Submission No 255

INQUIRY INTO HEALTH OUTCOMES AND ACCESS TO HEALTH AND HOSPITAL SERVICES IN RURAL, REGIONAL AND REMOTE NEW SOUTH WALES

Organisation: National Heart Foundation of Australia

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Submission in response to:
Inquiry into health outcomes and access to health and hospital services in rural, regional and remote New South Wales

Dear Sir/Madam

The Heart Foundation welcomes this opportunity to make a submission to the **Inquiry into health outcomes and access to health and hospital services in rural, regional and remote New South Wales.**

The Heart Foundation is Australia's largest charity focused on the heart health of Australians. Our mission is to reduce heart disease and improve the heart health and quality of life of all Australians through our work in Risk Reduction, Support and Care and Research.

Our submission focuses mainly on the following terms of reference (a), (b), (c), (d), (g) and (k) for the Inquiry.

Risk factors, hospitalisation and death due to Cardiovascular disease are higher in regional, rural and remote NSW

Heart Maps - Australia
The Heart Foundation periodically collates data to provide a national picture of heart disease deaths, hospitalisations, and risk factors at a national, state, regional and, where possible, a local government level. This information, known as Heart Maps, is presented as an interactive online tool to show how rates of heart-related admissions, deaths and risk factors compare across Australia. Importantly, it also highlights the link between socioeconomic disadvantage, geographic remoteness and heart health.

Heart Maps highlight areas in greatest need for heart health services and investment. Proving a useful tool for health professionals, health services, local governments, researchers, and policy makers. The overwhelming trend of the Heart Foundation's Heart Maps is that people who live in regional, rural and remote locations in NSW are significantly more likely to have risk factors, be hospitalised for, or die due to CVD.

In early December 2020, the Heart Foundation released an update to its Heart Maps, drawing on the following information:

- Heart disease deaths – Mortality Database (AIHW) 2013 to 2017
- Hospitalisation rates – National Hospitals Morbidity Database (AIHW) (2012-13 to 2017-18)

• Risk factor rates – National Health Survey 2017-18 (ABS)
• Population demographics – 2016 Census (ABS

In this latest edition, the Heart Maps figures show that a great divide exists in heart health in some communities. Australians living in disadvantaged, regional and remote areas fare worse than Australians in metropolitan areas. Compared to major capital cities, heart disease deaths are more than 50% higher in very remote locations, and more than 33% higher in remote areas.

Overall

- Sixteen of the 20 regions with the highest heart disease death rates are in regional and rural Australia, and 17 of the 20 regions with the lowest death rates are in urban areas.
- Risk factors such as high rates of obesity, lack of exercise and high blood pressure are worse in regional Australia compared to major cities.
- Australians living in the most disadvantaged areas are nearly twice as likely to be hospitalised for a heart attack than those in the most advantaged areas

Heart Maps - NSW

The picture for NSW is similar (Appendix 1). Local figures reveal a significant inequality between the NSW residents who are most and least at risk of heart disease, as well as those who are most and least likely to be hospitalised or die from the condition, including from a heart attack. If a person lives in the state's remote south, north or west, or in a disadvantaged part of Sydney, they have a much higher chance of heart disease, which remains the single leading cause of death in NSW.

The profile of the 4 main risk factors for heart disease in rural NSW is alarming:

• **Obesity:** The Far West and Orana region, which includes Dubbo, Broken Hill, Gilgandra and Bourke, has the state's highest rate of obesity (44.4 per cent). This is more than double the rate of North Sydney and Hornsby (18.6 per cent), which has the lowest.

• **Smoking:** Far West and Orana rate highest across the state, with a smoking rate of 21.2 per cent – three times higher than the lowest-ranked region (North Sydney and Hornsby, 7.1 per cent). Of the 10 regions with the highest smoking rates, all but one are in regional and rural areas.

• **Blood pressure:** Across all regions, just over one in five people in NSW has high blood pressure. The rate is highest in the Hunter Valley (excluding Newcastle) and Sydney's Parramatta (both with a rate of 23.9 per cent).

• **Physical inactivity:** Sydney's South West has the highest rate, with more than three in four people not active enough for good health. People living on Sydney's Northern Beaches are the most active in NSW, but even there, more than half are still not active enough.

Heart Maps - Heart attack hospitalisations

Regarding hospitalisations for heart attacks, Heart Maps figures show:

- that the Riverina region – which includes Wagga Wagga, Griffith, Gundagai and Deniliquin – is the state's heart-attack capital. People living in this region are admitted to hospital for heart attacks at a rate of 21.5 per 10,000 people. This is well above the state average (14.5).
- Sydney's Blacktown region is a close second, with a heart-attack hospitalisation rate of 21.1, followed by Sydney's Outer South West (18.7), Richmond - Tweed (18.2) and Coffs Harbour - Grafton (18.1). The lowest rates are found in Sydney's most affluent areas.

Heart Maps - Coronary heart disease rates
Heart Maps data reveals that the New England and North West region, which includes Tamworth, Armidale, Inverell, Moree and Gunnedah, has the state's highest rate of deaths from coronary heart disease (CHD). This region's death rate is 85.8 out of every 100,000 people, well above the state average of 64.5. It is also nearly double the region with the lowest rate, North Sydney and Hornsby. Of the 10 NSW regions with the lowest CHD death rates, all are in metropolitan Sydney

For further information in the updated **Australian Heart Maps visit**
https://www.heartfoundation.org.au/health-professional-tools/australian-heart-maps, which are very pertinent to this Inquiry (see below).

Heart Maps provides data by regions, allowing identification of areas where higher CVD burden and greater need exists. NSW Population health data further clarifies how people living in major cities, inner regional, outer regional and remote areas differ in relation to access to services and health outcomes in relation to CVD. The following sections outlines differences in CVD health outcomes, risk factors, hospitalisations and deaths depending on the remoteness category of where people live in NSW.

Regional, rural and remote health outcomes
People living in regional, rural and remote parts of NSW are almost twice as likely to be hospitalised, or die, due to cardiovascular disease (CVD) than people living in urban areas.

Contributors to poorer health outcomes
The higher rates of CVD and ischaemic heart disease (IHD) among regional, rural and remote populations are due to a combination of factors including: lower socio-economic status, lower access to health services, environments and circumstances that exacerbate modifiable risk factors and reduced access to specialised evidence based treatment, including the lack of prompt surgical interventions in rural hospitals.[1]

Behavioural Risk Factors
CVD is largely preventable, with effective strategies to manage and treat heart disease available. Where we live influences how we live. People living outside major cities are more likely to have higher rates of behavioural risk factors for CVD.[2] While vegetable consumption is similar, Australians living in outer regional and remote areas are almost twice as likely to drink sugar sweetened drinks than those living in major cities (14% vs 8.3%) and less likely to eat fruit.[3] Physical inactivity is also higher among people living in outer regional and remote (41.4%) and inner regional (43.1%) areas when compared to major cities (37.2%).[4] Similar trends also exist for daily smoking, with those living in outer regional and remote (12.3%) and inner regional areas (13.7%) being more likely to smoke than people living in major cities (10.4%).[5]

Clinical Risk Factors
Behavioural risk factors can exacerbate the clinical risk factors for heart disease: obesity, high blood pressure and high blood cholesterol. People living in outer regional and remote areas were more likely to be overweight and obese (69.3%), compared to those living in inner regional (60.8%) and major cities (52.9%).[6] In addition, high blood pressure was also higher in outer regional and remote (32.4%) areas compared to inner regional (31.6%) and major cities (22.7%).[7] Similar trends exist for high cholesterol, with more people living in outer regional and remote and inner regional areas (33.8%, 33.5%) having high cholesterol compared to those living in major cities (28.3%).[8]
Risk factor differences are estimated to account for 38.2% of the difference between rural and metropolitan CVD deaths.[1] Importantly, people who have limited access to health services are often

unaware that they may have risk factors such as high blood pressure and high cholesterol, further increasing their risk of CVD.

Hospitalisation and Death

Higher prevalence of risk factors for CVD increases risk of both hospitalisation and death of CVD.[9] In 2016-2017, people living in remote and very remote parts of NSW were more likely to die of circulatory causes (190.3/100,000) than people living in outer regional (168.1/100,000), inner regional (156.3/100,000) or major cities (136/100,000).[10]

In 2018-2019, 493.8/100,000 people in NSW were hospitalised with CHD.[11] Those living in remote and very remote areas were hospitalised at a rate of 941.9/100,000 compared to those living in major cities at 497.4/100,000. Hospitalisation with acute myocardial infarction was almost 3 times more likely per 100,000 people for people in remote and very remote areas compared to major cities. [12]

Access

Prioritising early detection and management can save lives, and avoid hospitalisation, of those at risk of CVD. However, people living in rural and remote locations were most frequently mentioned as experiencing clinical barriers, with evidence that many CVD medications and interventions were prescribed at lower rates for people living in rural areas.[13]

Improving access to health services, in particular in regional and rural locations, was a recommendation proposed to address this barrier.[14] As was conducting health promotion strategies in pharmacies and non-clinical settings in regional and rural locations.[13] Analysing access to health services in NSW could more accurately reflect community access and identify specific barriers.[14]

People living in regional, rural and remote areas often face difficulties with significant distance to travel to health services. In rural areas, a transport policy that aligned with both health and education needs was recommended to address this access barrier.[14] As was establishing integrated, regional cardiovascular service delivery networks across Australia.[15]

One driver of higher rates of mortality for acute myocardial infarction (AMI) for people living regionally is the delay in timely access to cardiac catheterisation.[16] In 2014, the NSW Rural Health Plan identified the implementation of cardiac and stroke reperfusion programs in rural LHDs.[17] Cardiac catheterisation laboratories have been established in rural NSW at Tamworth, Wagga Wagga, Orange, mid-North Coast, and Lismore.[18] An additional cardiac catheterisation laboratory is currently being built at Dubbo Hospital and expected to be operational in 2021.

Access to cardiac catheterisation

The benefits of these services have been observed in regional and rural locations where they have been established. Notably in Orange, a 24-hour, 7-day a week service has been established that provides percutaneous intervention (PCI), centralised smartphone linked acute ECG reading cardiology service and prehospital lysis for remote ST – elevation myocardial infarction (STEMI) patients. From 2007 to 2015-18, there were increases in cardiac catheterisation and PCI, with Orange Health Service becoming the 7th busiest catheter lab in NSW. Between 2009-2012 and 2015-2018, 30-day AMI mortality dropped from 7% to 4.8%, with almost 90% of acute coronary syndrome managed within the Local Health District. These positive results demonstrate both the demand and health benefits of a rural cardiac catheter service to people living in regional, rural and remote areas of NSW.

However, despite these benefits Far Western and Southern NSW LHDs do not currently have cardiac catheterisation services, with residents who require treatment, often as emergencies, needing to travel long distances to access services.

Access to secondary prevention assistance

Access to secondary prevention, in the form of cardiac rehabilitation (CR) and heart failure programs, also diminishes with remoteness. A study that evaluated CR program performance in Australia found that 64% of CR sites were in major cities and that those who lived outside major cities were 28 times less likely to attend a higher performing CR program.[19] Barriers such as the lack of programs and expert staff to deliver them, geographical distance, and lack, and cost, of transport, were all cited by people who lived outside major cities. This highlights the need for alternate models of CR delivery and a national survey of CR program quality.[19]

Barriers

A key barrier contributing to health inequities is the distribution of the health workforce. Health workforce shortages are more pronounced in regional, rural and remote areas. Australians access general practitioners (GP) more than any other part of the health service, with almost 90% of people visiting their GP at least once per year. The number of GPs per 100,000 decreases with remoteness from major cities, and people living outside major cities reporting having to wait longer to see a GP.[20] Compounding the issue of access for people with CVD living outside major cities, GPs are more likely to see patients in regional/rural practices for circulatory issues (33%) compared to urban patients (20%).[21]

To minimise workforce shortages, health workforce training and funding arrangements are required to support an equitable distribution of health staff.[22] In addition, it is suggested that the primary care workforce in rural areas need to be better supported in providing integrated health checks to detect those at risk of CVD earlier.[13] Ongoing health professional education in the National Vascular Disease Prevention Alliance's Guidelines for CVD absolute risk assessment and management of CVD risk factors was also identified as being required.[13]

It is widely acknowledged that social determinants play an important role on the health of the Australian community. Social determinants such as, employment, education, income, social capital and exclusion, and housing all impact on health inequalities that contribute to CVD.[13] As such it is proposed that addressing the poorer health of people living in regional, rural and remote locations needs to be approached holistically, by working across different government departments and levels of government.[23]

Useful Strategies

Primary and secondary prevention strategies have demonstrated benefits reducing the risk of developing or progressing CVD. Strategies that address risk factors, physical inactivity, and unhealthy eating have been identified and can be readily implemented in regional, rural and remote areas. [24] It has been noted that living more remotely results in having less access to affordable healthy food, infrastructure and clubs that support physical activity and targeted prevention programs.[13] To address these barriers, targeted programs in partnership with community-based organisations, local government and non-clinical services are suggested.[13,24] Between 2008 and 2017, the Heart Foundation supported the Premier's Council for Active Living which brought together health, environment, transport and planning agencies to work cooperatively and develop interagency tools, policies, guidelines and resources to increase physical activity. A similar collaborative approach would benefit people living in regional, rural and remote NSW to access health services.

Risk factors such as hypertension and diabetes are often undiagnosed in the general population and among members of priority groups. Strategies that increase screening, identification and treatment are seen as useful strategies to address this gap.[15] The Heart Foundation developed a Heart Age Calculator https://www.heartfoundation.org.au/heart-age-calculator to help people understand their risk of heart attack or stroke by assessing well known risk factors. Routine promotion and use of the Heart Age calculator by health professionals may identify people who smoke, have high blood pressure and high cholesterol and are at greater risk of CVD.[13] Awareness of these risk factors may in turn result in referral to Heart Health checks, now an MBS item, with their GP.

Heart Foundation welcomes the online delivery of programs and specialist consultations via programs such as Telehealth, which may reduce some geographical disparities. To improve access to health care settings, strategies that provide services within appropriate community settings for disadvantaged groups, or as outreach services for those living in more remote locations, have also been suggested.[13,25]

Recommendations

The Heart Foundation urges the NSW Government to strengthen measures to effectively address inequities evident in regional, rural and remote NSW and makes the following recommendations to this Inquiry:

- Utilise a wholistic, social determinants approach working across government departments, non-Government and Community Organisations and all levels of government to address disparities in health experienced by people living in regional, rural and remote NSW.

- Increase the investment and develop a stronger focus on primary prevention strategies to address key drivers such as poor dietary habits, lack of exercise, obesity and smoking, by:
  -increasing smoking cessation rates by delivering appropriately funded targeted quit smoking campaigns to people in regional, rural and remote areas.
  -Work in partnership to increase the delivery of targeted programs to address obesity and increase access to healthy and affordable foods (e.g. inadequate fruit and vegetable intake) and opportunities for physical activity in regional and rural areas.

- Collaborate and work in partnership with key stakeholders to raise awareness across communities of clinical and lifestyle risk factors and where possible promote the co-design of local initiatives using case studies as examples.

- Provide greater support, and promotion, to enable the primary care workforce in regional, rural and remote areas to increase uptake of Absolute Cardiovascular risk assessment activities e.g. via use of Heart Health and Indigenous 715 Health Checks and management of risk factors in the primary care setting. This should also include funding for health professional education in the Guidelines for CVD absolute risk assessment and management of CVD risk factors.

- Increase heart patients' access to, and participation in, cardiac rehabilitation programs to reduce preventable repeat heart attack. This could include implementation of alternate models of cardiac rehab programs (including online delivery) to make access easier for patients who are not able to travel easily to face to face services. The Heart Foundation's My Heart My Life resource provides staff, patients and their family with useful information to use with cardiac rehabilitation programs, or for those who cannot attend.

- NSW Health to analyse, monitor and identify specific barriers, and report on access to health services in regional, rural and remote areas of NSW.

- NSW Health to monitor and report on the number of cardiologists, cardiac rehabilitation and heart failure programs and compare the effectiveness and quality of service delivery in regional, rural and remote areas to metropolitan areas, to ensure there is equitable access to trained specialist cardiac staff and services.

- Work in partnership with Aboriginal community and health groups to ensure they are actively involved in all aspects of addressing access and health inequities in their communities.

- Ensure that people living in regional, rural and remote locations have timely access to cardiac prevention, diagnostic and treatment services, such as cardiac catheterisation. This may be achieved through transport, telehealth initiatives, establishment of new facilities, or increasing operation of existing ones.

On behalf of the Heart Foundation, thank you for considering our submission.

Yours in health,

Dr Kathy Chapman

General Manager NSW &ACT

Heart Foundation

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Appendix 1
NSW Heart Maps tables

Notes:

- Rates of deaths, hospitalisations and risk factors are age-standardised.
- Please contact Heart Foundation Media if you want to know which LGAs make up a region.

CORONARY HEART DISEASE DEATHS

Region	Location	Rate/100,000	% difference compared to state average	Rank in NSW
New England and North West	Non-Metro	85.8	33%	1
Far West and Orana	Non-Metro	84.7	31%	2
Sydney - Outer West and Blue Mountains	Metro	82.9	29%	3
Sydney - Blacktown	Metro	78.2	21%	4
Newcastle and Lake Macquarie	Non-Metro	77.0	19%	5
Sydney - Outer South West	Metro	76.6	19%	6
Capital Region	Non-Metro	73.9	15%	7
Richmond - Tweed	Non-Metro	71.6	11%	8
Central West	Non-Metro	70.5	9%	9
Sydney - Parramatta	Metro	67.5	5%	10
Hunter Valley exc Newcastle	Non-Metro	67.5	5%	11
Mid North Coast	Non-Metro	67.0	4%	12
Murray	Non-Metro	66.9	4%	13
Coffs Harbour - Grafton	Non-Metro	66.8	4%	14
Riverina	Non-Metro	65.1	1%	15
Illawarra	Non-Metro	65.0	1%	16
Southern Highlands and Shoalhaven	Non-Metro	65.0	1%	17
Central Coast	Non-Metro	62.3	-3%	18
Sydney - South West	Metro	62.0	-4%	19
Sydney - Baulkham Hills and Hawkesbury	Metro	60.2	-7%	20
Sydney - City and Inner South	Metro	59.5	-8%	21
Sydney - Inner South West	Metro	56.5	-12%	22
Sydney - Ryde	Metro	54.5	-16%	23
Sydney - Northern Beaches	Metro	53.9	-16%	24
Sydney - Inner West	Metro	50.1	-22%	25
Sydney - Eastern Suburbs	Metro	47.5	-26%	26
Sydney - Sutherland	Metro	46.9	-27%	27
Sydney - North Sydney and Hornsby	Metro	45.5	-29%	28
New South Wales	***n/a***	***64.5***	***n/a***	***n/a***

CORONARY HEART DISEASE HOSPITALISATIONS

Region	Location	Rate/10,000	% difference compared to state average	Rank in NSW
Riverina	Non-Metro	71.4	57%	1
Murray	Non-Metro	61.5	35%	2
Sydney - Sutherland	Metro	59.0	30%	3
Hunter Valley exc Newcastle	Non-Metro	57.0	26%	4
Sydney - Blacktown	Metro	56.5	24%	5
Far West and Orana	Non-Metro	52.9	16%	6
Richmond - Tweed	Non-Metro	51.8	14%	7
Newcastle and Lake Macquarie	Non-Metro	51.2	13%	8
Capital Region	Non-Metro	49.6	9%	9
Mid North Coast	Non-Metro	49.2	8%	10
Sydney - Outer South West	Metro	49.1	8%	11
Coffs Harbour - Grafton	Non-Metro	49.0	8%	12
Sydney - Parramatta	Metro	47.0	4%	13
Sydney - South West	Metro	45.2	0	14
Central Coast	Non-Metro	45.2	0	15
Sydney - Baulkham Hills and Hawkesbury	Metro	45.1	-1%	16
Sydney - Outer West and Blue Mountains	Metro	43.7	-4%	17
Sydney - Eastern Suburbs	Metro	43.3	-5%	18
Southern Highlands and Shoalhaven	Non-Metro	40.8	-10%	19
Illawarra	Non-Metro	40.1	-12%	20
New England and North West	Non-Metro	39.9	-12%	21
Sydney - Inner South West	Metro	39.1	-14%	22
Sydney - Northern Beaches	Metro	37.5	-17%	23
Sydney - City and Inner South	Metro	37.3	-18%	24
Central West	Non-Metro	36.9	-19%	25
Sydney - North Sydney and Hornsby	Metro	34.8	-23%	26
Sydney - Ryde	Metro	33.7	-26%	27
Sydney - Inner West	Metro	27.5	-39%	28
New South Wales	***n/a***	***45.4***	***n/a***	***n/a***

HEART ATTACK HOSPITALISATIONS

Region	Location	Rate/10,000	% difference compared to state average	Rank in NSW
Riverina	Non-Metro	21.5	48%	1
Sydney - Blacktown	Metro	21.1	46%	2
Sydney - Outer South West	Metro	18.7	29%	3
Richmond - Tweed	Non-Metro	18.2	26%	4
Coffs Harbour - Grafton	Non-Metro	18.1	25%	5
Far West and Orana	Non-Metro	17.9	23%	6
Capital Region	Non-Metro	17.5	21%	7
Mid North Coast	Non-Metro	17.2	19%	8
New England and North West	Non-Metro	17.2	19%	9
Sydney - South West	Metro	16.6	15%	10
Murray	Non-Metro	16.6	15%	11
Sydney - Outer West and Blue Mountains	Metro	16.5	14%	12
Sydney - Parramatta	Metro	16.4	13%	13
Southern Highlands and Shoalhaven	Non-Metro	15.4	6%	14
Hunter Valley exc Newcastle	Non-Metro	15.1	4%	15
Central West	Non-Metro	14.9	3%	16
Central Coast	Non-Metro	14.9	3%	17
Newcastle and Lake Macquarie	Non-Metro	14.1	-3%	18
Illawarra	Non-Metro	13.8	-5%	19
Sydney - Inner South West	Metro	12.1	-16%	20
Sydney - Baulkham Hills and Hawkesbury	Metro	11.7	-19%	21
Sydney - Northern Beaches	Metro	11.0	-24%	22
Sydney - Sutherland	Metro	11.0	-24%	23
Sydney - City and Inner South	Metro	10.2	-29%	24
Sydney - Ryde	Metro	10.0	-31%	25
Sydney - North Sydney and Hornsby	Metro	9.3	-36%	26
Sydney - Inner West	Metro	9.0	-38%	27
Sydney - Eastern Suburbs	Metro	8.8	-39%	28
New South Wales	***n/a***	***14.5***	***n/a***	***n/a***

PREVALENCE OF OBESITY

Region	Location	% of population	% difference compared to state average	Rank in NSW
Far West and Orana	Non-Metro	44.4	44%	1
New England and North West	Non-Metro	42.7	38%	2
Hunter Valley exc Newcastle	Non-Metro	41.9	36%	3
Central West	Non-Metro	41.7	35%	4
Murray	Non-Metro	37.2	20%	5
Mid North Coast	Non-Metro	36.8	19%	6
Sydney - Outer South West	Metro	36.6	18%	7
Riverina	Non-Metro	36.5	18%	8
Coffs Harbour - Grafton	Non-Metro	36.3	18%	9
Sydney - Outer West and Blue Mountains	Metro	36.2	17%	10
Southern Highlands and Shoalhaven	Non-Metro	35.4	15%	11
Central Coast	Non-Metro	35.3	14%	12
Capital Region	Non-Metro	35.2	14%	13
Newcastle and Lake Macquarie	Non-Metro	34.4	11%	14
Illawarra	Non-Metro	34.1	10%	15
Sydney - Blacktown	Metro	34.0	10%	16
Sydney - South West	Metro	33.5	9%	17
Richmond - Tweed	Non-Metro	32.9	6%	18
Sydney - Sutherland	Metro	29.1	-6%	19
Sydney - Baulkham Hills and Hawkesbury	Metro	26.5	-14%	20
Sydney - Parramatta	Metro	26.4	-14%	21
Sydney - Inner South West	Metro	25.8	-17%	22
Sydney - City and Inner South	Metro	24.2	-22%	23
Sydney - Inner West	Metro	23.0	-26%	24
Sydney - Eastern Suburbs	Metro	21.7	-30%	25
Sydney - Northern Beaches	Metro	21.7	-30%	26
Sydney - Ryde	Metro	20.3	-34%	27
Sydney - North Sydney and Hornsby	Metro	18.6	-40%	28
New South Wales	***n/a***	***30.9***	***n/a***	***n/a***

PREVALENCE OF SMOKING

Region	Location	% of population	% difference compared to state average	Rank in NSW
Far West and Orana	Non-Metro	21.2	47%	1
New England and North West	Non-Metro	20.9	45%	2
Mid North Coast	Non-Metro	19.6	36%	3
Hunter Valley exc Newcastle	Non-Metro	19.5	35%	4
Central West	Non-Metro	19.0	32%	5
Coffs Harbour - Grafton	Non-Metro	18.3	27%	6
Riverina	Non-Metro	17.8	24%	7
Murray	Non-Metro	17.7	23%	8
Central Coast	Non-Metro	17.0	18%	9
Sydney - South West	Metro	16.4	14%	10
Southern Highlands and Shoalhaven	Non-Metro	16.3	13%	11
Newcastle and Lake Macquarie	Non-Metro	16.2	13%	12
Capital Region	Non-Metro	16.1	12%	13
Richmond - Tweed	Non-Metro	16.1	12%	14
Illawarra	Non-Metro	16.0	11%	15
Sydney - Outer West and Blue Mountains	Metro	15.7	9%	16
Sydney - Outer South West	Metro	15.1	5%	17
Sydney - Inner South West	Metro	14.2	-1%	18
Sydney - Blacktown	Metro	14.2	-1%	19
Sydney - Parramatta	Metro	13.9	-4%	20
Sydney - City and Inner South	Metro	13.8	-4%	21
Sydney - Inner West	Metro	11.4	-21%	22
Sydney - Eastern Suburbs	Metro	10.6	-26%	23
Sydney - Sutherland	Metro	10.5	-27%	24
Sydney - Northern Beaches	Metro	8.9	-38%	25
Sydney - Ryde	Metro	8.5	-41%	26
Sydney - Baulkham Hills and Hawkesbury	Metro	8.1	-44%	27
Sydney - North Sydney and Hornsby	Metro	7.1	-50%	28
New South Wales	***n/a***	***14.4***	***n/a***	***n/a***

PREVALENCE OF PHYSICAL INACTIVITY

Region	Location	% of population	% difference compared to state average	Rank in NSW
Sydney - South West	Metro	76.6	17%	1
Sydney - Blacktown	Metro	74.3	14%	2
Sydney - Parramatta	Metro	72.8	12%	3
Far West and Orana	Non-Metro	71.8	10%	4
Sydney - Inner South West	Metro	70.7	8%	5
Riverina	Non-Metro	70.6	8%	6
Sydney - Outer South West	Metro	70.4	8%	7
Hunter Valley exc Newcastle	Non-Metro	69.1	6%	8
Central West	Non-Metro	69.1	6%	9
New England and North West	Non-Metro	69.0	6%	10
Murray	Non-Metro	67.7	4%	11
Mid North Coast	Non-Metro	67.6	3%	12
Sydney - Outer West and Blue Mountains	Metro	67.3	3%	13
Coffs Harbour - Grafton	Non-Metro	66.1	1%	14
Capital Region	Non-Metro	65.8	1%	15
Central Coast	Non-Metro	65.6	0	16
Southern Highlands and Shoalhaven	Non-Metro	62.6	-4%	17
Illawarra	Non-Metro	62.5	-4%	18
Sydney - Ryde	Metro	62.4	-4%	19
Sydney - Inner West	Metro	61.9	-5%	20
Sydney - Baulkham Hills and Hawkesbury	Metro	61.9	-5%	21
Richmond - Tweed	Non-Metro	61.3	-6%	22
Sydney - City and Inner South	Metro	60.2	-8%	23
Sydney - Sutherland	Metro	60.2	-8%	24
Newcastle and Lake Macquarie	Non-Metro	59.7	-9%	25
Sydney - Eastern Suburbs	Metro	55.3	-15%	26
Sydney - North Sydney and Hornsby	Metro	53.1	-19%	27
Sydney - Northern Beaches	Metro	52.1	-20%	28
New South Wales	***n/a***	***65.3***	***n/a***	***n/a***

PREVALENCE OF HIGH BLOOD PRESSURE

Region	Location	% of population	% difference compared to state average	Rank in NSW
Hunter Valley exc Newcastle	Non-Metro	23.9	4%	1
Sydney - Parramatta	Metro	23.9	4%	2
Illawarra	Non-Metro	23.7	3%	3
Newcastle and Lake Macquarie	Non-Metro	23.7	2%	4
Riverina	Non-Metro	23.6	2%	5
Central West	Non-Metro	23.6	2%	6
Coffs Harbour - Grafton	Non-Metro	23.6	2%	7
Sydney - South West	Metro	23.6	2%	8
Far West and Orana	Non-Metro	23.6	2%	9
Murray	Non-Metro	23.6	2%	10
New England and North West	Non-Metro	23.5	2%	11
Mid North Coast	Non-Metro	23.5	2%	12
Capital Region	Non-Metro	23.4	1%	13
Southern Highlands and Shoalhaven	Non-Metro	23.4	1%	14
Sydney - Inner South West	Metro	23.3	1%	15
Sydney - Blacktown	Metro	23.3	1%	16
Richmond - Tweed	Non-Metro	23.3	1%	17
Sydney - Outer South West	Metro	23.2	0	18
Sydney - Inner West	Metro	23.1	0	19
Sydney - City and Inner South	Metro	23.0	0	20
Sydney - Ryde	Metro	22.7	-2%	21
Sydney - Eastern Suburbs	Metro	22.6	-2%	22
Sydney - Baulkham Hills and Hawkesbury	Metro	22.5	-3%	23
Sydney - Outer West and Blue Mountains	Metro	22.2	-4%	24
Sydney - North Sydney and Hornsby	Metro	22.1	-4%	25
Sydney - Northern Beaches	Metro	22.0	-5%	26
Central Coast	Non-Metro	22.0	-5%	27
Sydney - Sutherland	Metro	21.6	-7%	28
New South Wales	***n/a***	***23.1***	***n/a***	***n/a***