest burden areas of Inner West Sydney include the LGAs of Burwood, Canterbury and Strathfield, where more than 2% of people are estimated to be living with CHB.

## NORTHERN SYDNEY

There are an estimated 5,100 people living with CHB in the Northern Sydney Medicare Local, for a population prevalence of 1.35%. Around three-quarters of people living with CHB in Northern Sydney were born overseas, predominantly from China, Korea, Hong Kong, Taiwan, and Malaysia. Less than 1% of people living with CHB in Northern Sydney are Aboriginal and Torres Strait Islander people. The proportion of residents of the Northern Sydney Medicare Local who report speaking little or no English is similar to the NSW average, at 4.4%. The higher prevalence LGAs of Ryde and Hornsby are home to around three-quarters of people with CHB in the Northern Sydney Medicare Local.

## SOUTH EASTERN SYDNEY

An estimated 5,700 people in South Eastern Sydney Medicare Local are living with CHB, a prevalence of 1.30% of the population. The majority (72.3%) were born overseas, while 2.0% are Aboriginal and Torres Strait Islander people. The most common source countries are China, Greece, Vietnam, Philippines, and Bangladesh. The Chinese-born population with CHB in South Eastern Sydney is particularly large, making up more than a third of all people living with CHB in this Medicare Local and over 8% of all

Chinese Australians living with CHB. A greater than average proportion of South Eastern Sydney residents report speaking little or no English, at 5.4%. The burden of CHB in South Eastern Sydney is predominantly in the areas of Hurstville, Kogarah and Rockdale, with the LGA of Sutherland having a lower than average prevalence.

## SOUTH WESTERN SYDNEY

More people with chronic hepatitis B live in the South Western Sydney Medicare Local than in any other, affecting an estimated 13,500 people (1.61% of the population). High numbers in the Bankstown, Campbelltown, Liverpool, and particularly Fairfield LGAs drive this, with lower prevalence found in areas further from central Sydney

Around three-quarters of people with CHB in South Western Sydney were born overseas, and the predominant countries of birth include Vietnam, China, Cambodia, the Philippines and Fiji. A further 3.6% of those with CHB are Aboriginal and Torres Strait Islander people. There is a large community of people born in Vietnam in South Western Sydney, and it is estimated that around one-quarter of all Australians living with CHB who were born in Vietnam reside in this single Medicare Local (of the Vietnamese-born population living in Australia, one in six reside in Fairfield). By comparison, South Western Sydney contains around 4% of Australia's total population.

South Western Sydney also contains a substantial proportion of Australia's population living with CHB from a number of other source countries, particularly those with considerable humanitarian migrant entrants. Nearly half of all Australians born in Iraq with CHB are estimated to live in South Western Sydney, along with more than a quarter of the country's Cambodian, Syrian and Lebanese-born populations with CHB. This is reflected in the linguistic diversity in this area, with 10% of residents reporting that they speak little or no English.

## WESTERN SYDNEY

There are approximately 12,600 people living with CHB in the Western Sydney Medicare Local, comprising 1.56% of the total population. In contrast to a number of Sydney's other Medicare Locals there is less disparity in CHB burden among Western Sydney's LGAs, with all five having above average CHB prevalence. However the proportion of the population living with CHB is estimated to be particularly high in the Auburn area at 2.75%, being the highest prevalence of any LGA in New South Wales.

The majority (77%) of people living with CHB in Western Sydney were born overseas, with predominant source countries including China, the Philippines, Afghanistan, Vietnam and Fiji. People born in Afghanistan living with CHB in Western Sydney constitute a large proportion of the national total (approximately one quarter). An estimated 3.4% of people with CHB in Western Sydney are Aboriginal and Torres Strait Islander people. Around 7% of all residents of the Western Sydney Medicare Local report speaking little or no English.

# NORTHERN TERRITORY

Medicare Local	2011 Population	Number of people living with CHB, prevalence (%)	
Northern Territory	211,943	3,555	1.68%

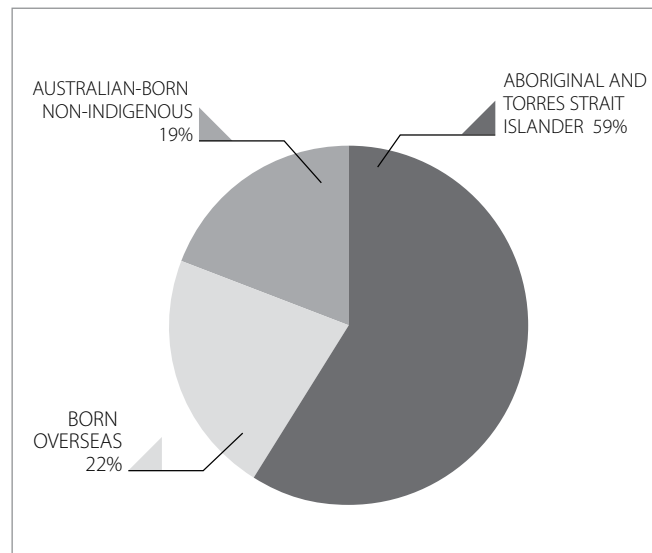
## Predominant countries of birth:

Philippines  
China  
Vietnam  
Greece  
Papua New Guinea

## Predominant languages other than English\*:

Mandarin  
Vietnamese  
Greek  
Cantonese

*\*Includes those spoken by an estimated >5 people (see Appendix 4: Methodological notes, page #)*



The Northern Territory comprises a single Medicare Local, making it both the highest prevalence jurisdiction and also the highest prevalence Medicare Local in the country, with approximately 1.7% of the population living with CHB. Nearly 60% of those living with CHB are Aboriginal and Torres Strait Islander people, and a further 21.5% were born overseas.

However, there is considerable diversity within the Northern Territory in the prevalence of CHB according to area, and the major groups affected. Although more people with CHB live in Darwin than any other area – the LGA that includes the capital being home to one in four Northern Territorians with CHB - the prevalence of 1.34% is actually lower than the territory average. The majority of people with CHB in this area were born overseas, predominantly in the Philippines, China, Vietnam, Greece and Papua New Guinea.

The highest CHB prevalence areas of the Northern Territory, where greater than 3% of the population are living with CHB, include the Central Desert, East and West Arnhem, MacDonnell, Roper Gulf, Tiwi Islands, and Victoria Daly LGAs. In each of these areas, Aboriginal and Torres Strait Islander people represent over 90% of people living with CHB.

The proportion of people who report speaking little or no English in the Northern Territory is higher than any other state or territory at 5.5%. Due to the relatively small population, estimating the top languages for people who have CHB and speak little or no English is limited; however the most common appear to be Mandarin, Vietnamese and Greek. When grouped together it is estimated that a quarter of people with CHB who have limited English speak an Aboriginal language at home, most commonly Djambarrpuyngu, Murrinh-patha, Kriol, and Yolgnu languages.

## QUEENSLAND

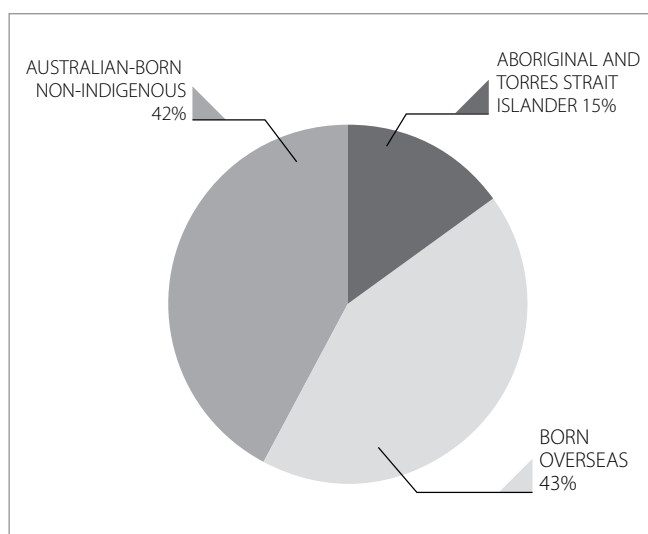
Medicare Local	2011 Population	Number of people living with CHB, prevalence (%)	
<b>Central and North West QLD</b>	<b>42,556</b>	<b>528</b>	<b>1.24%</b>
Central QLD	204,864	1,542	0.75%
Darling Downs-South West QLD	286,125	2,092	0.73%
<b>Far North QLD</b>	<b>252,456</b>	<b>3,042</b>	<b>1.20%</b>
Gold Coast	507,537	3,873	0.76%
Metro North Brisbane	855,073	6,770	0.79%
<b>Greater Metro South Brisbane</b>	<b>879,977</b>	<b>9,327</b>	<b>1.06%</b>
Sunshine Coast	352,658	2,165	0.61%
Townsville-Mackay	389,185	3,076	0.79%
West Moreton-Oxley	348,487	3,529	1.01%
Wide Bay	200,803	1,335	0.66%
QUEENSLAND	4,332,737	37,399	0.86%

### Predominant countries of birth:

China  
Vietnam  
Philippines  
Taiwan  
England

### Predominant languages other than English:

Mandarin  
Vietnamese  
Cantonese  
Korean  
Arabic



An estimated 37,000 people in Queensland are living with chronic hepatitis B, representing 0.86% of the population. Approximately 15% of those affected are Aboriginal and Torres Strait Islander people, and around 43% were born overseas. The predominant source countries for people living with CHB in Queensland are China, Vietnam, the Philippines and Taiwan. The three Medicare Locals in Queensland that have a CHB prevalence that is higher than the Australian average together make up over a third of people living with CHB in the state, with one-quarter living in the Metro South Brisbane area alone.

## CENTRAL AND NORTH WEST QUEENSLAND

The Central and North West Queensland Medicare Local has a greater proportion of its population living with CHB than any other Medicare Local in Queensland, with a prevalence of 1.24%. The majority (56.4%) of people living with CHB are Aboriginal and/or Torres Strait Islander people, with an additional 13% born overseas. Less than half of one per cent (0.47%) report speaking little or no English, lower than the Queensland average (1.44%).

There is a high level of diversity in CHB prevalence among the LGAs that constitute Central and North West Queensland. Those LGAs in the southern and eastern part of the Medicare Local (Winton, Barcoo, Longreach, Barcaldine, McKinley and Blackall-Tambo) have lower than average prevalence of CHB, ranging between 0.6-0.8% of the population. In contrast, the LGAs with high prevalence (from 1.2% up to 3.6%) are clustered in the north and west near the Northern Territory border and the Gulf of Carpentaria, in the LGAs of Burke, Mt Isa, Boulia, Diamantina and Carpentaria. Those LGAs with a greater CHB prevalence reflect the areas in this Medicare Local with a greater proportion of Aboriginal and/or Torres Strait Islander people.

## FAR NORTH QUEENSLAND

There are an estimated 3,000 people living with CHB in the Far North Queensland Medicare Local, affecting 1.20% of the population. Nearly half (46.7%) of those living with CHB in the Far North Queensland Medicare Local are estimated to be Aboriginal and/or Torres Strait Islander people, while a further quarter (24.3%) were born overseas, most commonly in Papua New Guinea and the Philippines. In Far North Queensland 2.1% of the population speak little or no English, higher than the Queensland average.

In contrast to the Central and North West Queensland Medicare Local, in Far North Queensland there is much less diversity between LGAs in their CHB prevalence. All but one LGA (Etheridge) have prevalence above the national average. Those LGAs with the highest prevalence however are clustered around the Far North Queensland coast in the Torres Strait region, in communities where the majority of the population identifies as being an Aboriginal and/or Torres Strait Islander person.

## GREATER METRO SOUTH BRISBANE

The Greater Metro South Brisbane Medicare Local has more residents living with CHB than any other Medicare Local in Queensland, with an estimated 9,300 people. This high population means that of all people with CHB living in Queensland, one in four live in the South Brisbane Medicare Local. In contrast to the other high prevalence Medicare Locals, the majority (61%) of people with CHB in Greater Metro South Brisbane were born overseas, with the most common countries being China, Vietnam, Taiwan, Malaysia and the Philippines. An additional 7% of people living with CHB in Metro South Brisbane are Aboriginal and/or Torres Strait Islander people. In Greater Metro South Brisbane, 2.7% of the population speaks little or no English.

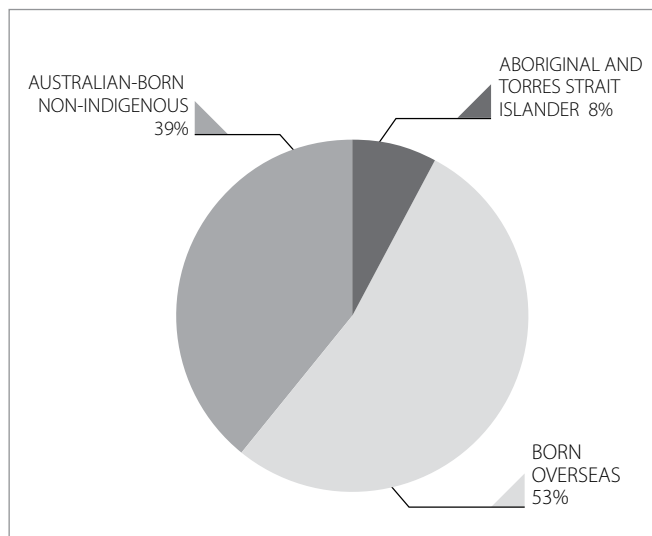
# SOUTH AUSTRALIA

Medicare Local	2011 Population	Number of people living with CHB, prevalence (%)	
<b>Central Adelaide and Hills</b>	<b>493,517</b>	<b>5,388</b>	<b>1.09%</b>
Country North SA	189,509	1,294	0.68%
Country South SA	130,720	882	0.67%
<b>Northern Adelaide</b>	<b>388,894</b>	<b>4,036</b>	<b>1.04%</b>
Southern Adelaide-Fleurieu	386,422	2,753	0.71%
<b>SOUTH AUSTRALIA</b>	<b>1,596,570</b>	<b>14,442</b>	<b>0.90%</b>

Predominant countries of birth:
Vietnam
Italy
Afghanistan
Philippines
Greece

Predominant languages other than English:
Vietnamese
Mandarin
Cantonese
Italian
Arabic



Approximately 14,500 South Australians are estimated to be living with CHB, comprising 0.9% of the population. The majority (65%) was born overseas, most commonly in China, Vietnam, Italy, Afghanistan, the Philippines and Greece. Another 8% of those living with CHB are Aboriginal and Torres Strait Islander people. The two priority Medicare Locals for CHB in South Australia are in the metropolitan area, Central Adelaide and Hills, and Northern Adelaide, both with a prevalence of CHB higher than the national average. These two locals combined make up around two-thirds of all South Australians living with CHB.

## CENTRAL ADELAIDE AND HILLS

An estimated 5,400 people with CHB live in the Central Adelaide and Hills Medicare Local, more than in any other Medicare Local in the state. The predominant countries of birth for people with CHB include China, Vietnam, Italy, Greece and Malaysia, with Aboriginal and Torres Strait Islander people representing a further 4% of the total. The higher prevalence parts of the Medicare Local are the LGA of Adelaide and the surrounding areas (Charles Sturt, Port Adelaide-Enfield, Campbelltown and West Torrens), with the more regional areas of Adelaide Hills and Mt Barker having a lower prevalence of below 0.6%. 3.9% of people in the Central Adelaide and Hills Medicare Local report speaking little or no English.

## NORTHERN ADELAIDE

Approximately 4,000 people are estimated to be living with CHB in the Northern Adelaide Medicare Local. The majority was born overseas (60%), although the distribution of major countries contrasts with that of Central Adelaide and Hills - in this case Vietnam is the most common country of birth, followed by China, Afghanistan, Cambodia and the Philippines. The population living with CHB in Northern Adelaide is concentrated in the higher prevalence areas of Port Adelaide-Enfield and Salisbury, which together are home to 60% of people living with CHB in this Medicare Local. In the Northern Adelaide Medicare Local, 3.4% of residents report speaking little or no English.



# TASMANIA

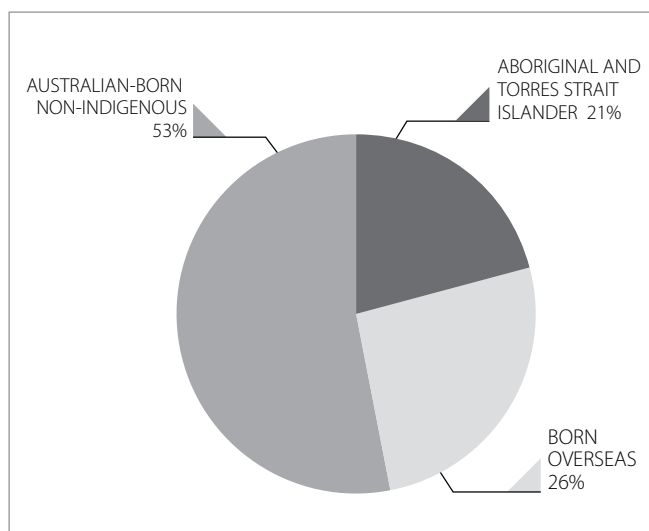
Medicare Local	2011 Population	Number of people living with CHB, prevalence (%)	
Tasmania	495,352	3,513	0.71%

## Predominant countries of birth:

China  
 England  
 Philippines  
 Malaysia  
 New Zealand

## Predominant languages other than English:

Mandarin  
 Nepali  
 Cantonese  
 Arabic  
 Tigrinya



The burden of CHB in Tasmania is relatively low, with around 3,500 people or 0.7% of the population affected. Due to the lower numbers of people born overseas and of Aboriginal and Torres Strait Islander background in the state, Tasmania is the only state or territory in which people with CHB are more likely to be Australian-born non-Indigenous people, comprising around a third of people affected. Those born overseas (25.8%) and those of Aboriginal and Torres Strait Islander background (20.1%) make up the remainder. This is reflected in the English language proficiency levels in the state, where less than 1% of people speak little or no English. Because of the smaller number of people living in Tasmania who were born in areas endemic for CHB, low prevalence countries make up a greater proportion of people with CHB due to the high number of migrants from those areas relative to other countries. Of those born overseas with CHB in Tasmania, the predominant countries include China, England, Philippines, Malaysia, and New Zealand.

Although Tasmania is comprised of a single Medicare Local, there is considerable internal diversity and some areas of the state have higher prevalence than others. The majority of Tasmania's population with CHB is clustered in metropolitan areas, and the three Hobart LGAs (Hobart, Glenorchy and Brighton) are home one-third of Tasmanians with CHB, despite making up around 20% of the state's population.

# VICTORIA

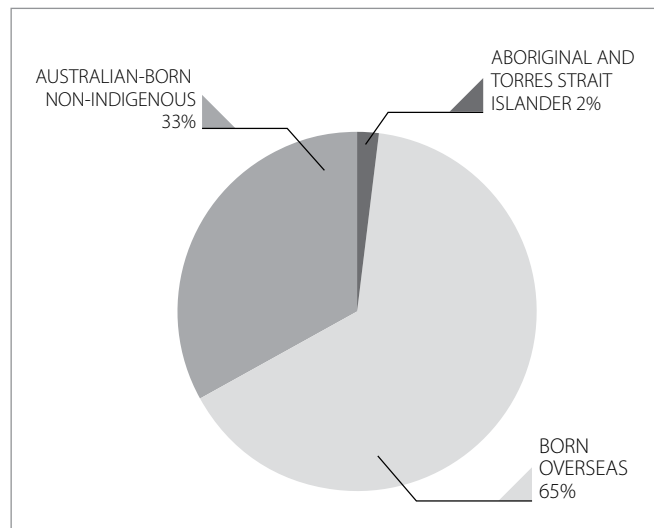
Medicare Local	2011 Population	Number of people living with CHB, prevalence (%)	
Barwon	270,938	1,704	0.63%
Bayside	556,048	5,634	1.01%
Eastern Melbourne	397,679	3,205	0.81%
Frankston-Mornington Peninsula	271,063	1,762	0.65%
Gippsland	255,720	1,544	0.60%
Goulburn Valley	145,753	1,039	0.71%
Grampians	204,447	1,148	0.56%
Great South Coast	100,298	541	0.54%
Hume	195,662	1,129	0.58%
<b>Inner East Melbourne</b>	<b>591,099</b>	<b>8,946</b>	<b>1.51%</b>
<b>Inner North West Melbourne</b>	<b>416,110</b>	<b>5,582</b>	<b>1.34%</b>
Loddon-Mallee-Murray	213,085	1,231	0.58%
Lower Murray	65,612	563	0.86%
<b>Macedon Ranges &amp; North Western Melbourne</b>	<b>458,714</b>	<b>6,767</b>	<b>1.48%</b>
<b>Northern Melbourne</b>	<b>602,401</b>	<b>6,616</b>	<b>1.10%</b>
<b>South Eastern Melbourne</b>	<b>462,162</b>	<b>7,122</b>	<b>1.54%</b>
<b>South Western Melbourne</b>	<b>245,440</b>	<b>2,787</b>	<b>1.14%</b>
<b>VICTORIA</b>	<b>5,345,734</b>	<b>56,730</b>	<b>1.06%</b>

## Predominant countries of birth:

China  
Vietnam  
Malaysia  
Philippines  
Italy

## Predominant languages other than English:

Vietnamese  
Mandarin  
Cantonese  
Greek  
Italian



An estimated 56,000 people in Victoria are living with CHB, representing around 1.06% of the population. Of these nearly two-thirds were born overseas, and the Medicare Locals with increased prevalence profiled below are all areas with greater numbers of overseas-born residents. The predominant countries of birth for Victorians with CHB are China, Vietnam, Malaysia, Philippines and Italy, and a further 2.5% of Victorians living with CHB are Aboriginal and Torres Strait Islander people. The six Medicare Locals detailed here are home to around two-thirds of Victorians with CHB.

## INNER EAST MELBOURNE MEDICARE LOCAL

The Inner East Melbourne Medicare Local has the greatest total number of people living with CHB of any Victorian Medicare Local, with nearly 9,000 people in this area estimated to be affected, or 1.5% of the population. Of those with CHB nearly 80% were born outside of Australia. The major source countries include China, Vietnam, Malaysia, Greece and Taiwan. Less than 0.5% of those with CHB are Aboriginal and Torres Strait Islander people.

The Chinese-born population with CHB is particularly significant in this area, making up approximately one in three people with CHB. 12% of the estimated 26,000 Australians born in China living with CHB live in this Medicare Local. There is also much less heterogeneity between LGAs than in the other higher prevalence Medicare Locals in Victoria, with the four constituent LGAs all having similar CHB prevalence. Around 3% of people in the Inner East Melbourne Medicare Local speak little or no English.

## INNER NORTH WEST MELBOURNE MEDICARE LOCAL

Approximately 5,600 people in the Inner North West Melbourne Medicare Local are living with CHB, or 1.35% of the total population. Around three-quarters were born overseas, with the predominant countries of birth being China, Vietnam, Italy, Greece and Malaysia, and around 1% of those affected being Aboriginal and Torres Strait Islander people. The proportion of people from each country also differs by area; those from China make up around a third of people living with CHB in the Melbourne LGA, whereas the burden in the other LGAs is predominantly in those from Vietnam, Italy and Greece. A greater than average proportion of people in the Inner North West speak little or no English (6.0%) compared to Victoria overall. All LGAs in Inner North West Melbourne have above average prevalence, however the greatest burden appears in the Melbourne area.

## MACEDON RANGES AND NORTH WESTERN MEDICARE LOCAL

An estimated 7,000 people living in the Macedon Ranges and North Western Medicare Local (1.52% of the population) are affected by CHB. Approximately three-quarters of people living with CHB in the Macedon Ranges and North West were born overseas, with the major source countries including Vietnam, China, the Philippines, Malta, and Italy, and another 1.3% of those affected are Aboriginal and Torres Strait Islander people. In this Medicare Local the burden of CHB is clustered around the inner metropolitan area, with over 70% of those affected living in either the Maribyrnong or Brimbank LGA, with the remaining LGAs having relatively low prevalence.

There are around 2,400 Vietnamese-born people living with CHB in the Macedon Ranges and North Western Medicare Local, which represents more than 30% of the total number with CHB. This concentration also means that this single Medicare Local is home to nearly one-sixth of Australia's total Vietnamese-born population living with CHB. Around 8% of people in Macedon Ranges and North Western Medicare Local report speaking little or no English.

## NORTHERN MELBOURNE

The prevalence of CHB in Northern Melbourne is 1.1%, with around 6,600 residents living with CHB. Two-thirds of those affected were born overseas, most commonly in China, Vietnam, Italy, Greece and the Philippines. An estimated 2.2% of those living with CHB are Aboriginal and Torres Strait Islander people. In the Northern Melbourne Medicare Local a higher than average proportion of the population speak little or no English (6.4%). The prevalence of CHB in the Northern Melbourne Medicare Local does not vary by LGA as substantially in many other Medicare Locals in Victoria, however is higher in the Whittlesea, Hume and Darebin LGAs than in Nillumbik and Banyule.

## SOUTH EASTERN MELBOURNE MEDICARE LOCAL

The South Eastern Melbourne Medicare Local has the highest CHB prevalence of any Medicare Local in Victoria (1.54%). However of the estimated 7,100 people living with CHB in the South Eastern Medicare Local, half reside in the Greater Dandenong LGA, where it is estimated that around one in every 40 people (2.5%) in the Greater Dandenong area are living with CHB. By comparison, the Casey LGA has slightly higher CHB prevalence than Australia overall, at 1.25%; and the Cardinia LGA has a substantially lower burden of CHB.

The majority of people in the South Eastern Medicare Local with CHB were born overseas (78.6%), with the predominant countries being Vietnam, Cambodia, Afghanistan, China, and Sri Lanka. An estimated 1.2% of those affected are Aboriginal and Torres Strait Islander people. Around 7% of people in this Medicare Local speak little or no English.

## SOUTH WESTERN MELBOURNE

An estimated 2,800 people in the South Western Melbourne Medicare Local are living with CHB, or 1.14% of the population. Over two-thirds of those affected were born overseas, with the predominant source countries being China, Vietnam, Philippines, Italy and Ethiopia. An additional 2% of those with CHB are Aboriginal and Torres Strait Islander people. The South Western Melbourne Medicare Local comprises only two LGAs, and CHB prevalence is above the Australian average in both, although slightly higher in Wyndham than in Hobsons Bay. In South Western Melbourne, 4.6% of residents speak little or no English.

# WESTERN AUSTRALIA

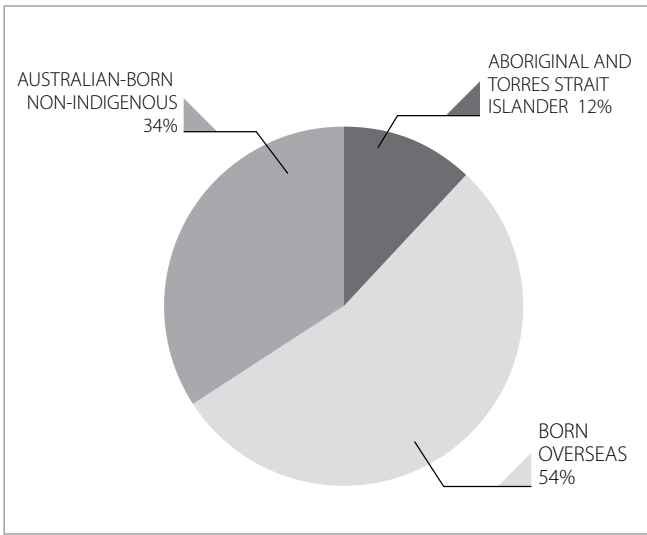
Medicare Local	2011 Population	Number of people living with CHB, prevalence (%)	
<b>Bentley-Armadale</b>	<b>380,516</b>	<b>4,615</b>	<b>1.21%</b>
Fremantle	218,903	2,010	0.92%
Goldfields-Midwest	120,354	1,161	0.96%
<b>Kimberley-Pilbara</b>	<b>94,689</b>	<b>1,476</b>	<b>1.56%</b>
Perth Central & East Metro	429,375	4,262	0.99%
<b>Perth North Metro</b>	<b>483,398</b>	<b>4,954</b>	<b>1.02%</b>
Perth South Coastal	220,974	1,544	0.70%
South West WA	283,241	1,960	0.69%
<b>WESTERN AUSTRALIA</b>	<b>2,239,170</b>	<b>22,055</b>	<b>0.98%</b>

**Predominant countries of birth:**

China
Vietnam
England
Malaysia
Philippines

**Predominant languages other than English:**

Vietnamese
Mandarin
Cantonese
Italian
Arabic



An estimated 22,000 people in Western Australia are living with CHB, or around 1% of the population, similar to the national average. Although the majority of people with CHB in the state live in the metropolitan Perth Medicare Locals - Bentley-Armadale, Perth North and Perth Central & East Metro Locals make up nearly two-thirds of the total - the highest prevalence local is Kimberley-Pilbara; however the determinants of prevalence vary by area.

## BENTLEY-ARMADALE

An estimated 4,600 people with CHB live in the Bentley-Armadale Medicare Local, 1.21% of the total population. The majority was born overseas (67.6%), with the predominant countries being China, Malaysia, Philippines, Vietnam, and Afghanistan. A further 6% of people living with CHB in the Bentley-Armadale Medicare Local are Aboriginal and Torres Strait Islander, and overall 2.8% of the population report speaking little or no English. The largest burden of CHB in the Bentley-Armadale Medicare Local is in the Canning and Gosnells LGAs, which both have above-average prevalence, and together are home to 56% of people living with CHB in this Medicare Local.

## KIMBERLEY-PILBARA

A higher proportion of the population of the Kimberley-Pilbara Medicare Local is living with CHB than in any other Medicare Local in the state. More than half of people with CHB in this local are Aboriginal and Torres Strait Islander people, and an additional 22.5% were born overseas, with the major countries including Afghanistan, Philippines and China. There is high diversity in the prevalence of CHB according to area within the Kimberley-Pilbara Medicare Local, with the highest prevalence areas being the Kimberley regions of Halls Creek and Derby. An estimated 1.7% of the population in the Kimberley-Pilbara Medicare Local speaks little or no English.

## PERTH NORTH METRO

More people with CHB live in the Perth North Metro Medicare Local than any other in WA, where nearly 5,000 people are estimated to be affected. As with the Bentley-Armadale Medicare Local, the majority of people with CHB were born overseas, however the most common country of birth is Vietnam, followed by China, Italy, Malaysia and Kenya. Another 4.1% of those living with CHB are Aboriginal and Torres Strait Islander people. In this Medicare Local, 3.2% of the population report speaking little or no English. The greatest burden of CHB in Perth North Metro is in the Stirling region, where nearly half of all people with CHB in this Medicare Local reside.

# PRIORITY MEDICARE LOCALS FOR ABORIGINAL AND TORRES STRAIT ISLANDER AUSTRALIANS

An estimated 20,000 Aboriginal and Torres Strait Islander Australians were living with chronic hepatitis B in 2011. Aboriginal and Torres Strait Islander people comprise approximately 10% of all Australians living with CHB, however in several Medicare Locals (particularly with significant rural and remote populations) this proportion is higher.

These estimates are based on the prevalence of CHB of approximately 4% in Aboriginal and Torres Strait Islander people as determined by a recent systematic review<sup>5</sup>. However this figure is averaged across all Indigenous people, with the burden of CHB known to be higher among rural and remote residents than those in urban areas<sup>6</sup>. It is therefore likely that the burden of CHB in these areas will be underestimated.

In 10 of Australia's 61 Medicare Locals, Aboriginal and Torres Strait Islander people represent over one-quarter of all people living with CHB. Together these Medicare Locals comprise one-third of all Aboriginal and Torres Strait Islander Australians with CHB (Table).

**Table: Priority Medicare Locals for Aboriginal and Torres Strait Islander Australians**

Medicare Local	People living with CHB	CHB Prevalence	Aboriginal and Torres Strait Islander people with CHB	Proportion of people with CHB who are Aboriginal and Torres Strait Islander people
Northern Territory	3,555	1.68%	2,101	59.2%
Far West NSW	408	1.12%	240	58.9%
Central and North West QLD	528	1.24%	298	56.5%
Kimberley-Pilbara (WA)	1,476	1.56%	782	53.0%
Far North Queensland	3,042	1.20%	1,426	46.9%
New England (NSW)	1,450	0.82%	584	40.3%
Western NSW	1,956	0.80%	755	38.6%
Goldfields-Midwest (WA)	1,161	0.96%	444	38.2%
Country North SA	1,294	0.68%	364	28.1%
Townsville-Mackay (QLD)	3,076	0.79%	835	27.1%
<b>AUSTRALIA</b>	<b>218,567</b>	<b>1.02%</b>	<b>22,055</b>	<b>9.3%</b>

# APPENDIX 1: ESTIMATES OF CULTURAL AND LINGUISTIC DIVERSITY IN PEOPLE LIVING WITH CHB BY STATE AND TERRITORY AND MEDICARE LOCAL, 2011

Medicare Local (ML)	Chronic hepatitis B			Top Languages, by state
	Number living with CHB	Proportion Aboriginal and Torres Strait Islander	Proportion born overseas	
AUSTRALIAN CAPITAL TERRITORY	3,603	5.3%	60.1%	Mandarin (23.1%), Vietnamese (21.0%), Cantonese (13.0%), Arabic (4.4%), Korean (3.7%)
NEW SOUTH WALES	77,076	8.3%	60.4%	Mandarin (23.7%), Cantonese (21.9%), Vietnamese (20.3%), Greek (3.4%), Korean (3.2%)
Central Coast NSW	2,069	16.1%	26.4%	
Eastern Sydney	4,434	2.7%	70.0%	
Far West NSW	408	58.9%	7.1%	
Hunter	4,444	19.3%	22.2%	
Illawarra-Shoalhaven	2,853	14.0%	38.9%	
Inner West Sydney	9,172	2.0%	78.8%	
Murrumbidgee	1,293	23.7%	21.9%	
Nepean-Blue Mountains	2,552	13.3%	38.1%	
New England	1,450	40.3%	12.5%	
North Coast NSW	3,265	24.4%	19.56%	
Northern Sydney	5,129	0.8%	76.3%	
South Eastern Sydney	5,746	2.0%	72.4%	
South Western Sydney	13,513	3.6%	76.5%	
Southern NSW	1,271	16.5%	26.0%	
Sydney North Shore And Beaches	4,048	1.2%	63.4%	
Western NSW	1,956	38.6%	12.4%	
Western Sydney	12,644	3.4%	77.1%	
NORTHERN TERRITORY	3,555	59.2%	21.5%	Mandarin (16.9%), Vietnamese (12.9%), Greek (8.1%), Cantonese (5.7%)



QUEENSLAND	37,427	15.4%	42.7%	Mandarin (23.5%), Vietnamese (21.8%), Cantonese (11.3%), Korean (3.8%), Arabic (3.7%)
Central and North West QLD	528	56.4%	12.8%	
Central QLD	1,542	24.8%	22.1%	
Darling Downs-South West QLD	2,092	24.6%	21.9%	
Far North QLD	3,042	46.9%	24.3%	
Gold Coast	3,873	6.1%	47.5%	
Metro North Brisbane	6,770	7.9%	46.9%	
Metro South Brisbane	9,327	6.8%	61.2%	
Sunshine Coast	2,165	10.0%	29.9%	
Townsville-Mackay	3,076	27.1%	23.6%	
West Moreton-Oxley	3,529	10.8%	54.1%	
Wide Bay	1,335	19.8%	22.5%	
SOUTH AUSTRALIA	14,442	7.8%	53.1%	
Central Adelaide and Hills	5,388	4.3%	65.3%	
Country North SA	1,294	28.1%	16.0%	
Country South SA	882	14.5%	27.8%	
Northern Adelaide	4,036	6.7%	60.1%	
Southern Adelaide-Fleurieu	2,753	5.4%	45.1%	
TASMANIA	3,513	20.7%	25.8%	Mandarin (17.7%), Nepali (12.1%), Cantonese (8.1%), Arabic (6.8%), Tigrinya (5.4%)
VICTORIA	56,836	2.5%	64.6%	Vietnamese (25.3%), Mandarin (19.4%), Cantonese (13.3%), Greek (6.9%), Italian (5.2%)
Barwon	1,704	4.8%	34.9%	
Bayside	5,634	0.8%	65.8%	
Eastern Melbourne	3,205	2.2%	54.1%	
Frankston-Mornington Peninsula	1,762	4.2%	38.9%	
Gippsland	1,544	9.2%	26.4%	
Goulburn Valley	1,039	10.9%	33.8%	
Grampians	1,148	7.4%	21.4%	
Great South Coast	541	9.5%	15.8%	
Hume	1,129	10.4%	21.4%	
Inner East Melbourne	8,946	0.4%	78.8%	
Inner North West Melbourne	5,582	1.1%	73.5%	
Loddon-Mallee-Murray	1,231	11.7%	18.5%	
Lower Murray	563	19.7%	34.6%	

Macedon Ranges & North Western Melb.	6,767	1.3%	77.2%	Vietnamese (22.4%), Mandarin (20.3%), Cantonese (11.2%), Italian (5.1%), Arabic (3.9%)
Northern Melbourne	6,616	2.2%	67.2%	
South Eastern Melbourne	7,122	1.2%	78.6%	
South Western Melbourne	2,787	2.0%	68.8%	
WESTERN AUSTRALIA	22,061	11.7%	54.1%	
Bentley-Armadale	4,615	6.0%	67.6%	
Fremantle	2,010	4.8%	59.7%	
Goldfields-Midwest	1,161	38.2%	22.8%	
Kimberley-Pilbara	1,476	53.0%	22.5%	
Perth Central & East Metro	4,262	5.0%	65.3%	
Perth North Metro	4,954	4.1%	65.3%	
Perth South Coastal	1,544	11.0%	39.2%	
South West WA	1,960	16.6%	29.7%	
AUSTRALIA TOTAL	218,567	9.3%	56.1%	Vietnamese (22.3%), Mandarin (21.4%), Cantonese (16.2%), Greek (4.4%), Italian (3.7%)

## APPENDIX 2: ESTIMATES OF LINGUISTIC DIVERSITY BY STATE AND TERRITORY AND IN PRIORITY MEDICARE LOCALS, 2011

Medicare Local (ML)	Population	Proportion who speak little or no English
AUSTRALIAN CAPITAL TERRITORY	357,219	2.3%
NEW SOUTH WALES	6,917,655	4.1%
Eastern Sydney	355,597	3.6%
Far West NSW	36,308	0.4%
Inner West Sydney	548,631	8.6%
Northern Sydney	380,766	4.4%
South Eastern Sydney	442,863	5.4%
South Western Sydney	840,610	9.5%
Western Sydney	810,727	7.0%
NORTHERN TERRITORY	211,943	5.5%
QUEENSLAND	4,332,738	1.5%
Central and North West QLD	42,556	0.4%
Far North QLD	252,456	2.1%
Metro South Brisbane	879,977	2.7%
SOUTH AUSTRALIA	1,596,571	2.6%
Central Adelaide and Hills	493,517	3.9%
Northern Adelaide	388,894	3.4%
TASMANIA	495,352	0.7%
VICTORIA	5,354,039	4.0%
Inner East Melbourne	591,099	3.1%
Inner North West Melbourne	416,110	6.0%
Macedon Ranges & North Western Melb.	458,714	7.8%
Northern Melbourne	602,401	6.4%
South Eastern Melbourne	462,162	7.1%
South Western Melbourne	245,440	4.6%
WESTERN AUSTRALIA	2,239,172	2.2%
Bentley-Armadale	380,516	2.8%
Kimberley-Pilbara	94,689	1.7%
Perth North Metro	483,398	3.2%
<b>AUSTRALIA TOTAL</b>	<b>21,719,507</b>	<b>3.2%</b>

## APPENDIX 3: ESTIMATES OF HEPATITIS B PREVALENCE BY STATE AND TERRITORY, MEDICARE LOCAL AND LOCAL GOVERNMENT AREA, 2011

Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
<b>AUSTRALIAN CAPITAL TERRITORY</b>			
Australian Capital Territory	357,219	3,603	1.01%
<b>NEW SOUTH WALES</b>			
<b>CENTRAL COAST NSW</b>	<b>312,187</b>	<b>2,069</b>	<b>0.66%</b>
Gosford	162,441	1,072	0.66%
Wyong	149,746	997	0.67%
<b>EASTERN SYDNEY</b>	<b>355,597</b>	<b>4,433</b>	<b>1.25%</b>
Botany Bay	39,353	600	1.53%
Randwick	128,987	1,755	1.36%
<i>Sydney</i>	<i>71,613</i>	<i>1,091</i>	<i>1.52%</i>
Waverley	63,485	565	0.89%
Woollahra	52,159	422	0.81%
<b>FAR WEST NSW</b>	<b>36,308</b>	<b>408</b>	<b>1.12%</b>
Bourke	2,866	44	1.55%
Brewarrina	1,766	44	2.47%
Broken Hill	18,519	140	0.75%
Central Darling	1,991	37	1.84%
Cobar	4,713	46	0.98%
Walgett	6,453	97	1.50%
<b>HUNTER</b>	<b>667,076</b>	<b>4,444</b>	<b>0.67%</b>
Cessnock	50,840	334	0.66%
Dungog	8,316	47	0.57%
Gloucester	4,879	31	0.64%
Great Lakes	34,431	223	0.65%
Greater Taree	46,541	318	0.68%
Muswellbrook	15,793	110	0.70%
Singleton	22,695	144	0.63%
Upper Hunter Shire	13,751	88	0.64%
Lake Macquarie	189,007	1,182	0.63%
Maitland	67,479	426	0.63%
Newcastle	148,536	1,123	0.76%
Port Stephens	64,808	418	0.65%
<b>ILLAWARRA-SHOALHAVEN</b>	<b>368,820</b>	<b>2,853</b>	<b>0.77%</b>
Kiama	19,984	114	0.57%
Shellharbour	63,604	427	0.67%
Shoalhaven	92,811	651	0.70%
Wollongong	192,421	1,661	0.86%
<b>INNER WEST SYDNEY</b>	<b>548,631</b>	<b>9,172</b>	<b>1.67%</b>
Ashfield	41,213	773	1.88%
Burwood	32,425	772	2.38%
Canada Bay	75,761	1,061	1.40%
Canterbury	137,454	2,894	2.11%
Leichhardt	52,197	432	0.83%
Marrickville	76,500	1,009	1.32%
Strathfield	35,188	717	2.04%
<i>Sydney</i>	<i>97,893</i>	<i>1,514</i>	<i>1.55%</i>

Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
<b>MURRUMBIDGEE</b>	<b>178,985</b>	<b>1,293</b>	<b>0.72%</b>
Bland	5,862	36	0.61%
Boorowa	2,399	13	0.55%
Carrathool	2,584	19	0.72%
Coolamon	4,100	22	0.55%
Cootamundra	7,336	46	0.63%
Griffith	24,364	223	0.92%
Gundagai	3,663	20	0.55%
Harden	3,585	23	0.64%
Hay	2,958	20	0.69%
<i>Jerilderie</i>	274	-	-
Junee	5,878	45	0.76%
<i>Lachlan</i>	1,787	18	1.03%
Leeton	11,038	82	0.74%
Lockhart	2,995	16	0.55%
Murrumbidgee	2,261	20	0.88%
Narrandera	5,900	50	0.85%
Temora	5,776	31	0.54%
Tumbarumba	3,357	21	0.61%
Tumut Shire	10,935	72	0.66%
<i>Urana</i>	239	-	-
Wagga Wagga	59,459	439	0.74%
Young	12,235	73	0.60%
<b>NEPEAN-BLUE MOUNTAINS</b>	<b>336,923</b>	<b>2,552</b>	<b>0.76%</b>
Blue Mountains	75,942	477	0.63%
Hawkesbury	62,353	402	0.64%
Lithgow	20,162	139	0.69%
Penrith	178,466	1,535	0.86%
<b>NEW ENGLAND</b>	<b>175,766</b>	<b>1,450</b>	<b>0.83%</b>
Armidale Dumaresq	24,105	222	0.92%
Glen Innes Severn	8,655	59	0.68%
Gunnedah	12,065	106	0.88%
Guyra	4,397	36	0.81%
Gwydir	4,964	28	0.57%
Inverell	16,077	116	0.72%
Liverpool Plains	7,480	64	0.85%
Moree Plains	13,428	164	1.22%
Narrabri	12,925	111	0.86%
Tamworth Regional	56,291	435	0.77%
<i>Tenterfield</i>	6,326	46	0.73%
Uralla	6,032	41	0.68%
Walcha	3,021	22	0.73%
<b>NORTH COAST NSW</b>	<b>478,169</b>	<b>3,265</b>	<b>0.68%</b>
Ballina	39,272	243	0.62%
Bellingen	12,515	75	0.60%
Byron	29,207	185	0.63%
Clarence Valley	49,666	338	0.68%
Coffs Harbour	68,415	503	0.73%
Kempsey	28,134	247	0.88%
Kyogle	9,227	62	0.67%
Lismore	42,764	298	0.70%
Nambucca	18,645	138	0.74%
Port Macquarie-Hastings	72,698	452	0.62%

Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
Richmond Valley	22,038	155	0.70%
<i>Tenterfield</i>	483	-	-
Tweed	85,105	565	0.66%
<b>NORTHERN SYDNEY</b>	<b>380,766</b>	<b>5,129</b>	<b>1.35%</b>
Hornsby	156,850	1,988	1.27%
Hunters Hill	13,216	123	0.93%
<i>Ku-ring-gai</i>	107,660	1,179	1.10%
Ryde	103,040	1,839	1.78%
<b>SOUTH EASTERN SYDNEY</b>	<b>442,863</b>	<b>5,746</b>	<b>1.30%</b>
Hurstville	78,855	1,626	2.06%
Kogarah	55,805	1,084	1.94%
Rockdale	97,340	1,564	1.61%
Sutherland Shire	210,863	1,472	0.70%
<b>SOUTH WESTERN SYDNEY</b>	<b>840,610</b>	<b>13,513</b>	<b>1.61%</b>
Bankstown	182,352	3,167	1.74%
Camden	56,720	401	0.71%
Campbelltown	145,970	1,694	1.16%
Fairfield	187,768	5,061	2.70%
Liverpool	180,142	2,656	1.47%
Wingecarribee	44,397	269	0.61%
Wollondilly	43,261	265	0.61%
<b>SOUTHERN NSW</b>	<b>189,416</b>	<b>1,271</b>	<b>0.67%</b>
Bega Valley	31,950	194	0.61%
Bombala	2,407	13	0.54%
Cooma-Monaro	9,773	64	0.65%
Eurobodalla	35,739	253	0.71%
Goulburn Mulwaree	27,481	180	0.65%
Palerang	14,351	85	0.59%
Queanbeyan	37,994	308	0.81%
Snowy River	7,509	46	0.61%
Upper Lachlan Shire	7,192	38	0.53%
Yass Valley	15,020	90	0.60%
<b>SYDNEY NORTH SHORE AND BEACHES</b>	<b>427,889</b>	<b>4,048</b>	<b>0.95%</b>
<i>Ku-ring-gai</i>	1,639	18	1.10%
Lane Cove	31,510	323	1.03%
Manly	39,748	298	0.75%
Mosman	27,452	213	0.78%
North Sydney	62,290	632	1.01%
Pittwater	57,154	354	0.62%
Warringah	140,740	1,164	0.83%
Willoughby	67,356	1,046	1.55%
<b>WESTERN NSW</b>	<b>245,534</b>	<b>1,956</b>	<b>0.80%</b>
Bathurst Regional	38,517	265	0.69%
Blayney	6,985	40	0.57%
Bogan	2,900	28	0.97%
Cabonne	12,823	73	0.57%
Coonamble	4,032	60	1.49%
Cowra	12,146	88	0.72%
Dubbo	38,808	368	0.95%
Forbes	9,169	74	0.80%
Gilgandra	4,368	39	0.90%
<i>Lachlan</i>	4,689	48	1.03%
Mid-Western Regional	22,320	143	0.64%

Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
Narromine	6,584	74	1.13%
Oberon	5,041	31	0.61%
Orange	38,056	284	0.75%
Parkes	14,592	116	0.79%
Warren	2,758	26	0.94%
Warrumbungle Shire	9,588	77	0.80%
Weddin	3,665	19	0.53%
Wellington	8,493	102	1.20%
<b>WESTERN SYDNEY</b>	<b>810,727</b>	<b>12,644</b>	<b>1.56%</b>
Auburn	73,738	2,026	2.75%
Blacktown	301,099	4,221	1.40%
Holroyd	99,161	1,509	1.52%
Parramatta	166,858	2,881	1.73%
The Hills Shire^	169,871	2,007	1.18%
<b>Other (Unincorporated or No Usual Address)</b>	<b>14,085</b>	<b>157</b>	<b>1.11%</b>
<b>NEW SOUTH WALES TOTAL</b>	<b>6,917,655</b>	<b>77,076</b>	<b>1.11%</b>
<b>NORTHERN TERRITORY</b>			
Alice Springs	25,187	345	1.37%
Barkly	6,824	195	2.86%
Belyuen	180	7	3.66%
Central Desert	3,719	117	3.15%
Coomalie	1,104	15	1.36%
Darwin	72,931	982	1.35%
East Arnhem	9,102	319	3.50%
Katherine	9,186	135	1.47%
Litchfield	18,993	173	0.91%
MacDonnell	5,832	192	3.30%
Palmerston	27,705	304	1.10%
Roper Gulf	6,120	196	3.20%
Tiwi Islands	2,578	87	3.39%
Victoria Daly	5,922	184	3.11%
Wagait	370	-	-
West Arnhem	6,232	190	3.04%
<b>Unincorporated NT</b>	<b>8,088</b>	<b>93</b>	<b>1.15%</b>
<b>No Usual Address</b>	<b>1,870</b>	<b>18</b>	<b>0.94%</b>
<b>NORTHERN TERRITORY TOTAL</b>	<b>211,943</b>	<b>3,554</b>	<b>1.68%</b>
<b>QUEENSLAND</b>			
<b>CENTRAL AND NORTH WEST QUEENSLAND</b>	<b>42,556</b>	<b>528</b>	<b>1.24%</b>
Barcaldine	3,214	22	0.69%
Barcoo	352	-	-
Blackall-Tambo	2,199	14	0.63%
Boulia	479	9	1.81%
Burke	512	8	1.52%
Carpentaria	2,053	37	1.81%
Cloncurry	3,228	43	1.32%
Diamantina	282	-	-
Doomadgee	1,289	46	3.55%
Longreach	4,187	31	0.74%
McKinlay	1,048	7	0.63%
Mornington	1,140	39	3.39%

Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
Mount Isa	21,238	257	1.21%
Winton	1,335	11	0.81%
<b>CENTRAL QUEENSLAND</b>	<b>204,864</b>	<b>1,542</b>	<b>0.75%</b>
<i>Banana</i>	<i>13,514</i>	<i>100</i>	<i>0.74%</i>
Central Highlands	28,715	202	0.70%
<i>Gladstone</i>	<i>52,355</i>	<i>362</i>	<i>0.69%</i>
Rockhampton	109,337	844	0.77%
Woorabinda	943	34	3.57%
<b>DARLING DOWNS-SOUTH WEST QUEENSLAND</b>	<b>286,125</b>	<b>2,092</b>	<b>0.73%</b>
Balonne	4,718	51	1.08%
<i>Banana</i>	<i>940</i>	<i>7</i>	<i>0.74%</i>
Bulloo	405	-	-
Cherbourg	1,223	45	3.72%
Goondiwindi	10,627	72	0.68%
Maranoa	13,074	104	0.80%
Murweh	4,616	51	1.09%
Paroo	1,857	28	1.51%
Quilpie	973	8	0.82%
South Burnett	31,029	204	0.66%
Southern Downs	33,883	219	0.65%
Toowoomba	151,189	1,089	0.72%
Western Downs	31,591	210	0.67%
<b>FAR NORTH QUEENSLAND</b>	<b>252,456</b>	<b>3,042</b>	<b>1.20%</b>
Aurukun	1,295	46	3.53%
Cairns	156,171	1,648	1.05%
<i>Cassowary Coast</i>	<i>25,810</i>	<i>238</i>	<i>0.92%</i>
Cook	4,153	77	1.85%
Croydon	314	-	-
Etheridge	893	5	0.59%
Hope Vale	985	35	3.60%
Kowanyama	1,030	36	3.49%
Lockhart River	482	17	3.45%
Mapoon	264	9	3.45%
Napranum	857	31	3.65%
Northern Peninsula Area	2,298	76	3.31%
Pormpuraaw	662	23	3.49%
Tablelands	43,728	417	0.95%
Torres	3,259	90	2.76%
Torres Strait Island	4,250	149	3.50%
Weipa	3,332	42	1.25%
Wujal Wujal	267	10	3.59%
Yarrabah	2,406	89	3.71%
<b>GOLD COAST</b>	<b>507,537</b>	<b>3,873</b>	<b>0.76%</b>
Gold Coast	494,504	3,794	0.77%
<i>Scenic Rim</i>	<i>13,033</i>	<i>78</i>	<i>0.60%</i>
<b>METRO NORTH BRISBANE</b>	<b>855,073</b>	<b>6,770</b>	<b>0.79%</b>
<i>Brisbane</i>	<i>472,931</i>	<i>4,179</i>	<i>0.88%</i>
Moreton Bay	378,047	2,554	0.68%
<i>Somerset</i>	<i>4,095</i>	<i>36</i>	<i>0.88%</i>
<b>METRO SOUTH BRISBANE</b>	<b>879,977</b>	<b>9,327</b>	<b>1.06%</b>
<i>Brisbane</i>	<i>450,735</i>	<i>5,670</i>	<i>1.26%</i>



Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
Logan	278,052	2,649	0.95%
Redland	138,668	924	0.67%
<i>Scenic Rim</i>	12,522	84	0.67%
<b>SUNSHINE COAST</b>	<b>352,658</b>	<b>2,165</b>	<b>0.61%</b>
Gympie	45,748	285	0.62%
Sunshine Coast	306,910	1,880	0.61%
<b>TOWNSVILLE-MACKAY</b>	<b>389,185</b>	<b>3,076</b>	<b>0.79%</b>
Burdekin	17,361	127	0.73%
<i>Cassowary Coast</i>	1,857	16	0.85%
Charters Towers	12,169	95	0.78%
Flinders	1,791	12	0.69%
Hinchinbrook	11,568	89	0.77%
Isaac	22,587	150	0.66%
Mackay	112,797	810	0.72%
Palm Island	2,340	84	3.61%
Richmond	827	6	0.67%
Townsville	174,461	1,449	0.83%
Whitsunday	31,427	238	0.76%
<b>WEST MORETON-OXLEY</b>	<b>348,487</b>	<b>3529</b>	<b>1.01%</b>
<i>Brisbane</i>	118,179	1,689	1.43%
Ipswich	166,904	1,433	0.86%
Lockyer Valley	34,956	250	0.72%
<i>Scenic Rim</i>	10,902	61	0.56%
<i>Somerset</i>	17,546	96	0.55%
<b>WIDE BAY</b>	<b>200,803</b>	<b>1,335</b>	<b>0.66%</b>
Bundaberg	89,813	597	0.66%
Fraser Coast	95,311	625	0.66%
<i>Gladstone</i>	5,537	34	0.61%
North Burnett	10,142	79	0.78%
<b>Other (Unincorporated or No Usual Address)</b>	<b>13,016</b>	<b>120</b>	<b>0.92%</b>
<b>TOTAL QUEENSLAND</b>	<b>4,332,737</b>	<b>37,426</b>	<b>0.86%</b>
<b>SOUTH AUSTRALIA</b>			
<b>CENTRAL ADELAIDE AND HILLS</b>	<b>493,517</b>	<b>5,388</b>	<b>1.09%</b>
Adelaide	19,639	348	1.77%
Adelaide Hills	38,628	224	0.58%
Burnside	42,193	420	1.00%
Campbelltown	48,163	563	1.17%
Charles Sturt	104,985	1,197	1.14%
Mount Barker	29,766	159	0.53%
Norwood Payneham St Peters	34,886	382	1.09%
<i>Port Adelaide Enfield</i>	56,500	812	1.44%
Prospect	19,955	205	1.03%
Unley	36,839	339	0.92%
Walkerville	7,001	68	0.98%
West Torrens	54,962	670	1.22%
<b>COUNTRY NORTH SA</b>	<b>193,352</b>	<b>1,341</b>	<b>0.69%</b>
Anangu Pitjantjatjara	2,439	82	3.34%
Barossa	22,167	111	0.50%
Barunga West	2,456	13	0.52%
Ceduna	3,480	48	1.37%
Clare and Gilbert Valleys	8,750	44	0.51%
Cleve	1,733	8	0.46%

Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
Coober Pedy	1,694	24	1.41%
Copper Coast	12,947	71	0.54%
Elliston	1,047	5	0.50%
Flinders Ranges	1,700	14	0.83%
Franklin Harbour	1,271	7	0.55%
Goyder	4,163	22	0.53%
Kimba	1,089	5	0.47%
Kingston	2,278	11	0.50%
Light	13,783	71	0.51%
Lower Eyre Peninsula	4,915	28	0.57%
Maralinga Tjarutja	75	-	-
Northern Areas	4,504	22	0.50%
Orroroo/Carrieton	873	5	0.52%
Peterborough	1,731	11	0.65%
Port Augusta	13,986	158	1.13%
Port Lincoln	14,086	97	0.69%
Port Pirie City and Districts	17,332	106	0.61%
Roxby Downs	4,702	33	0.71%
Streaky Bay	2,101	11	0.52%
Tumby Bay	2,587	12	0.46%
Wakefield	6,660	38	0.58%
Whyalla	22,089	159	0.72%
Wudinna	1,252	6	0.50%
Yorke Peninsula	11,024	64	0.58%
Unincorporated SA	4,438	53	1.19%
<b>COUNTRY SOUTH SA</b>	<b>130,720</b>	<b>882</b>	<b>0.67%</b>
Berri and Barmera	10,582	77	0.72%
Grant	7,855	40	0.51%
Karoonda East Murray	1,032	5	0.53%
Kingston	2,278	11	0.50%
Loxton Waikerie	11,287	68	0.60%
Mid Murray	8,136	48	0.59%
Mount Gambier	25,249	159	0.63%
Murray Bridge	19,742	172	0.87%
Naracoorte and Lucindale	8,115	64	0.79%
Renmark Paringa	9,244	73	0.79%
Robe	1,399	8	0.55%
Southern Mallee	2,101	12	0.58%
Tatiara	6,553	43	0.66%
The Coorong	5,523	38	0.69%
Wattle Range	11,624	63	0.54%
<b>NORTHERN ADELAIDE</b>	<b>388,894</b>	<b>4,036</b>	<b>1.04%</b>
Gawler	20,537	123	0.60%
Mallala	8,346	52	0.63%
Playford	79,118	704	0.89%
<i>Port Adelaide Enfield</i>	<i>56,316</i>	<i>863</i>	<i>1.53%</i>
Salisbury	129,109	1,592	1.23%
Tea Tree Gully	95,468	701	0.73%
<b>SOUTHERN ADELAIDE-FLEURIEU</b>	<b>386,422</b>	<b>2,753</b>	<b>0.71%</b>
Alexandrina	23,699	130	0.55%
Holdfast Bay	34,604	238	0.69%
Kangaroo Island	4,415	25	0.56%
Marion	82,992	757	0.91%

Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
Mitcham	62,899	495	0.79%
Onkaparinga	159,576	1,006	0.63%
Victor Harbor	13,841	80	0.57%
Yankalilla	4,396	23	0.52%
<b>Other (Unincorporated or No Usual Address)</b>	<b>7506</b>	<b>87</b>	<b>1.16%</b>
<b>TOTAL SOUTH AUSTRALIA</b>	<b>1,596,570</b>	<b>14,442</b>	<b>0.90%</b>
<b>TASMANIA</b>			
<b>TASMANIA</b>	<b>495,351</b>	<b>3,511</b>	<b>0.71%</b>
Break O'Day	6,194	41	0.66%
Brighton	15,460	114	0.74%
Burnie	19,331	134	0.69%
Central Coast	21,352	145	0.68%
Central Highlands	2,259	15	0.65%
Circular Head	7,977	71	0.88%
Clarence	51,854	328	0.63%
Derwent Valley	9,706	58	0.60%
Devonport	24,618	166	0.68%
Dorset	6,827	39	0.58%
Flinders	775	8	1.06%
George Town	6,636	42	0.63%
Glamorgan/Spring Bay	4,191	27	0.64%
Glenorchy	44,657	355	0.79%
Hobart	48,705	442	0.91%
Huon Valley	15,138	122	0.80%
Kentish	6,085	38	0.63%
King Island	1,564	10	0.62%
Kingborough	33,890	230	0.68%
Latrobe	9,833	61	0.63%
Launceston	64,195	480	0.75%
Meander Valley	18,889	109	0.57%
Northern Midlands	12,228	69	0.56%
Sorell	13,197	81	0.61%
Southern Midlands	6,046	37	0.61%
Tasman	2,355	16	0.70%
Waratah/Wynyard	13,708	96	0.70%
West Coast	4,680	33	0.72%
West Tamar	21,817	136	0.62%
<b>TOTAL TASMANIA</b>	<b>495,352</b>	<b>3,513</b>	<b>0.71%</b>
<b>VICTORIA</b>			
<b>BARWON</b>	<b>270,938</b>	<b>1,704</b>	<b>0.63%</b>
Colac-Otway	20,347	112	0.55%
<i>Golden Plains</i>	<i>10,849</i>	<i>54</i>	<i>0.50%</i>
Greater Geelong	210,875	1,386	0.66%
Queenscliffe	2,999	15	0.51%
Surf Coast	25,868	136	0.52%
<b>BAYSIDE</b>	<b>556,048</b>	<b>5,634</b>	<b>1.01%</b>
Bayside	91,813	683	0.74%
Glen Eira	131,013	1,498	1.14%
Kingston	142,425	1,535	1.08%
<i>Melbourne</i>	<i>6,284</i>	<i>116</i>	<i>1.85%</i>
Port Phillip	91,369	837	0.92%

Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
Stonnington	93,144	965	1.04%
<b>EASTERN MELBOURNE</b>	<b>397,679</b>	<b>3,205</b>	<b>0.81%</b>
Knox	149,300	1,507	1.01%
Maroondah	103,840	847	0.82%
Yarra Ranges	144,539	851	0.59%
<b>FRANKSTON-MORNINGTON PENINSULA</b>	<b>271,063</b>	<b>1,762</b>	<b>0.65%</b>
Frankston	126,456	908	0.72%
Mornington Peninsula	144,607	853	0.60%
<b>GIPPSLAND</b>	<b>255,720</b>	<b>1,544</b>	<b>0.60%</b>
Bass Coast	29,616	171	0.58%
Baw Baw	42,863	231	0.54%
East Gippsland	42,193	262	0.62%
Latrobe	72,395	486	0.67%
South Gippsland	27,210	146	0.54%
Wellington	41,443	248	0.60%
<b>GOULBURN VALLEY</b>	<b>145,753</b>	<b>1,039</b>	<b>0.71%</b>
Greater Shepparton	60,448	548	0.91%
Mitchell	34,637	208	0.60%
Moira	28,124	160	0.57%
Murrindindi	13,057	73	0.56%
Strathbogie	9,487	51	0.54%
<b>GRAMPIANS</b>	<b>204,447</b>	<b>1,148</b>	<b>0.56%</b>
Ararat	11,183	60	0.54%
Ballarat	93,501	555	0.59%
Central Goldfields	12,495	65	0.52%
<i>Golden Plains</i>	<i>7,917</i>	<i>41</i>	<i>0.51%</i>
Hepburn	14,368	77	0.54%
Hindmarsh	5,797	32	0.56%
Horsham	19,279	106	0.55%
<i>Moorabool</i>	<i>10,056</i>	<i>54</i>	<i>0.54%</i>
Northern Grampians	11,844	64	0.54%
Pyrenees	6,668	35	0.52%
West Wimmera	4,250	21	0.50%
Yarriambiack	7,089	38	0.53%
<b>GREAT SOUTH COAST</b>	<b>100,298</b>	<b>541</b>	<b>0.54%</b>
Corangamite	16,376	80	0.49%
Glenelg	19,576	110	0.56%
Moyne	15,955	80	0.50%
Southern Grampians	16,362	87	0.53%
Warrnambool	32,029	183	0.57%
<b>HUME</b>	<b>195,662</b>	<b>1,129</b>	<b>0.58%</b>
Albury*	47,809	305	0.64%
Alpine	11,879	70	0.59%
Benalla	13,649	75	0.55%
Berrigan*	8,066	45	0.56%
Corowa Shire*	11,001	58	0.53%
Greater Hume Shire*	9,817	53	0.54%
Indigo	15,182	78	0.51%
<i>Jerilderie*</i>	<i>1,221</i>	<i>7</i>	<i>0.60%</i>
Mansfield	7,892	42	0.53%
Towong	5,889	30	0.51%

Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
<i>Urana*</i>	920	-	-
Wangaratta	26,816	147	0.55%
Wodonga	35,520	212	0.60%
<b>INNER EAST MELBOURNE</b>	<b>591,099</b>	<b>8,946</b>	<b>1.51%</b>
Boroondara	159,184	1,861	1.17%
Manningham	111,301	1,658	1.49%
Monash	169,281	3,091	1.83%
Whitehorse	151,333	2,336	1.54%
<b>INNER NORTH WEST MELBOURNE</b>	<b>416,110</b>	<b>5,582</b>	<b>1.34%</b>
<i>Melbourne</i>	87,335	1,721	1.97%
Moonee Valley	107,442	1,238	1.15%
Moreland	147,244	1,674	1.14%
Yarra	74,089	950	1.28%
<b>LODDON-MALLEE-MURRAY</b>	<b>213,085</b>	<b>1,231</b>	<b>0.58%</b>
<i>Buloke</i>	5,521	27	0.48%
Campaspe	36,364	206	0.57%
Conargo*	1,540	8	0.53%
Deniliquin*	7,121	44	0.62%
Gannawarra	10,368	55	0.53%
Greater Bendigo	100,619	567	0.56%
Loddon	7,460	41	0.55%
Mount Alexander	17,592	101	0.57%
Murray*	6,957	41	0.59%
<i>Swan Hill</i>	15,581	117	0.75%
Wakool*	3,962	24	0.60%
<b>LOWER MURRAY</b>	<b>65,612</b>	<b>563</b>	<b>0.86%</b>
Balranald*	2,282	20	0.87%
<i>Buloke</i>	867	-	-
Mildura	50,981	398	0.78%
<i>Swan Hill in LM</i>	4,872	85	1.75%
Wentworth*	6,610	56	0.84%
<b>MACEDON RANGES &amp; NORTH WEST MELB.</b>	<b>458,714</b>	<b>6,767</b>	<b>1.48%</b>
Brimbank	182,733	3,711	2.03%
<i>Hume</i>	35,162	212	0.60%
Macedon Ranges	41,859	226	0.54%
Maribyrnong	71,633	1,452	2.03%
Melton	109,258	1,131	1.04%
<i>Moorabool</i>	18,069	35	0.19%
<b>NORTHERN MELBOURNE</b>	<b>602,401</b>	<b>6,616</b>	<b>1.10%</b>
Banyule	118,305	1,117	0.94%
Darebin	136,471	1,874	1.37%
<i>Hume in Northern Melbourne</i>	132,399	1,419	1.07%
Nillumbik	60,346	349	0.58%
Whittlesea	154,880	1,856	1.20%
<b>SOUTH EASTERN MELBOURNE</b>	<b>462,162</b>	<b>7,122</b>	<b>1.54%</b>
Cardinia	74,178	459	0.62%
Casey	252,380	3,147	1.25%
Greater Dandenong	135,604	3,516	2.59%
<b>SOUTH WESTERN MELBOURNE</b>	<b>245,440</b>	<b>2,787</b>	<b>1.14%</b>
Hobsons Bay	83,861	891	1.06%
Wyndham	161,579	1,896	1.17%

Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
<b>Other (Unincorporated or No Usual Address)</b>	<b>9,112</b>	<b>109</b>	<b>1.19%</b>
<b>TOTAL VICTORIA</b>	<b>5,345,734</b>	<b>56,730</b>	<b>1.06%</b>
<b>WESTERN AUSTRALIA</b>			
<b>BENTLEY-ARMADALE</b>	<b>380,516</b>	<b>4,615</b>	<b>1.21%</b>
Armadale	62,295	506	0.81%
Belmont	35,206	491	1.40%
Canning	85,513	1,298	1.52%
Gosnells	106,586	1,315	1.23%
Serpentine-Jarrahdale	17,745	107	0.60%
South Perth	40,738	459	1.13%
Victoria Park	32,433	438	1.35%
<b>FREMANTLE</b>	<b>218,903</b>	<b>2,010</b>	<b>0.92%</b>
Cockburn	89,687	834	0.93%
East Fremantle	6,932	44	0.64%
Fremantle	26,583	218	0.82%
Melville	95,701	914	0.96%
<b>GOLDFIELDS-MIDWEST</b>	<b>120,354</b>	<b>1,161</b>	<b>0.96%</b>
Carnamah	546	-	-
Carnarvon	5,785	88	1.52%
Chapman Valley	1,171	7	0.63%
Coolgardie	4,000	41	1.02%
Coorow	1,064	7	0.65%
Cue	271	-	-
Dundas	1,143	13	1.10%
Esperance	13,477	91	0.67%
Exmouth	2,393	15	0.64%
Geraldton-Greenough	36,449	327	0.90%
Irwin	3,568	21	0.58%
Kalgoorlie/Boulder	31,109	296	0.95%
Laverton	1,225	20	1.64%
Leonora	2,512	30	1.18%
Meekatharra	1,377	24	1.77%
Menzies	384	10	2.71%
Mingenew	478	-	-
Morawa	890	7	0.82%
Mount Magnet	642	11	1.78%
Mullewa	712	9	1.32%
Murchison	115	2	1.54%
Ngaanyatjarraku	1,435	47	3.27%
Northampton	3,191	22	0.68%
Perenjori	903	7	0.73%
Ravensthorpe	2,126	13	0.59%
Sandstone	104	1	0.69%
Shark Bay	857	7	0.81%
Three Springs	614	-	-
Upper Gascoyne	251	6	2.34%
Wiluna	1,160	18	1.58%
Yalgoo	402	6	1.37%
<b>KIMBERLEY-PILBARA</b>	<b>94,689</b>	<b>1,476</b>	<b>1.56%</b>
Ashburton	10,001	95	0.95%
Broome	14,998	238	1.59%
Derby-West Kimberley	8,434	290	3.44%

Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
East Pilbara	11,949	154	1.29%
Halls Creek	3,561	112	3.13%
Port Hedland	15,046	185	1.23%
Roebourne	22,899	262	1.15%
Wyndham-East Kimberley	7,801	139	1.79%
<b>PERTH CENTRAL EAST METRO</b>	<b>429,375</b>	<b>4,262</b>	<b>0.99%</b>
Bassendean	14,405	132	0.92%
Bayswater	61,266	809	1.32%
Cambridge	24,965	192	0.77%
Claremont	9,280	73	0.79%
Cottesloe	7,605	50	0.66%
Kalamunda	53,570	409	0.76%
Mosman Park	8,600	75	0.87%
Mundaring	36,532	268	0.73%
Nedlands	20,534	182	0.89%
Peppermint Grove	1,526	11	0.72%
Perth	16,716	245	1.46%
<i>Stirling</i>	<i>16,787</i>	<i>146</i>	<i>0.87%</i>
Subiaco	17,575	195	1.11%
Swan	108,464	1,123	1.04%
Vincent	31,550	352	1.12%
<b>PERTH NORTH METRO</b>	<b>483,398</b>	<b>4,954</b>	<b>1.02%</b>
Joondalup	152,407	1,148	0.75%
<i>Stirling</i>	<i>178,912</i>	<i>2,195</i>	<i>1.23%</i>
Wanneroo	152,079	1,612	1.06%
<b>PERTH SOUTH COASTAL</b>	<b>220,974</b>	<b>1,544</b>	<b>0.70%</b>
Kwinana	29,229	260	0.89%
Mandurah	69,905	471	0.67%
Murray	14,150	89	0.63%
Rockingham	104,108	701	0.67%
Waroona	3,582	24	0.66%
<b>SOUTH WEST WA</b>	<b>283,241</b>	<b>1,960</b>	<b>0.69%</b>
Albany	33,651	235	0.70%
Augusta-Margaret River	11,761	77	0.65%
Beverley	1,567	11	0.73%
Boddington	2,228	17	0.77%
Boyup Brook	1,589	9	0.54%
Bridgetown-Greenbushes	4,318	25	0.57%
Brookton	931	7	0.79%
Broomehill-Tambellup	1,139	7	0.79%
Bruce Rock	975	6	0.65%
Bunbury	31,351	242	0.77%
Busselton	30,330	185	0.61%
Capel	14,637	96	0.66%
Chittering	4,427	26	0.59%
Collie	9,126	60	0.66%
Corrigin	1,063	6	0.55%
Cranbrook	1,080	7	0.67%
Cuballing	871	5	0.53%
Cunderdin	1,314	9	0.67%
Dalwallinu	1,265	9	0.68%
Dandaragan	3,186	22	0.69%

Medicare Local (ML) and Local Government Areas (LGAs)	2011 Population	Number of people living with CHB, prevalence (%)	
Dardanup	12,404	76	0.61%
Denmark	5,193	31	0.60%
Donnybrook-Balingup	5,322	36	0.67%
Dowerin	675	3	0.48%
Dumbleyung	604	3	0.55%
Gingin	4,688	35	0.75%
Gnowangerup	1,270	11	0.84%
Goomalling	985	7	0.73%
Harvey	23,238	151	0.65%
Jerramungup	1,051	5	0.52%
Katanning	4,184	54	1.28%
Kellerberrin	1,180	10	0.81%
Kent	510	-	-
Kojonup	1,981	13	0.66%
Kondinin	1,045	8	0.80%
Koorda	434	-	-
Kulin	826	-	-
Lake Grace	1,360	8	0.58%
Manjimup	9,182	59	0.65%
Merredin	3,282	31	0.96%
Moora	2,476	23	0.93%
Mount Marshall	488	-	-
Mukinbudin	489	-	-
Nannup	1,261	8	0.61%
Narembeen	811	5	0.58%
Narrogin (Shire)	874	5	0.53%
Narrogin (Town)	4,220	39	0.92%
Northam	10,558	84	0.79%
Nungarin	230	-	-
Pingelly	1,163	10	0.88%
Plantagenet	4,882	40	0.82%
Quairading	1,043	10	0.95%
Tammin	403	-	-
Toodyay	4,387	28	0.65%
Trayning	347	-	-
Victoria Plains	896	6	0.64%
Wagin	1,847	12	0.63%
Wandering	437	-	-
West Arthur	868	-	-
Westonia	275	-	-
Wickepin	749	-	-
Williams	912	-	-
Wongan-Ballidu	1,431	10	0.73%
Woodanilling	417	-	-
Wyalkatchem	523	-	-
Yilgarn	1,635	10	0.61%
York	3,396	22	0.65%
<b>Other (Unincorporated or No Usual Address)</b>	<b>7,718</b>	<b>73</b>	<b>0.95%</b>
<b>TOTAL WESTERN AUSTRALIA</b>	<b>2,239,171</b>	<b>22,061</b>	<b>0.99%</b>
<b>TOTAL AUSTRALIA</b>	<b>21,507,719</b>	<b>218,567</b>	<b>1.02%</b>



## APPENDIX 4: METHODOLOGICAL NOTES

### ESTIMATES OF THE NUMBER OF PEOPLE LIVING WITH CHRONIC HEPATITIS B

The number of people living with CHB in each LGA in Australia in 2011 was calculated by estimating the prevalence of chronic infection in both the overall population and in identified higher-risk groups (those born overseas, Aboriginal and Torres Strait Islander people, people who inject drugs, men who have sex with men), multiplied by the estimated population in each of these categories, derived largely from the 2011 Census of Population and Housing. Detailed methodology and sources, including individual seroprevalence estimates and population figures, can be obtained from the paper "The burden of chronic hepatitis B virus infection in Australia, 2011" by MacLachlan *et al* published in the *Australian and New Zealand Journal of Public Health*, 2013<sup>3</sup>.

Also obtained from Census data were the number of people who speak little or no English (those who state their proficiency in English speaking as 'Not Well' or 'Not At All'). Within this subset of people who speak little or no English the most common languages spoken at home by people with CHB was estimated using language spoken by country of birth, with prevalence estimates applied by country of birth. It should be noted that this method assumes that those with CHB are as likely to speak a given language as those without CHB, which may not always be the case.

### MEDICARE LOCAL BOUNDARIES

Medicare Local populations were determined using the constituent Local Government Areas (LGAs) and Statistical Local Areas (SLAs) as defined by Medicare Australia<sup>7</sup>. In those instances where an SLA was split between two Medicare Locals (the case for 12 SLAs in Australia), the population was split proportionally according to the ratio determined by Medicare Australia.

Those LGAs that have been split between multiple Medicare Locals and are listed in Tables under each Medicare Local they are a part of, and are indicated in the table with italics.

Three Medicare Locals cross state jurisdictional boundaries (Lower Murray, Loddon-Mallee-Murray, and Hume), in all cases involving New South Wales LGAs being included in Victoria Medicare Locals. These LGAs are listed under the Victorian Medicare Local they are a part of, indicated with an asterisk; however in calculating state totals only LGAs that are part of that state have been included, regardless of their constituent Medicare Local. State totals also include those populations defined in the Census as No Usual Address or Unincorporated. Due to these factors, Medicare Local figures shown in tables may not match state and territory totals.

### LOW CELL COUNTS

Due to lack of reliability, the number of people living with CHB has been suppressed in tables and prevalence not calculated when the estimate was <5 cases. Calculation of predominant languages spoken by people with CHB was limited by population size, and only those languages estimated to be spoken by more than five people living with CHB have been included in Tables.

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