

Murrumbidgee Local Health District



Health Atlas 2019

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Health
Murrumbidgee
Local Health District

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About this atlas:

Maps page 3 to 5

- Maps were produced by Epidemiology section of MLHD Public Health Unit from Australian Bureau of Statistics data.

Map page 6 to 50

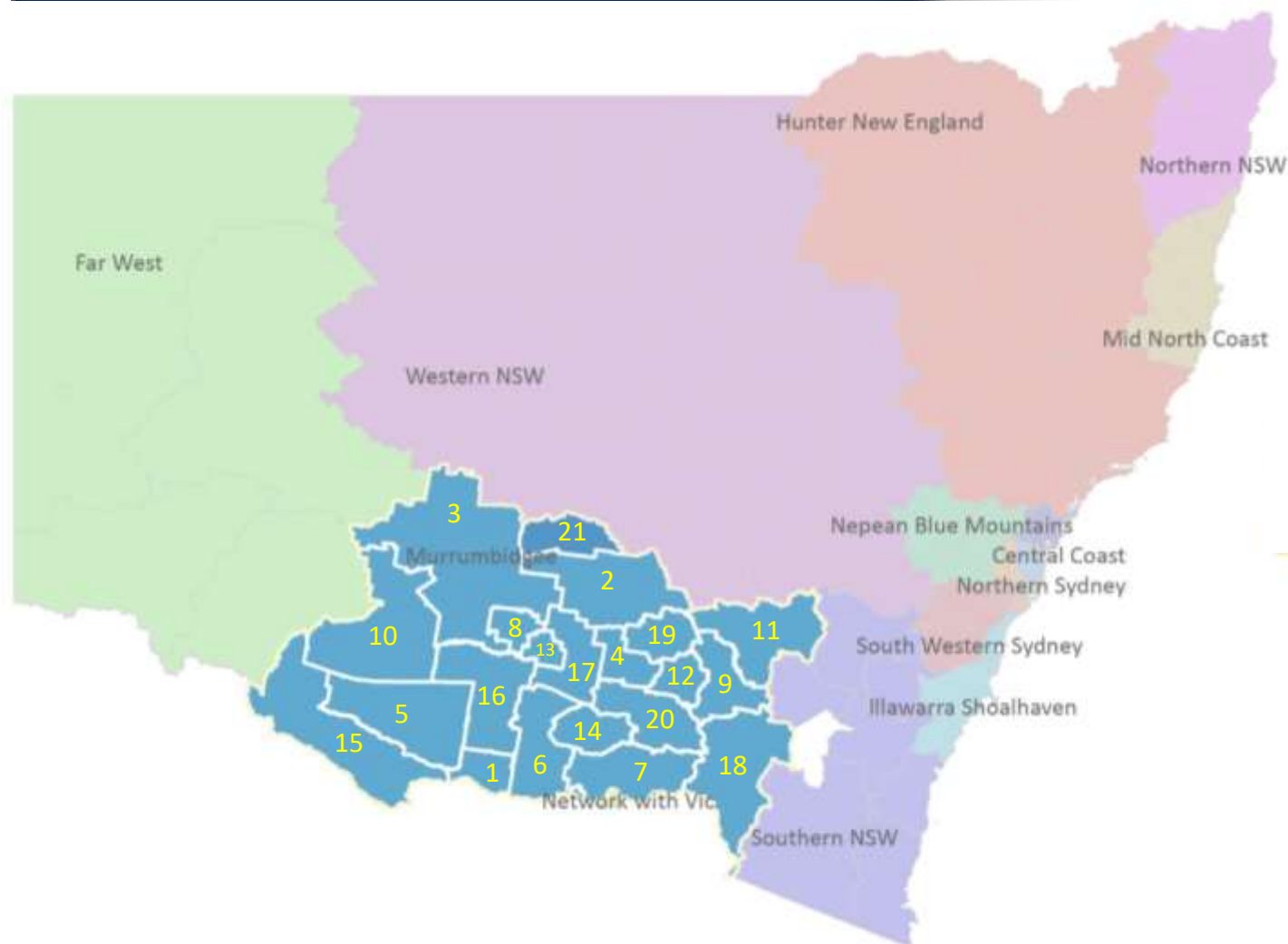
- Maps were sourced from [Health Stats NSW](#) and were current as of November 2018.
- The year of the data is stated in the map title.
- All data are age and sex standardised and spatially adjusted for comparison purposes see the methods section of a specific indicator in [Health Stats NSW](#) for details.

Maps 52 54 reference maps

Copies of this document can be found at www.mlhd.health.nsw.gov.au/about-us/population-data-and-health-statistics

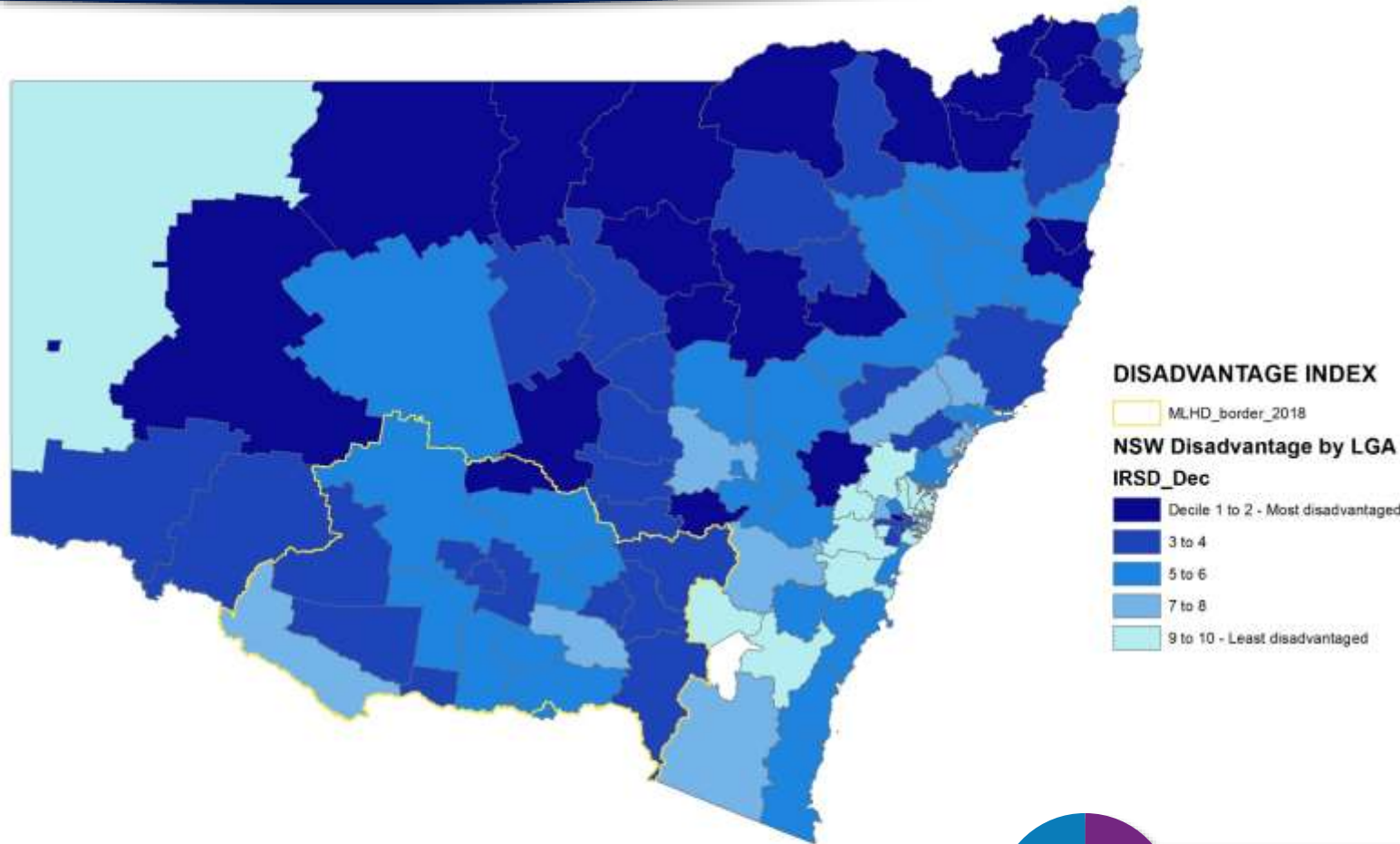
Murrumbidgee Health Atlas

Murrumbidgee LHD



Murrumbidgee LHD covers 125,243 km², has 20 constituent LGAs and 1 partial LGA:

1. Berrigan
 2. Bland
 3. Carrathool
 4. Coolamon
 5. Edward River
 6. Federation
 7. Greater Hume
 8. Griffith
 9. Gundagai
 10. Hay
 11. Hilltops
 12. Junee
 13. Leeton
 14. Lockhart
 15. Murray River
 16. Murrumbidgee
 17. Narrandera
 18. Snowy Valleys
 19. Temora
 20. Wagga Wagga
 21. Lake Cargelligo Part of Lachlan Shire
- Albury LGA is listed as Network with Vic*



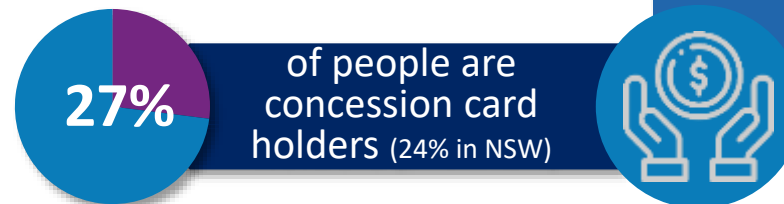
Socioeconomic Indexes For Areas (SEIFA) Disadvantage scores indicate areas with a higher number of disadvantaged households. At LGA level scores are averaged across the whole LGA. (ABS 2016)

Most disadvantaged areas in MLHD:

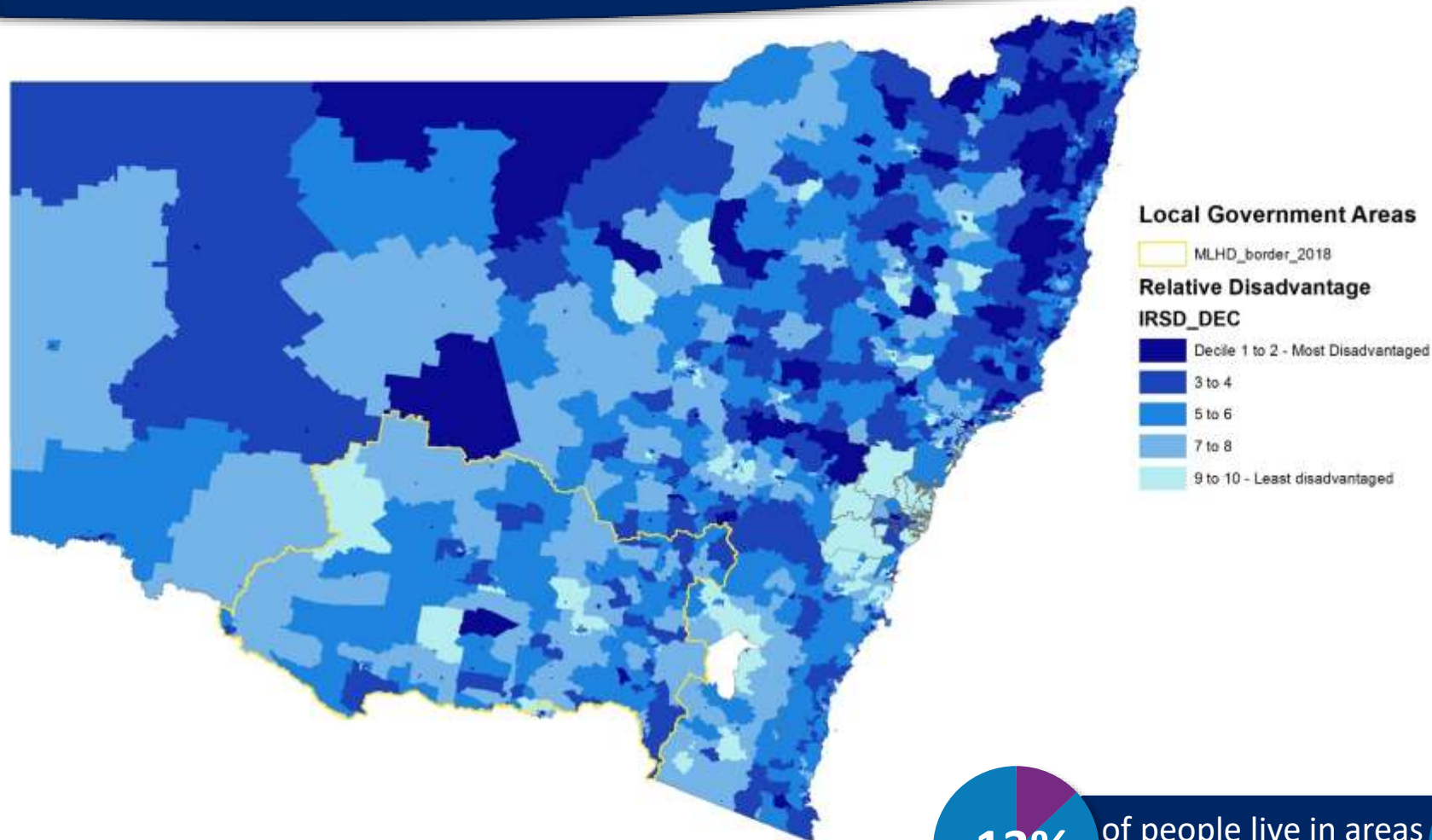
Lake Cargelligo, Hilltops, Gundagai, Snowy Valleys, Hay, Edward River, Tocumwal, Griffith, Leeton and Narrandera.

Least disadvantaged:

Wagga Wagga and Murray River.



Socioeconomic disadvantage small area



Socioeconomic Indexes For Areas (SEIFA) Disadvantage scores indicate areas with a higher number of disadvantaged households. Looking at disadvantage for small areas highlights pockets of disadvantage through the MLHD (ABS 2016).

Most disadvantaged areas in MLHD:

indicated in dark blue are north of Urana, some suburbs of Wagga Wagga, Lake Cargelligo, Griffith, Leeton, Narrandera.

Least disadvantaged:

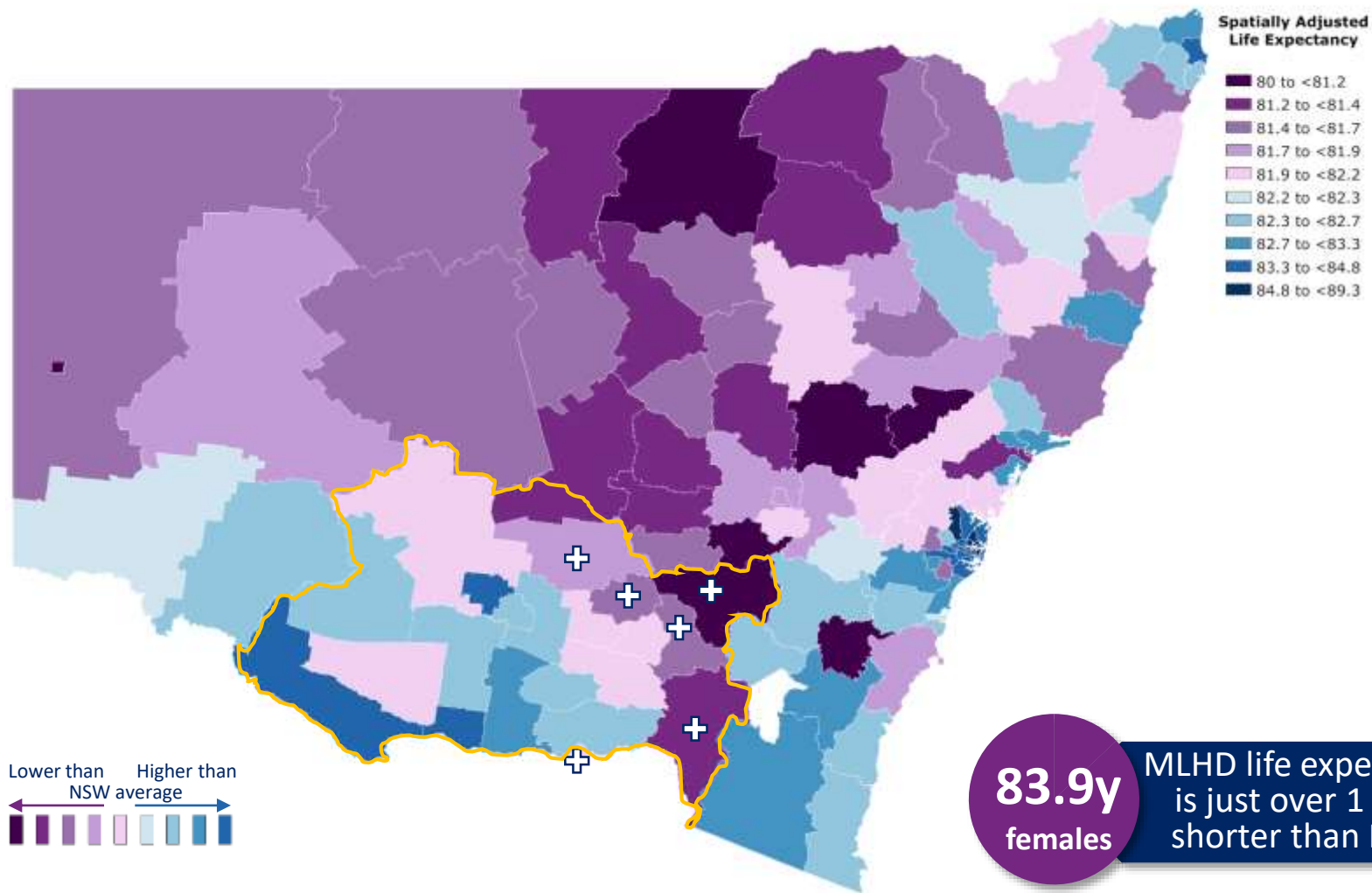
Some suburbs of Wagga Wagga, as well as parts of Jerilderie, Coolamon and Greater Hume LGAs.



Murrumbidgee Health Atlas

Life Expectancy

Life expectancy by Local Government Area, persons at birth, NSW 2016



Life expectancy at birth is an estimate of the average length of time (in years) that a person can expect to live, assuming that the current rates of death for each age group will remain the same for the lifespan of that person.

Highest Life Expectancy: Griffith, Murrumbidgee and Berrigan LGAs. Estimates were not significantly higher than NSW.

Lowest Life Expectancy: Hilltops, Snowy Valleys, Gundagai, Temora, Bland and Albury LGAs all had significantly lower life expectancy than NSW on map +

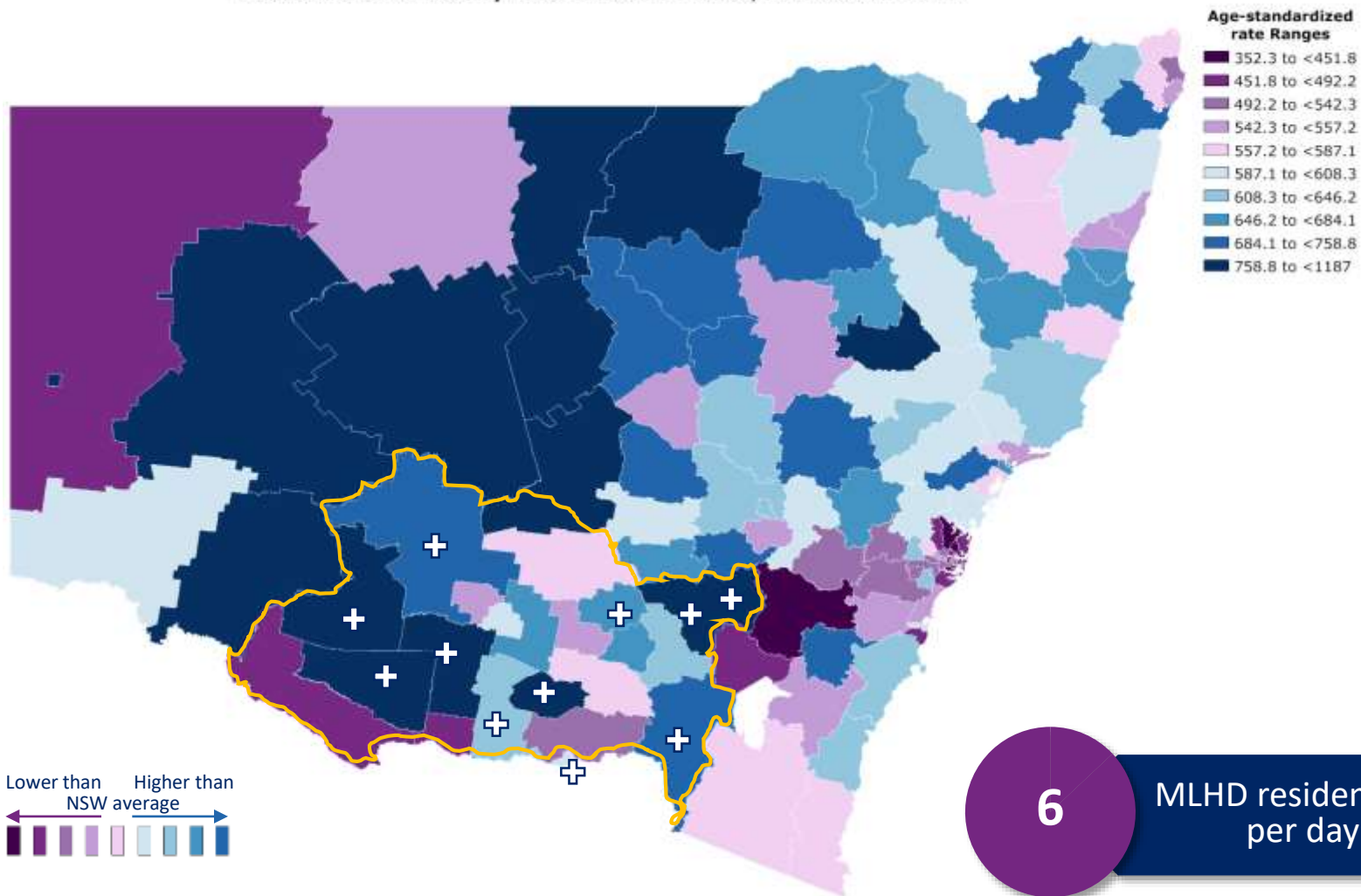
83.9y females MLHD life expectancy is just over 1 year shorter than NSW

79.5y males

Murrumbidgee Health Atlas

Deaths

Deaths from all causes by Local Government Area, NSW 2015 to 2016



Deaths from all causes are based on the residence of the deceased, not where the death occurred.

Highest rates: Hilltops, Hay, Lockhart, Edward River, and Murrumbidgee LGAs. Rates were significantly higher than NSW for all MLHD LGAs with +

Lowest rates: Berrigan, Murray River and Greater Hume LGAs

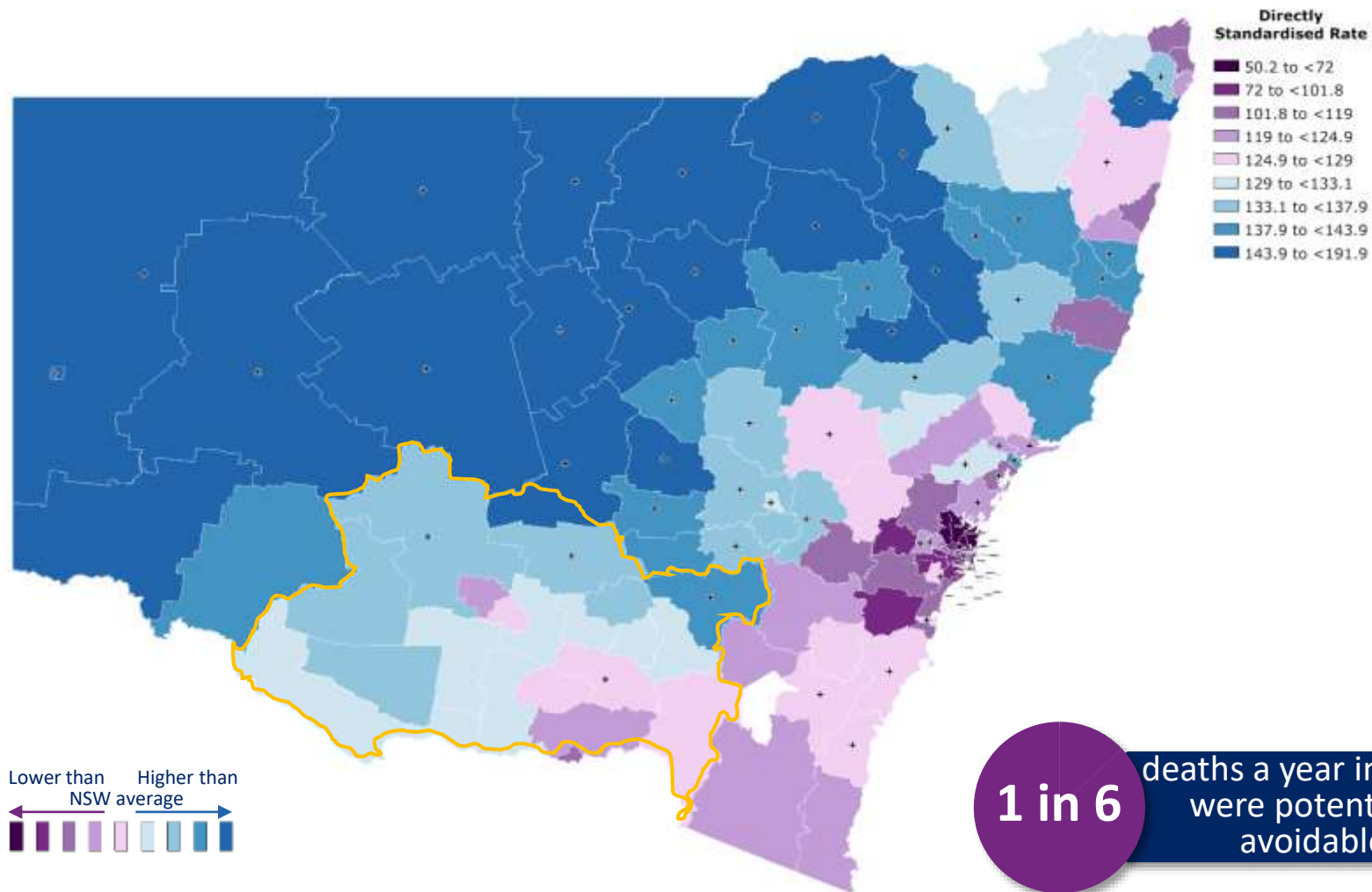
6 MLHD residents die per day



Murrumbidgee Health Atlas

Avoidable deaths

Potentially avoidable deaths by Local Government Area, persons aged under 75 years, NSW 2015-2016



Potentially avoidable deaths

refer to premature deaths (persons aged less than 75 years) that theoretically could have been avoided given current understanding of causation and available disease prevention and health care.

Highest rates:

Hilltops, Bland and Carrathool LGAs. Rates were significantly higher than NSW for these LGAs and also for Wagga Wagga.

Lowest rates:

Albury, Griffith and Greater Hume LGAs.

1 in 6

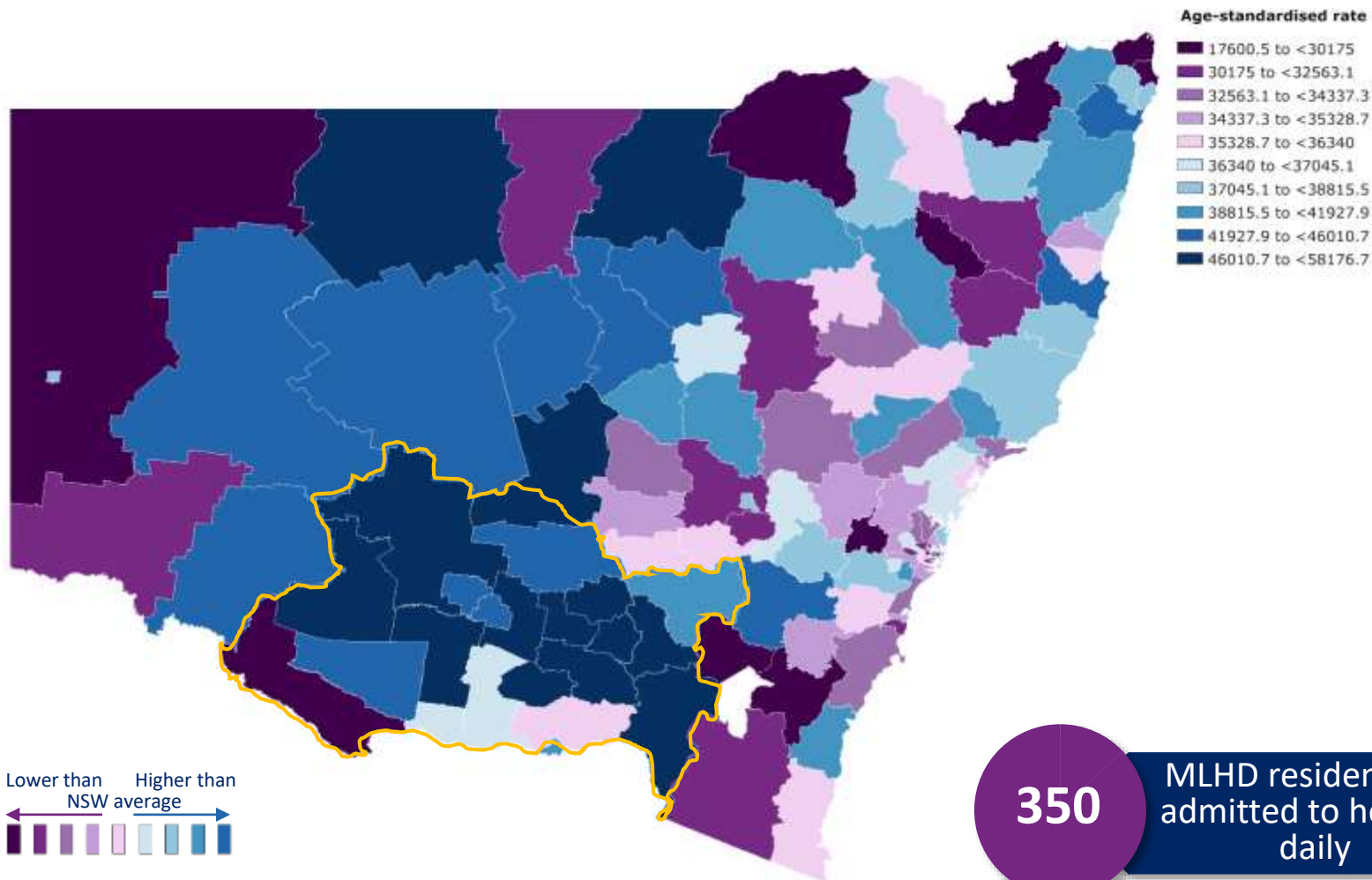
deaths a year in MLHD were potentially avoidable



Murrumbidgee Health Atlas

Hospitalisation

Hospitalisations for all causes by Local Government Area, NSW 2016-17



Hospitalisations for all

causes are based on a count of all episodes of hospital care for residents of an LGA, not counts of individual patients.

Highest rates:

Snowy Valleys, Carrathool, Junee, Murrumbidgee, Wagga Wagga, Lockhart, Narrandera, Gundagai, Hay, Temora and Coolamon. Rates were significantly higher than NSW. LGAs of Albury, Hilltops, Leeton, Edward River, Griffith and Bland also had significantly high rates.

Lowest rates:

Murray River LGA was significantly lower than NSW rate

350

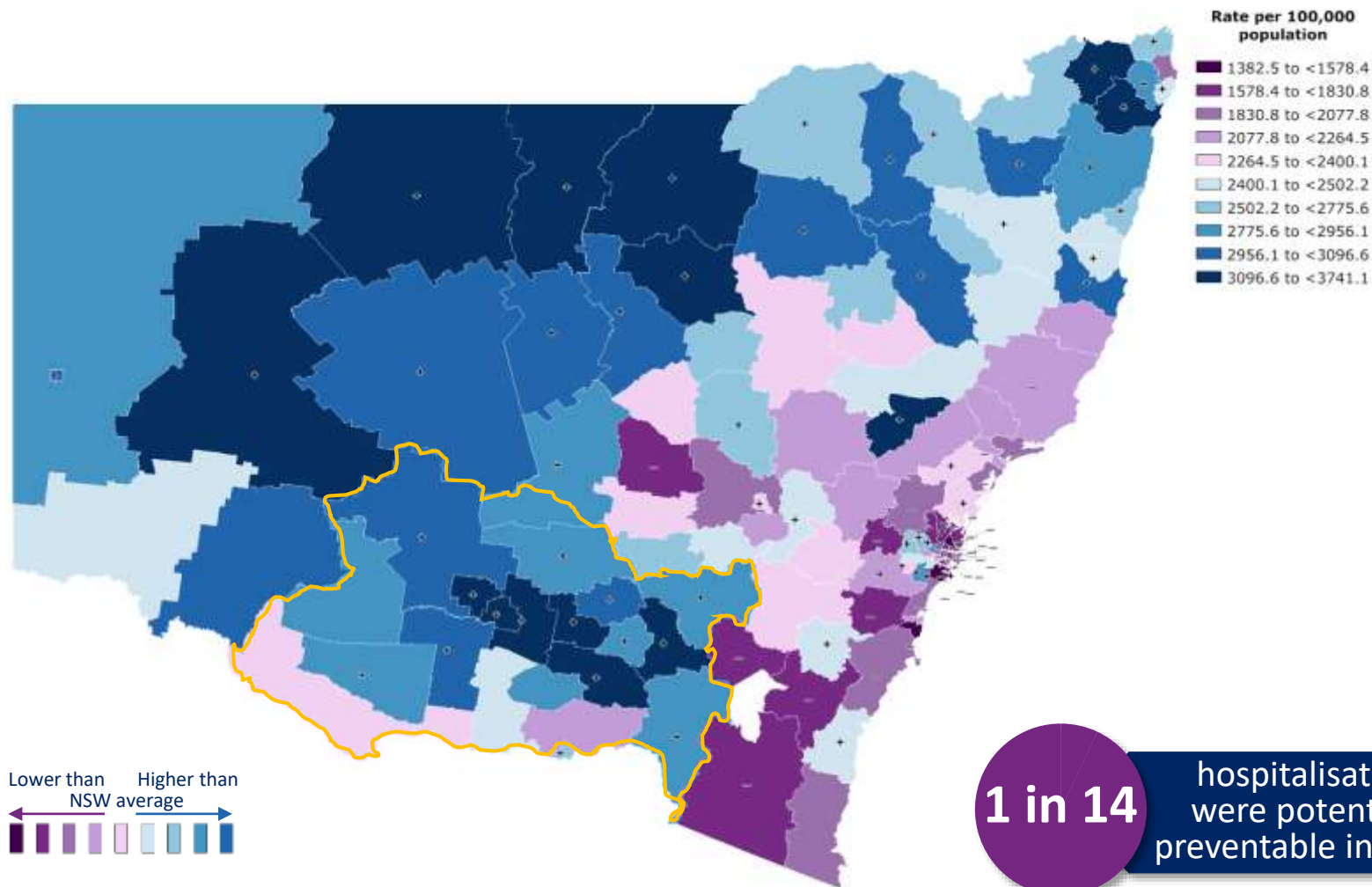
MLHD residents are admitted to hospital daily



Murrumbidgee Health Atlas

Preventable hospitalisation

Potentially preventable hospitalisations by Local Government Area, NSW 2015-16 to 2016-17



Potentially preventable hospitalisations

are those that potentially could have been avoided through preventive care and early disease management, usually delivered in an primary care setting such as general practitioners or community health services.

Highest rates:

Wagga Wagga, Gundagai, Coolamon, Narrandera, Leeton, Griffith LGAs. Rates were significantly higher than NSW. Rates were also higher in Carrathool, Murrumbidgee, Temora, Hilltops, Snowy Valleys, Bland, Edward River and Albury LGAs.

Lowest rates:

Greater Hume and Murray River and Berrigan LGAs

1 in 14

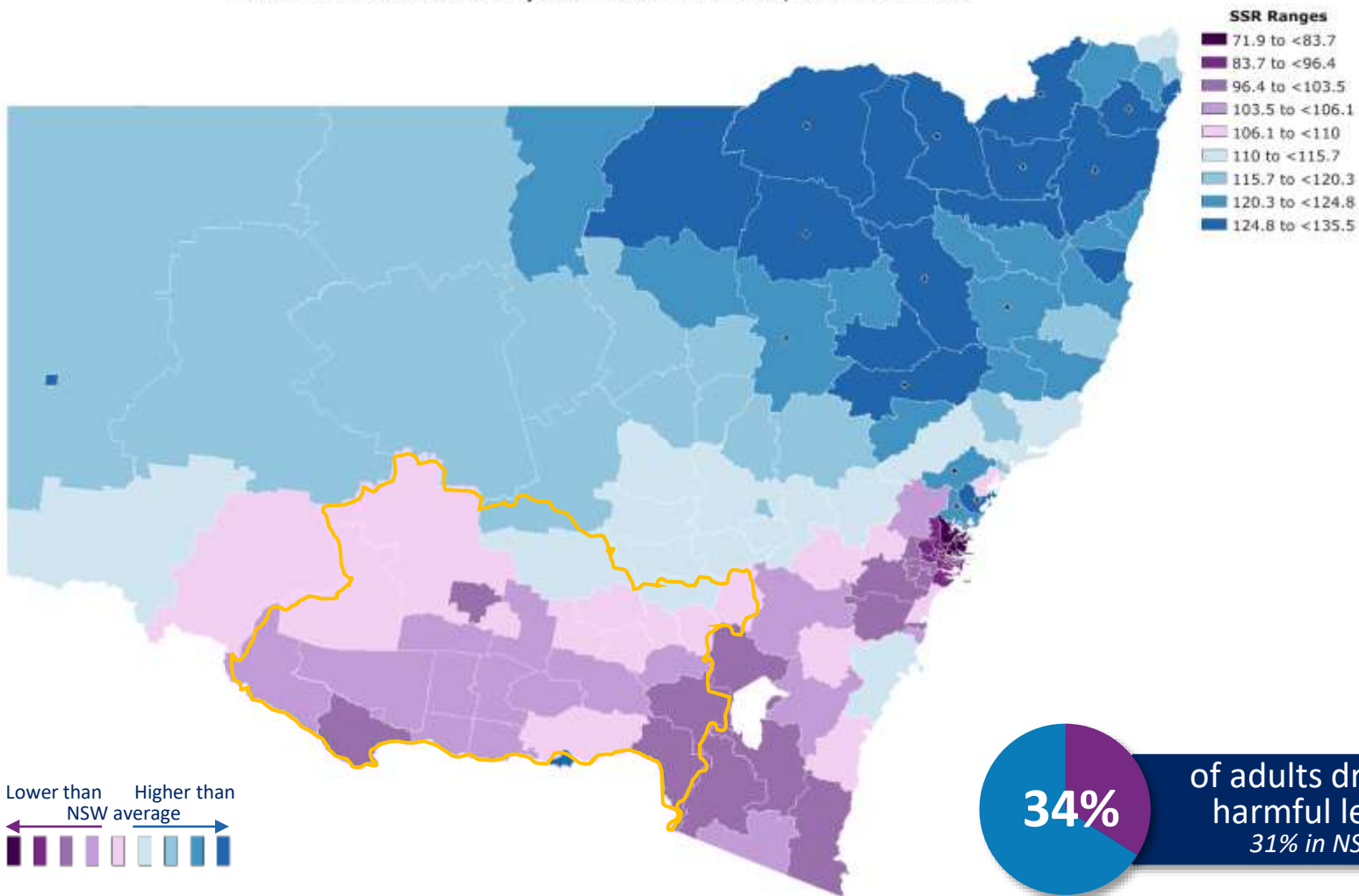
hospitalisations were potentially preventable in MLHD



Murrumbidgee Health Atlas

Alcohol deaths

Alcohol attributable deaths by Local Government Area, NSW 2012-2013



Alcohol attributable deaths

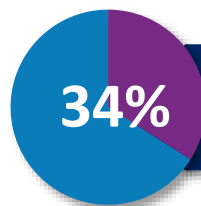
are those deaths from causes where alcohol consumption (either long or short term) could have been a contributing factor.

Highest rates:

Albury. Rates were not significantly higher than NSW.

Lowest rates:

former Tumbarumba, Tumut, Boorowa, Murray and Griffith LGAs.



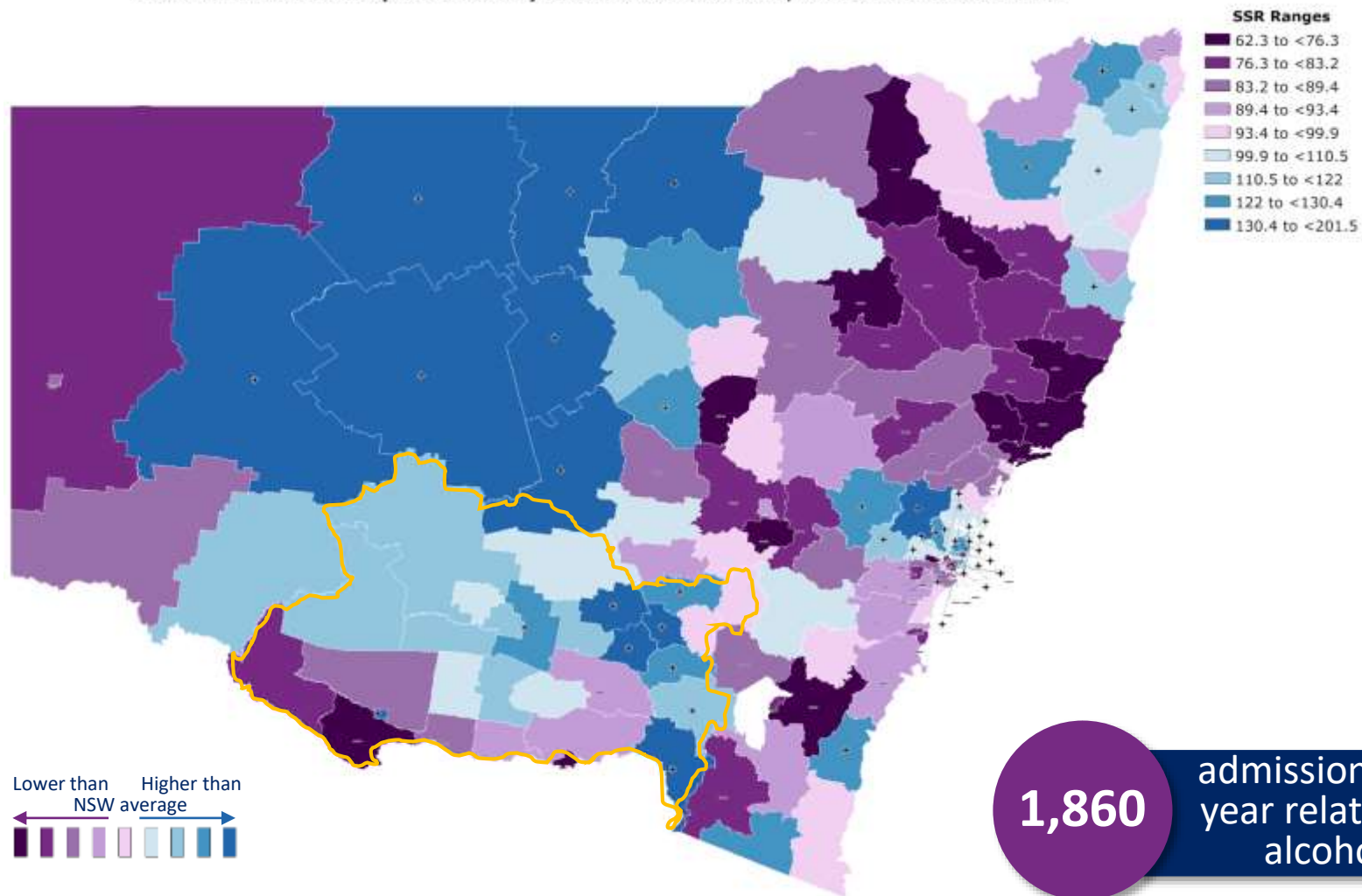
of adults drink at harmful levels
31% in NSW



Murrumbidgee Health Atlas

Alcohol hospitalisation

Alcohol attributable hospitalisations by Local Government Area, NSW 2013-14 to 2014-15



Alcohol attributable hospitalisations are those hospitalisations where alcohol consumption (either long or short term) could have been a contributing cause.

Highest rates: Temora, Junee and former Gundagai, Tumbarumba and Deniliquin LGAs. Rates were significantly higher than NSW.

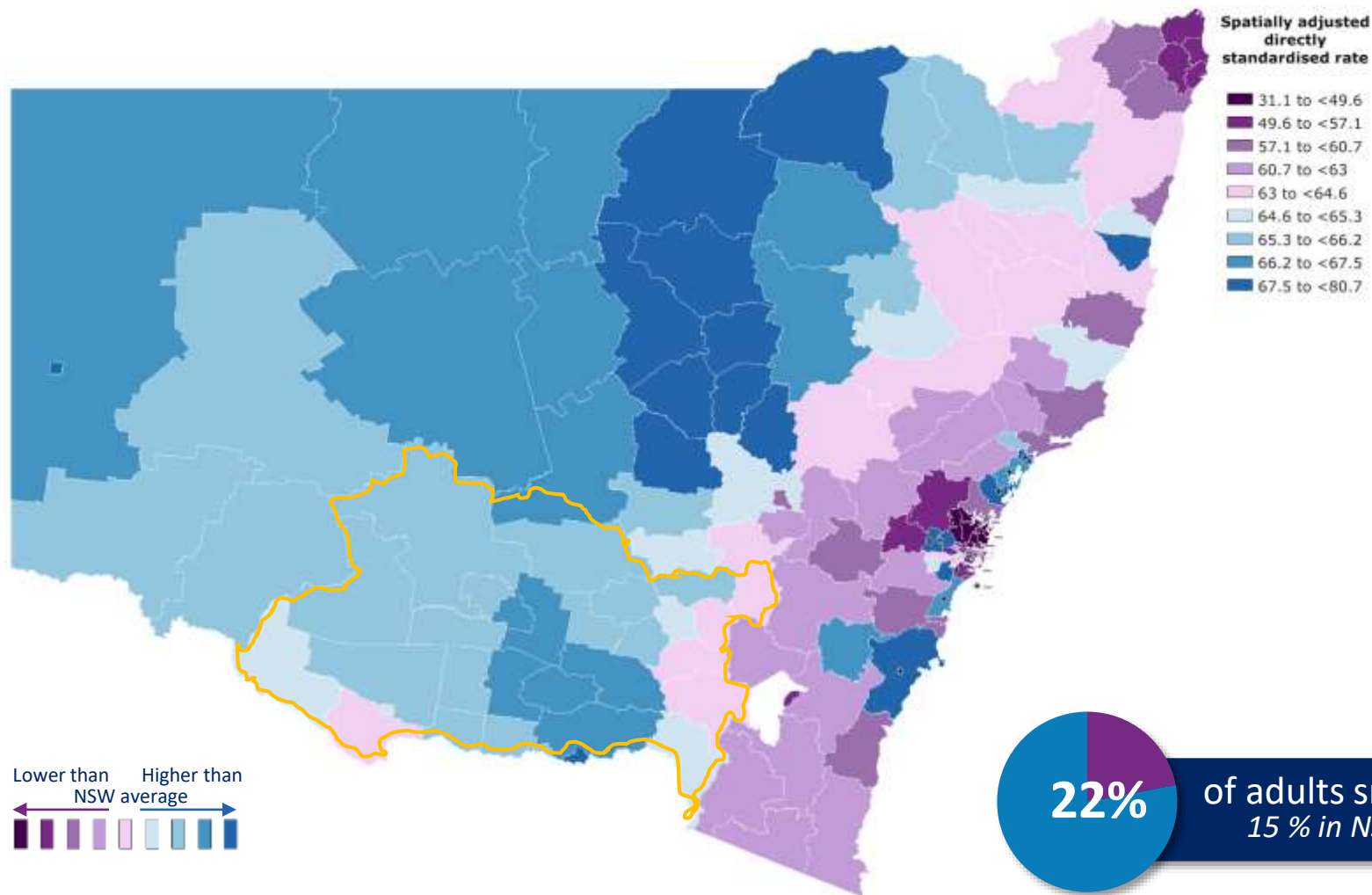
Lowest rates: Albury and former Murray LGAs

1,860 admissions per year related to alcohol

Murrumbidgee Health Atlas

Smoking deaths

Smoking attributable deaths by Local Government Area, NSW 2013



Smoking attributable deaths

are those deaths where smoking tobacco (either long or short term) could have been a contributing cause.

Highest rates:

Albury, Greater Hume, Wagga Wagga, former Urana, Narrandera and Leeton LGAs. Rates were significantly higher than NSW.

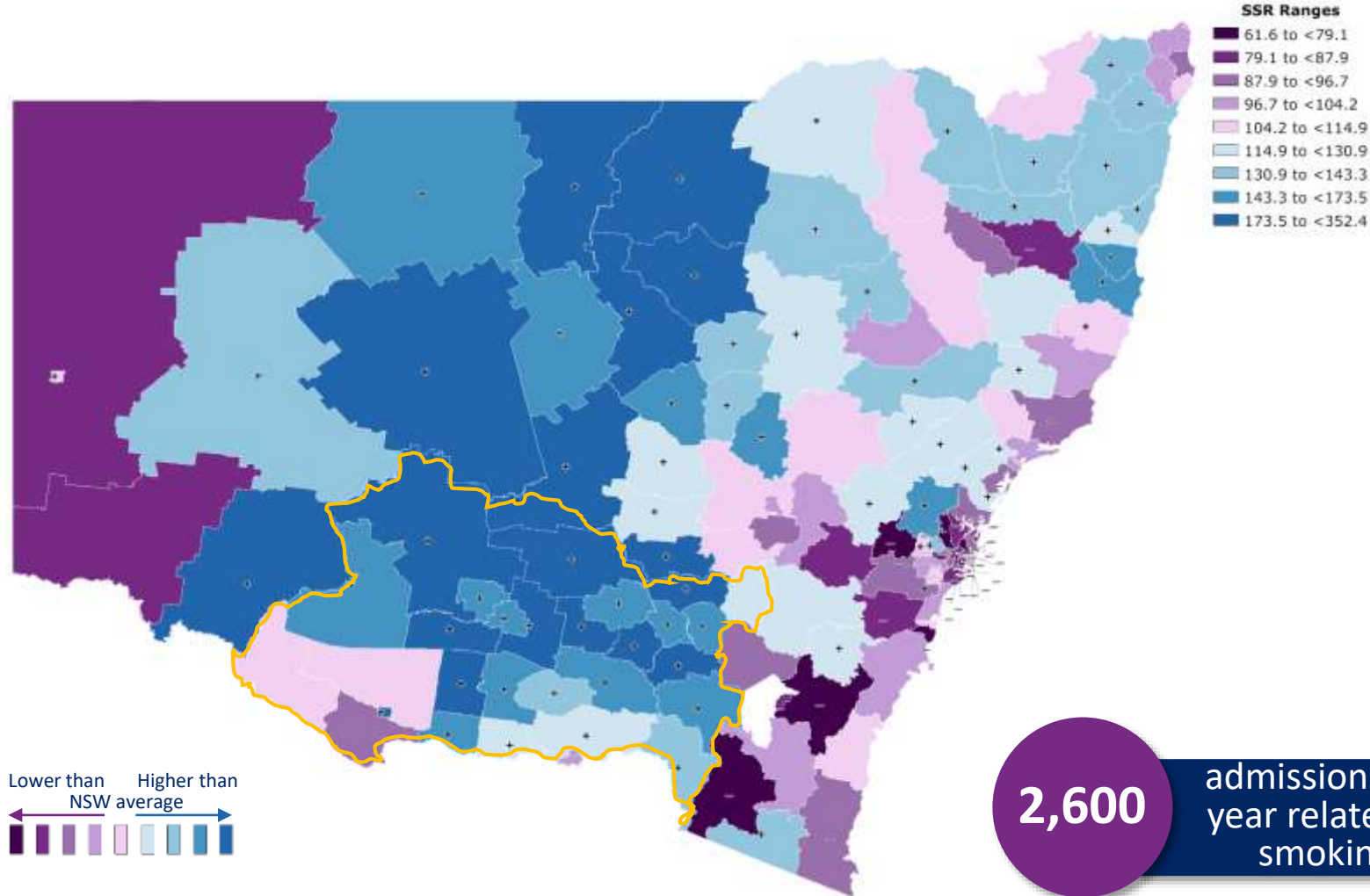
Lowest rates:

former Murray LGA.

Murrumbidgee Health Atlas

Smoking hospitalisation

Smoking attributable hospitalisations by Local Government Area, NSW 2013-14 to 2014-15



Smoking attributable hospitalisations

are those hospitalisations where smoking tobacco (either long or short term) could have been a contributing cause.

Highest rates:

Temora, Junee and former Gundagai, Tumbarumba and Deniliquin LGAs. Rates were significantly higher than NSW.

Lowest rates:

Albury and Murray LGAs

2,600

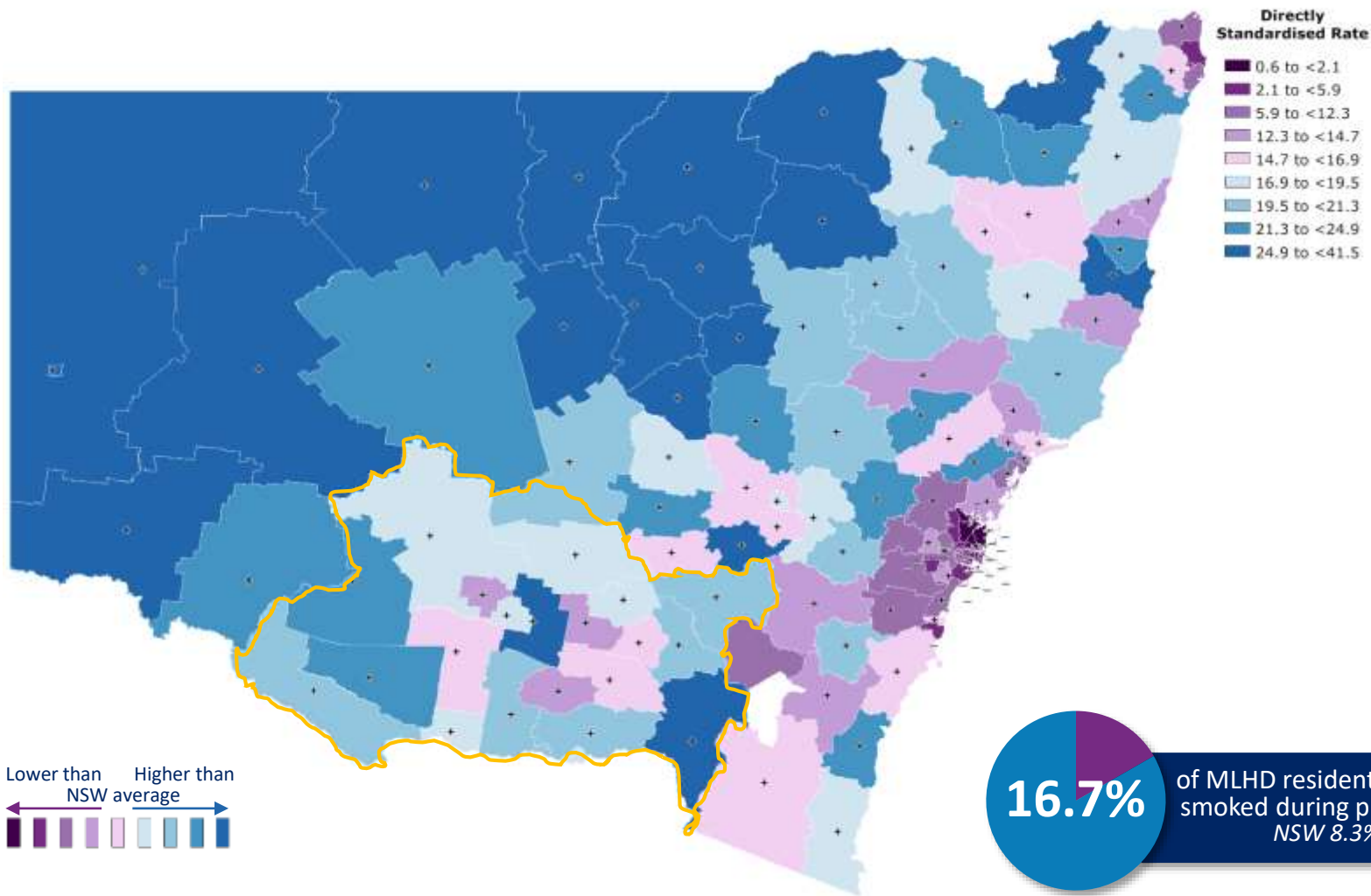
admissions per year related to smoking



Murrumbidgee Health Atlas

Maternal smoking

Maternal smoking in pregnancy by Local Government Area, NSW 2014 to 2016



Maternal smoking in pregnancy

is sourced from those mothers residing in NSW giving birth in NSW based facilities only, therefore it may be incomplete for LGAs along the borders with Victoria and ACT.

Highest rates: Snowy Valleys, Narrandera and Edward River all have rates significantly higher than NSW.

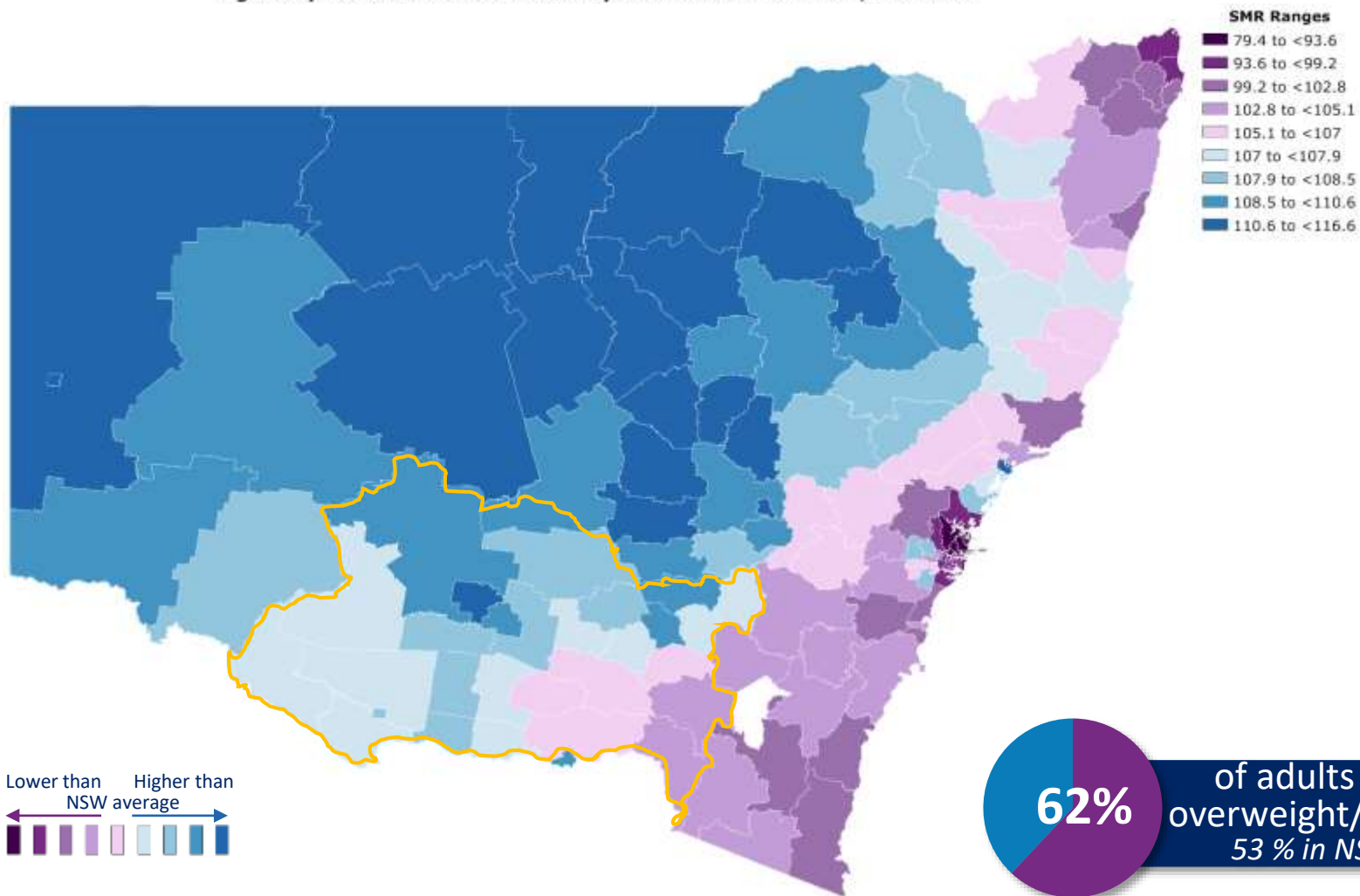
All LGA rates were significantly higher than the State average of 8.3%

Lowest rates: Griffith, Coolamon and Wagga Wagga

Murrumbidgee Health Atlas

Obesity deaths

High body mass attributable deaths by Local Government Area, NSW 2013



High Body Mass Index attributable deaths are those where being overweight or obese could have been a contributing cause.

Highest rates: Griffith, Leeton, Carrathool and Albury. Rates were not significantly higher than NSW.

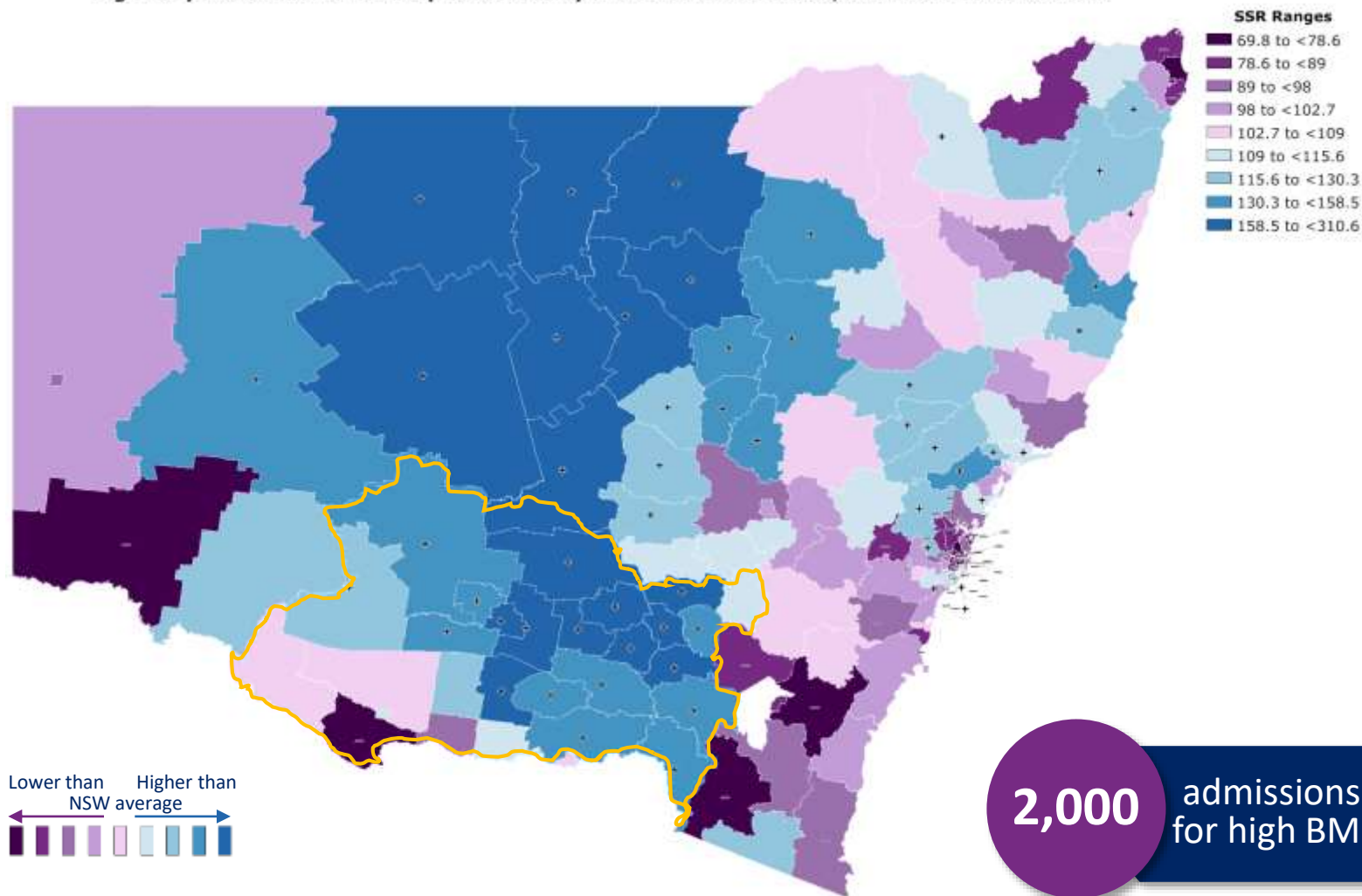
Lowest rates: Former Tumut and Tumbarumba LGAs



Murrumbidgee Health Atlas

Obesity hospitalisation

High body mass attributable hospitalisations by Local Government Area, NSW 2013-14 to 2014-15



High Body Mass Index attributable hospitalisations are those hospitalisations where being overweight or obese could have been a contributing cause.

Highest rates: Bland, Leeton, Narrandera, Coolamon, Temora, Junee, former Gundagai, Cootamundra, Urana and Young LGAs. Rates were significantly higher than NSW. Rates were significantly high also in Carrathool, Griffith, former Murrumbidgee, Lockhart, Wagga Wagga, Greater Hume, former Tumut and Tumbarumba LGAs.

Lowest rates: former Murray LGA and Berrigan LGA.

2,000

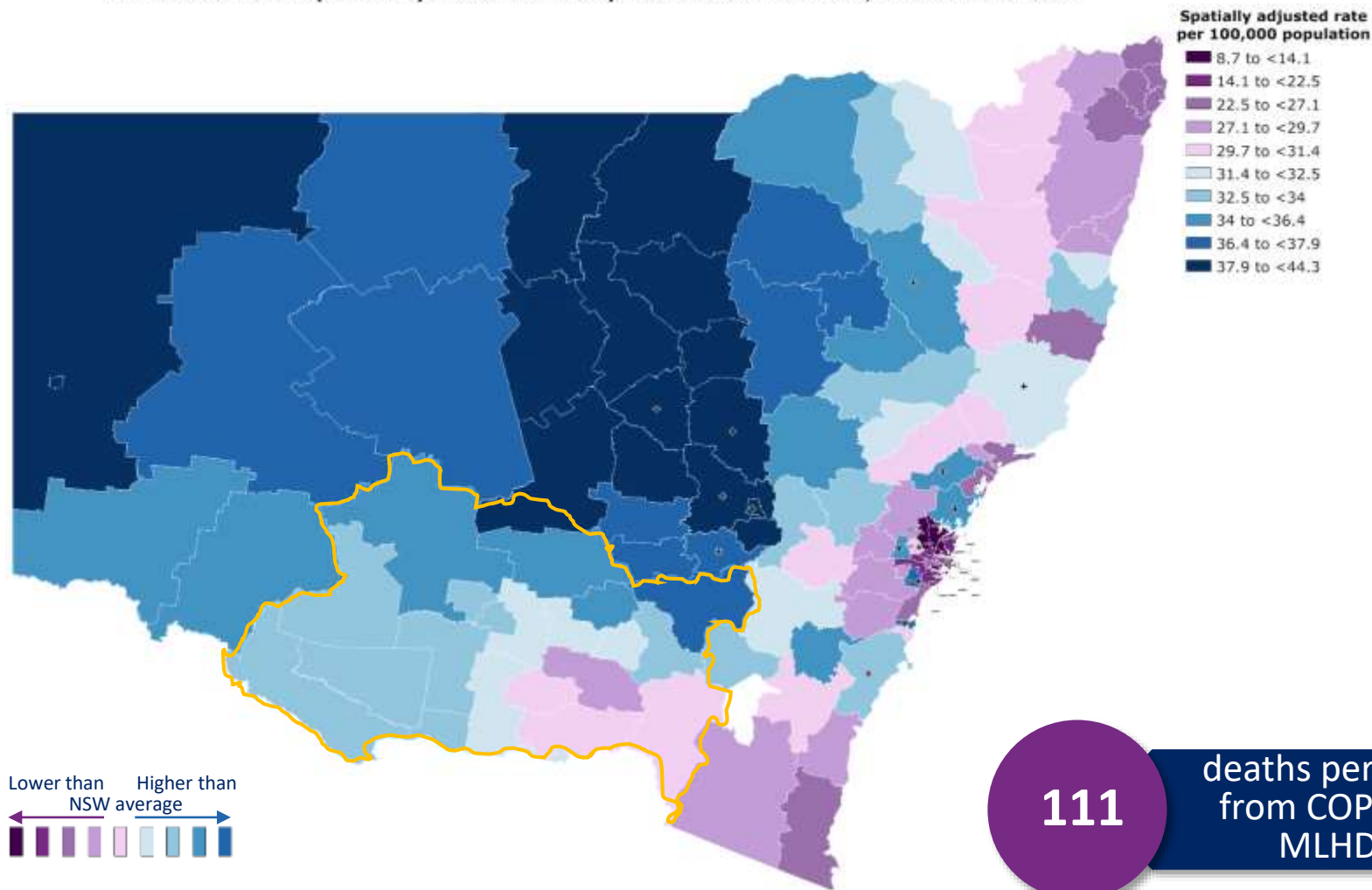
admissions a year for high BM causes



Murrumbidgee Health Atlas

COPD death

Chronic obstructive pulmonary disease deaths by Local Government Area, NSW 2015 to 2016



Chronic Obstructive Pulmonary Disease deaths

Highest rates:

Lake Cargelligo, Hilltops LGAs. Rates were not significantly higher than NSW.

Lowest rates:

Wagga Wagga, Lockhart, Greater Hume, and Snowy Valleys LGAs.

111

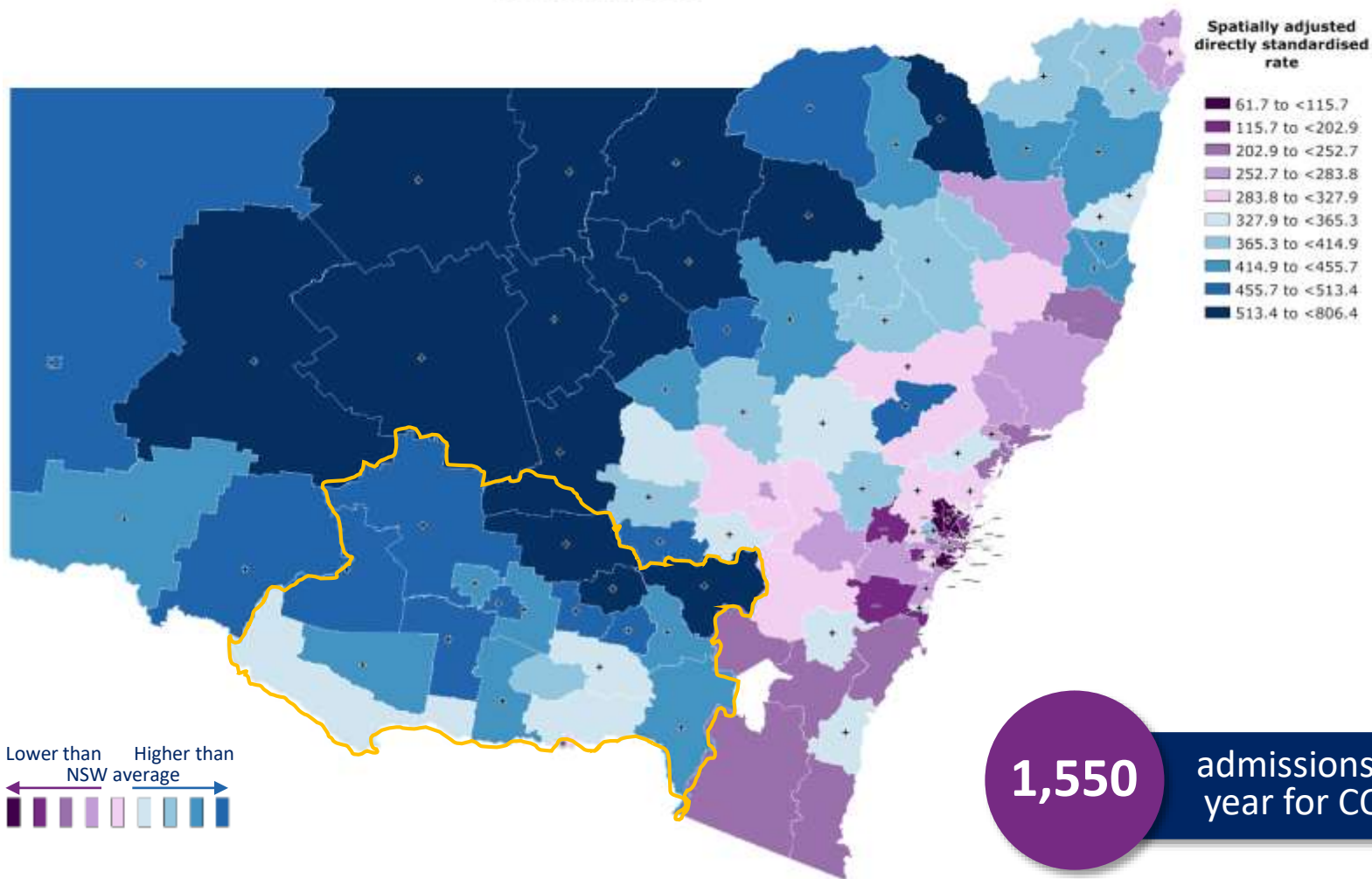
deaths per year from COPD in MLHD



Murrumbidgee Health Atlas

COPD hospitalisation

Chronic obstructive pulmonary disease hospitalisations by Local Government Area, persons of all ages, NSW
2015-16 to 2016-17



Chronic Obstructive Pulmonary Disease hospitalisation rates are made up primarily of chronic bronchitis and emphysema.

Highest rates: Temora, Bland and Hilltops LGAs. Rates were significantly higher than NSW. Rates were also significantly higher in all other LGAs except Murray River, Berrigan and Greater Hume.

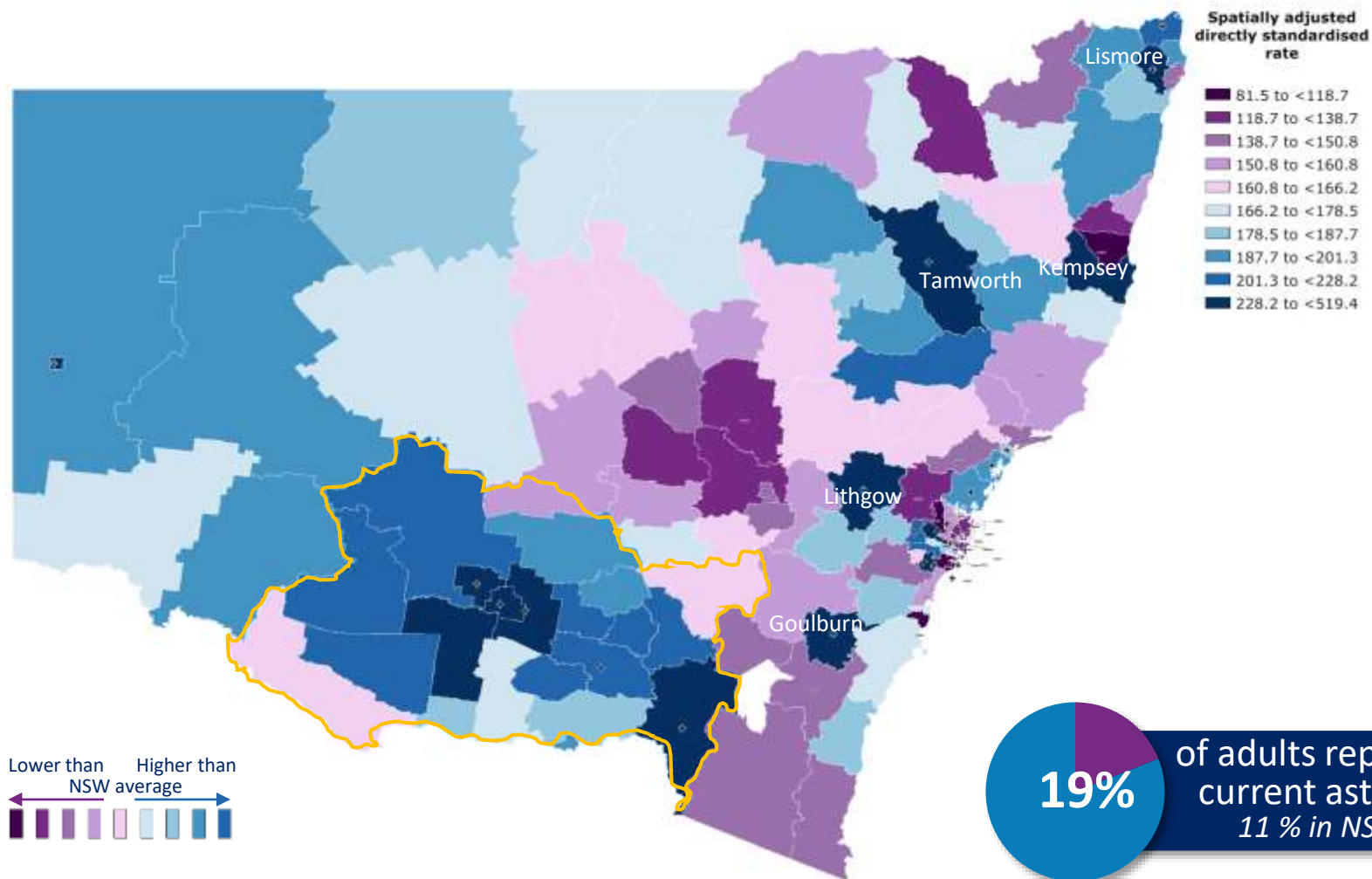
Lowest rates: Albury, Murray River, Berrigan and Greater Hume LGAs.



Murrumbidgee Health Atlas

Asthma

Asthma hospitalisations by Local Government Area, persons of all ages, NSW 2015-16 to 2016-17



Asthma hospitalisations

Highest rates:

Griffith, Leeton, Narrandera, Snowy Valleys and Wagga Wagga all had significantly higher rates than NSW. Murrumbidgee LGA rate was high, but not significantly due to small numbers.

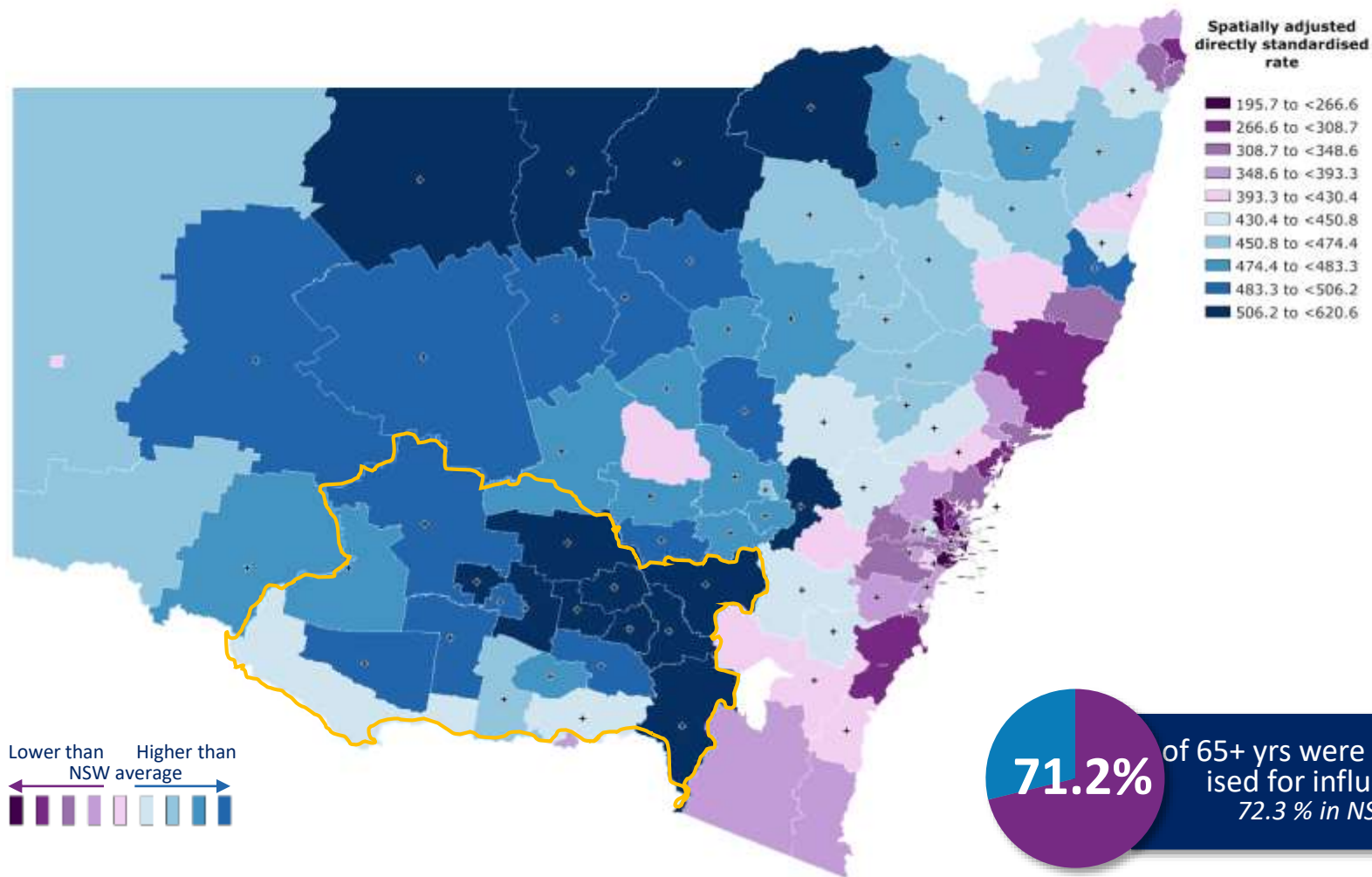
Lowest rates:

Murray River LGAs and Lake Cargelligo.

Murrumbidgee Health Atlas

Influenza and pneumonia

Influenza and pneumonia hospitalisations by Local Government Area, persons of all ages, NSW 2014-15 to 2015-16



Influenza and pneumonia hospitalisations.

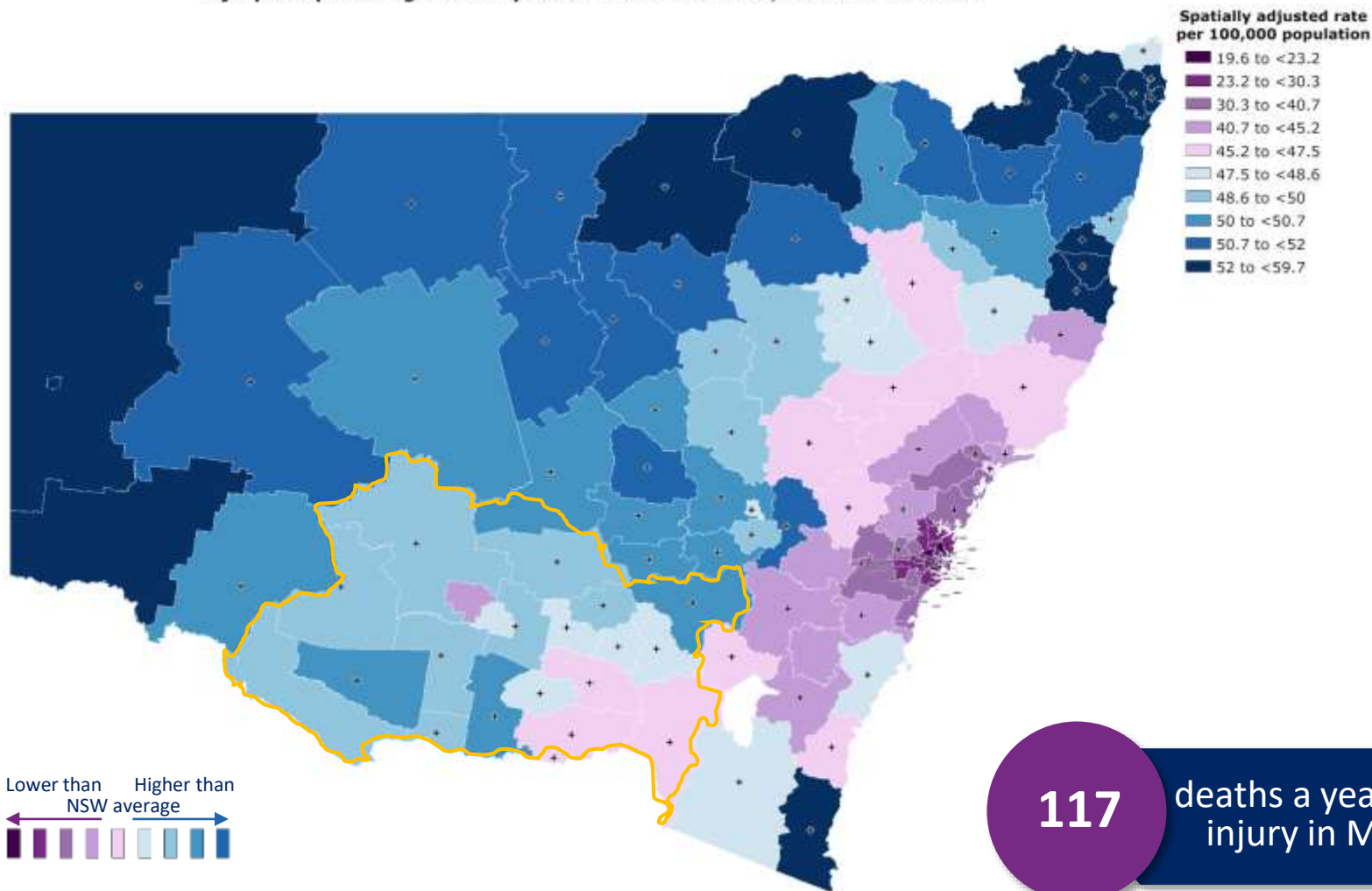
Highest rates: Narrandera, Griffith, Bland, Coolamon, Temora, Junee, Gundagai, Hilltops and Snowy Valleys. Rates were significantly higher than NSW. Rates were also higher in Wagga Wagga, Lockhart, Leeton, Carrathool, Murrumbidgee, Edward River, Federation and Greater Hume.

Lowest rates: Albury and Murray River LGAs

Murrumbidgee Health Atlas

Injury death

Injury and poisoning deaths by Local Government Area, NSW 2014 to 2016



Injury death. The leading causes of injury death (2011-2015) varied for males and females with suicide making up 25 per cent of male injury deaths followed by motor vehicle transport deaths (23%) and falls (9.7%); for women falls accounted for 27 per cent of injury deaths, motor vehicle transport 21.5 per cent and “exposure to unspecified factor” 19 per cent (studies have shown these are predominantly in the older age groups and are due to death certificates lacking sufficient information to code from).

Highest rates: Federation, Edward River and Hilltops LGAs. Rates were significantly higher than NSW for all LGAs in MLHD except for Griffith, Leeton and Murray River.

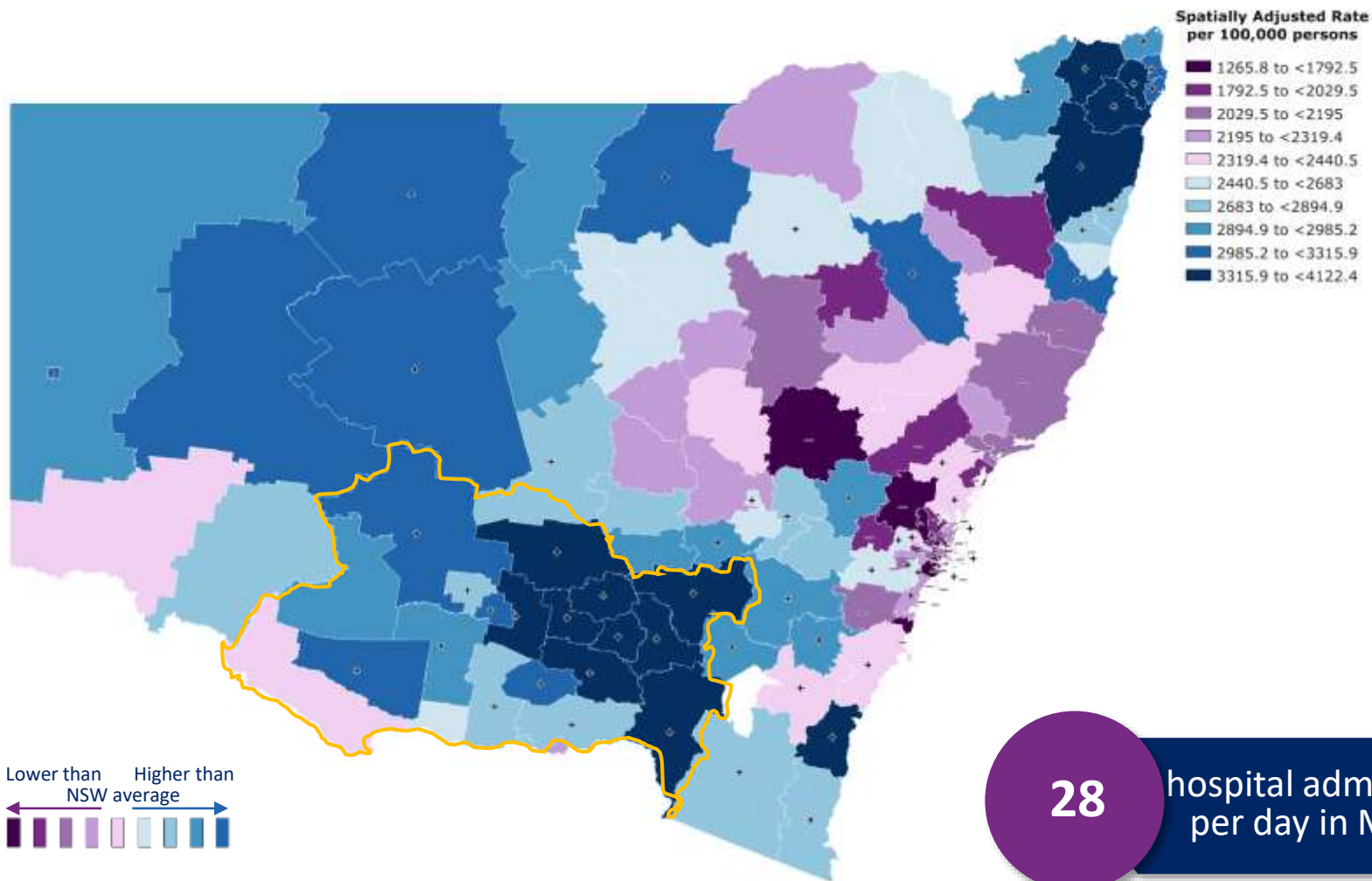
Lowest rates: Griffith, Leeton and Murray River LGAs.

117 deaths a year from injury in MLHD

Murrumbidgee Health Atlas

Injury hospitalisation

Injury and poisoning hospitalisations by Local Government Area, NSW 2016-17



Injury and poisoning was recorded as the principal diagnosis in a total of 10,391 episodes of care in 2016-17 for MLHD residents (data for acute hospital transfer and “statistical discharge” were excluded). MLHD had the highest rate of hospitalisation for injury among all NSW LHDs at 4,009 per 100,000 population, significantly higher than the NSW rate of 2,598 per 100,000 as well as all other LHDs in NSW.

Highest rates: Bland, Coolamon, Temora, Junee, Gundagai, Wagga Wagga, Hilltops and Snowy Valleys. Rates were significantly higher than NSW. Rates were also higher in most other LGAs.

Lowest rates: Murray River and Berrigan LGAs.

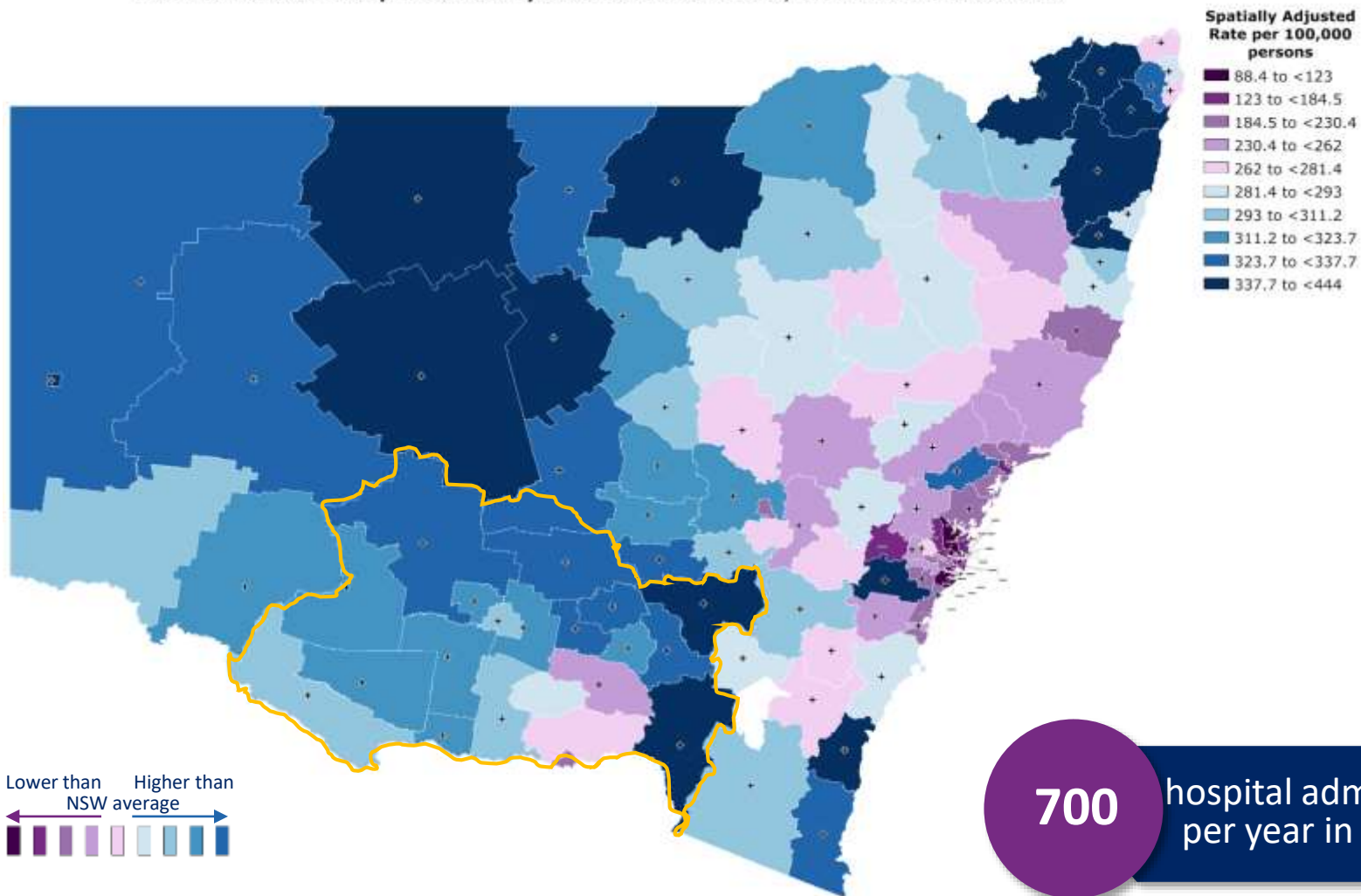
28

hospital admissions per day in MLHD



Lower than NSW average Higher than NSW average

Motor vehicle crash hospitalisations by Local Government Area, NSW 2015-16 to 2016-17



Motor Vehicle crash related injuries made up 7 % of all injury admissions in MLHD (2015 16) and 75% of all admissions in this category were for males.

Highest rates: Hilltops and Snowy Valleys, Gundagai, Temora, Coolamon, Bland and Carrathool. Rates were significantly higher than NSW in most LGAs

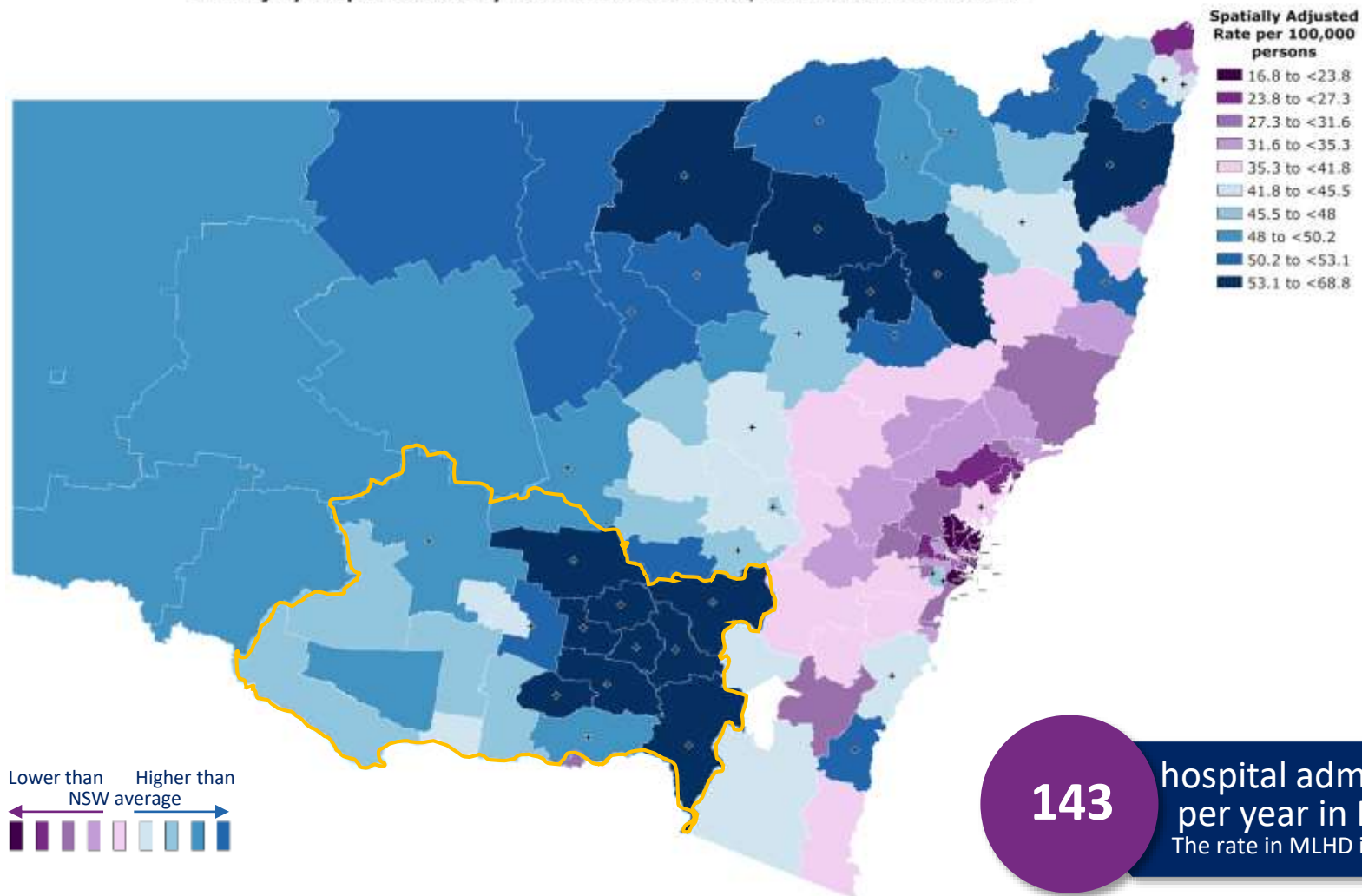
Lowest rates: Albury and Greater Hume LGAs

700 hospital admissions per year in MLHD

Murrumbidgee Health Atlas

Burn injury

Burn injury hospitalisations by Local Government Area, NSW 2015-16 to 2016-17



Burn injuries make up a small fraction (1%) of all injury hospitalisation in Australia, but are often the most serious (AIHW 2016).

Highest rates: Bland, Coolamon, Temora, Junee, Gundagai, Wagga Wagga, Lockhart, Hilltops and Snowy Valleys. Rates were significantly higher than NSW. Rates were also higher in Greater Hume, Narrandera and Carrathool.

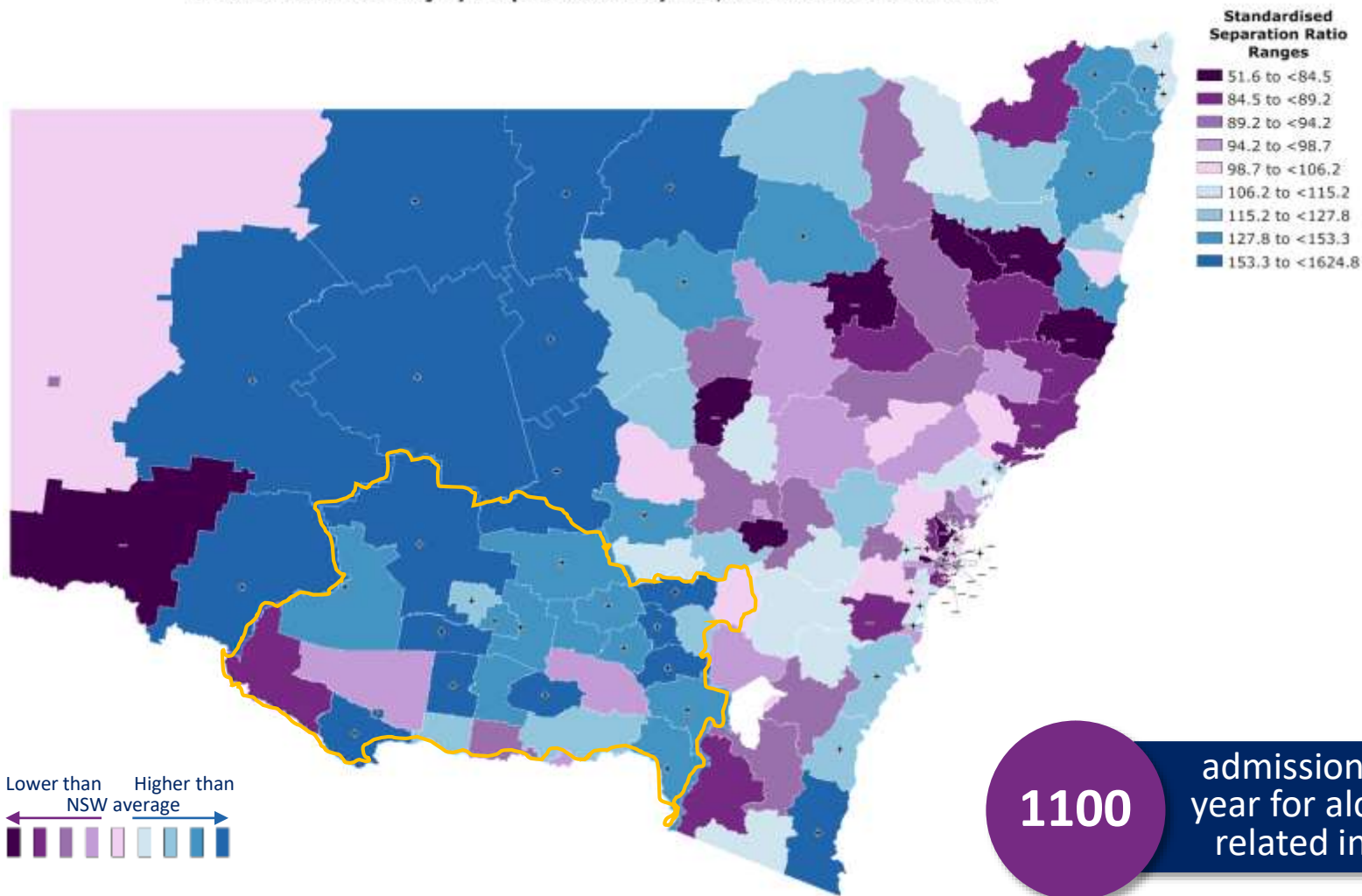
Lowest rates: Albury LGA.



Murrumbidgee Health Atlas

Alcohol related injury

Alcohol attributable injury hospitalisations by LGA, NSW 2012-13 to 2013-14



Alcohol attributable injury hospitalisations are those hospitalisations for injury where alcohol consumption could have been a contributing cause. Harm from alcohol related accident or injury is experienced disproportionately by younger people; over half of all serious alcohol related road injuries occur among 15-24 year olds. However, harm from alcohol related disease is more marked among older people (HealthStats NSW).

Highest rates: Carrathool, former Murrumbidgee, Jerilderie, Gundagai Cootamundra and Lockhart LGAs, and former Tumbarumba, Deniliquin and Murray LGAs. Rates were significantly higher than NSW.

Lowest rates: Albury, former Murray and Corowa LGAs

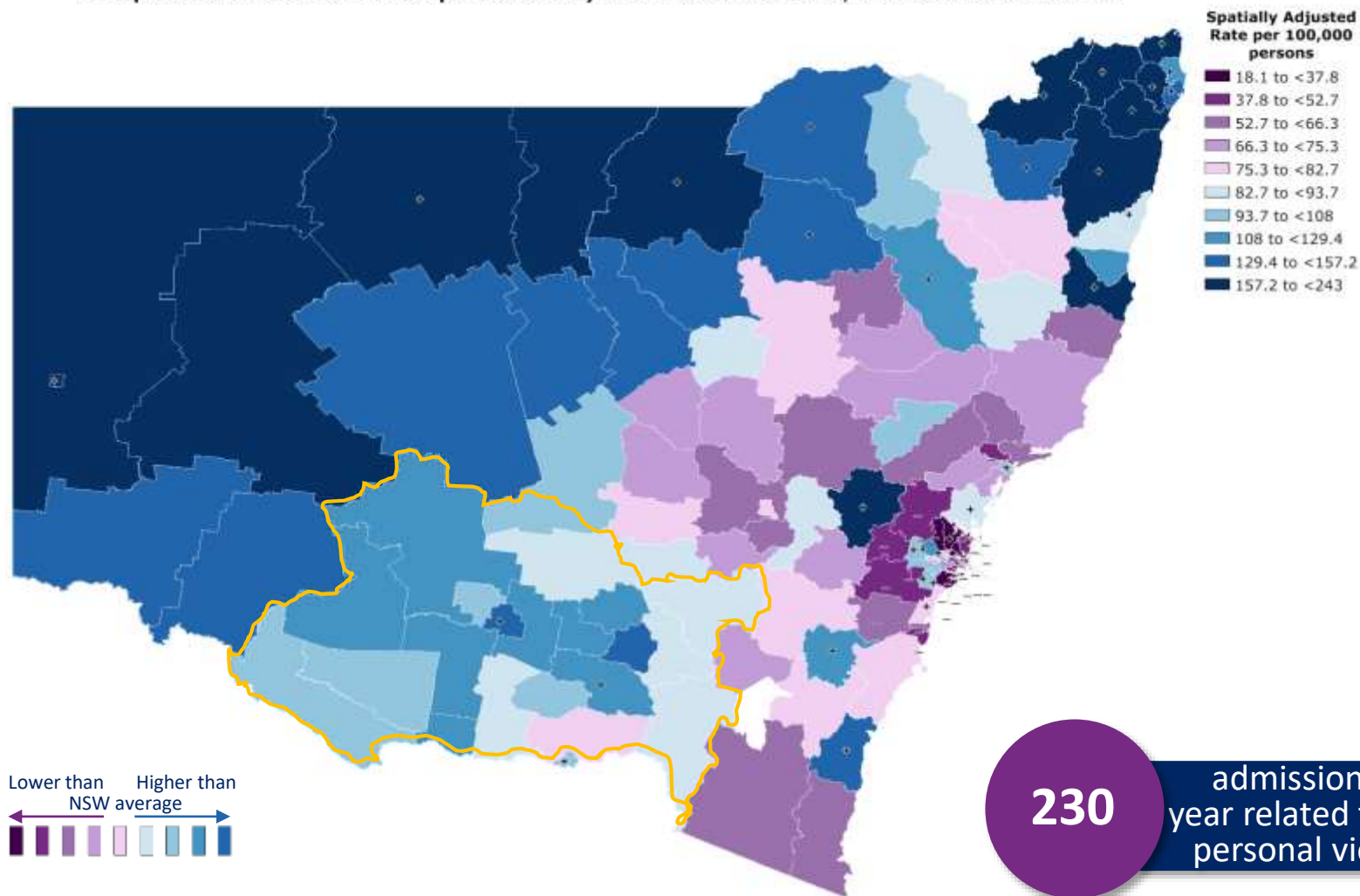
1100 admissions per year for alcohol-related injury



Murrumbidgee Health Atlas

Interpersonal violence

Interpersonal violence-related hospitalisations by Local Government Area, NSW 2015-16 to 2016-17



Interpersonal violence related hospitalisations are injury related hospitalisations where interpersonal violence is listed as the cause. Hospitalisation rates for males were double those of females.

Highest rates: Leeton, Wagga Wagga and Albury LGAs. Rates were significantly higher than NSW.

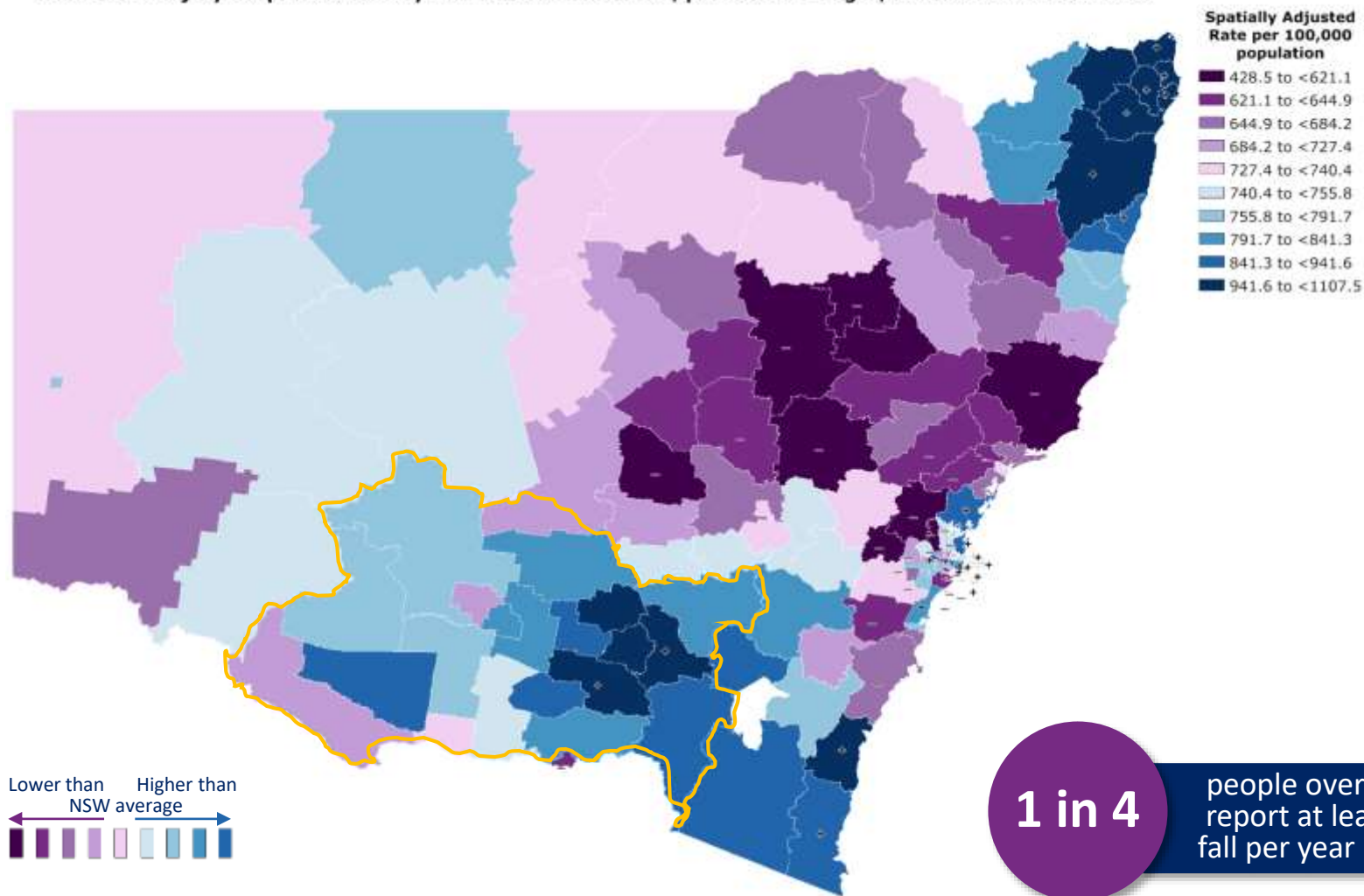
Lowest rates: Greater Hume LGAs

230 admissions per year related to interpersonal violence

Murrumbidgee Health Atlas

Fall-related injury

Fall-related injury hospitalisations by Local Government Area, persons of all ages, NSW 2015-16 to 2016-17



Fall related injury

hospitalisations are those hospitalisations where an injury was incurred as a result of a fall .

Highest rates: Wagga Wagga and Guindaga rates were significantly higher than NSW. Other areas with high rates were Junee and Temora.

Lowest rates: Albury, Murray River and Griffith and Berrigan LGAs.

1 in 4

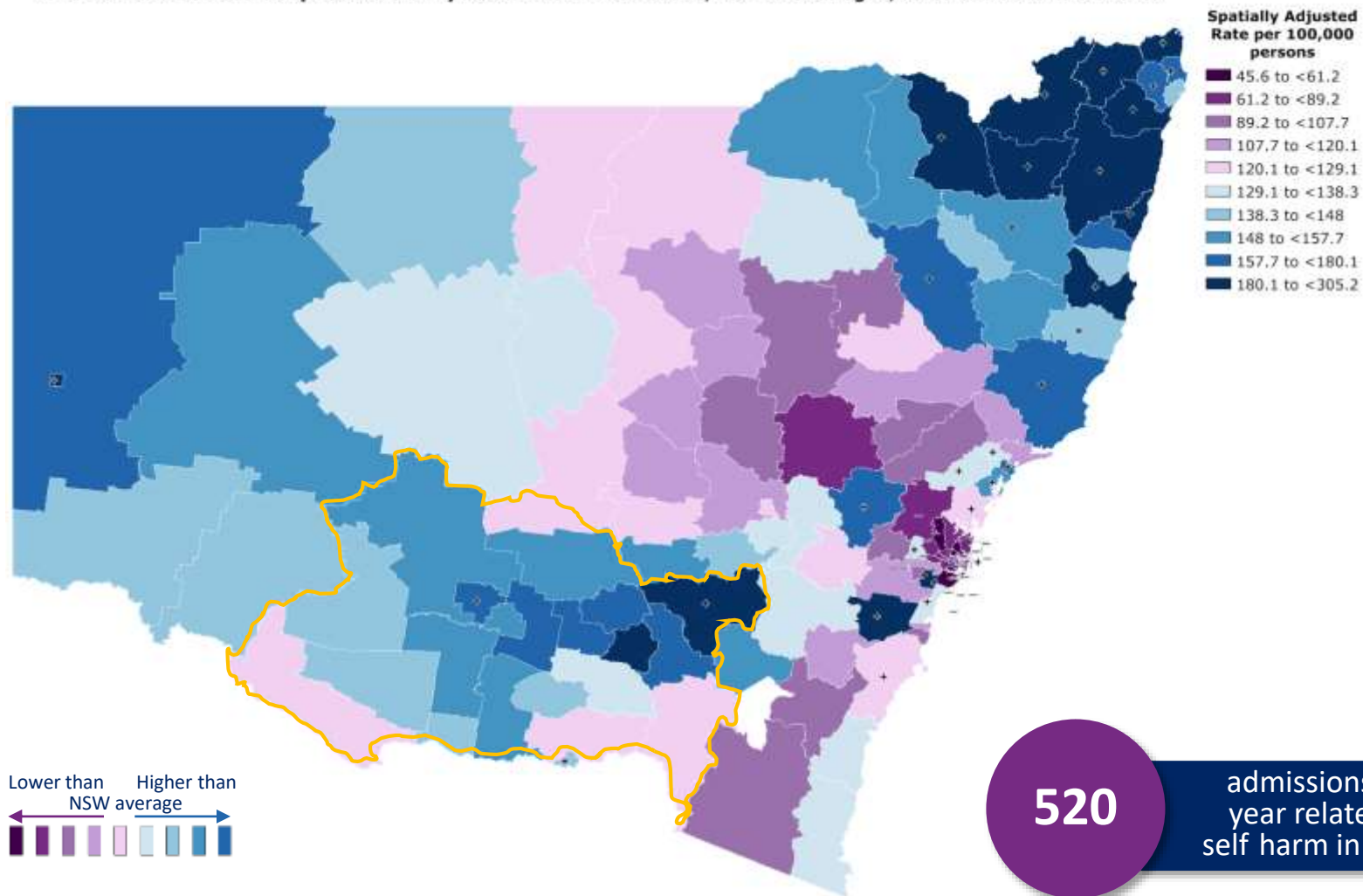
people over 65 yrs report at least one fall per year in NSW



Murrumbidgee Health Atlas

Self-harm

Intentional self-harm hospitalisations by Local Government Area, Males of all ages, NSW 2015-16 to 2016-17



Self harm hospitalisations are those hospitalisations where the intention of an injury or poisoning was to self harm or attempt suicide.

Highest rates: Hilltops and Junee with significantly high rates also in Griffith and Albury.

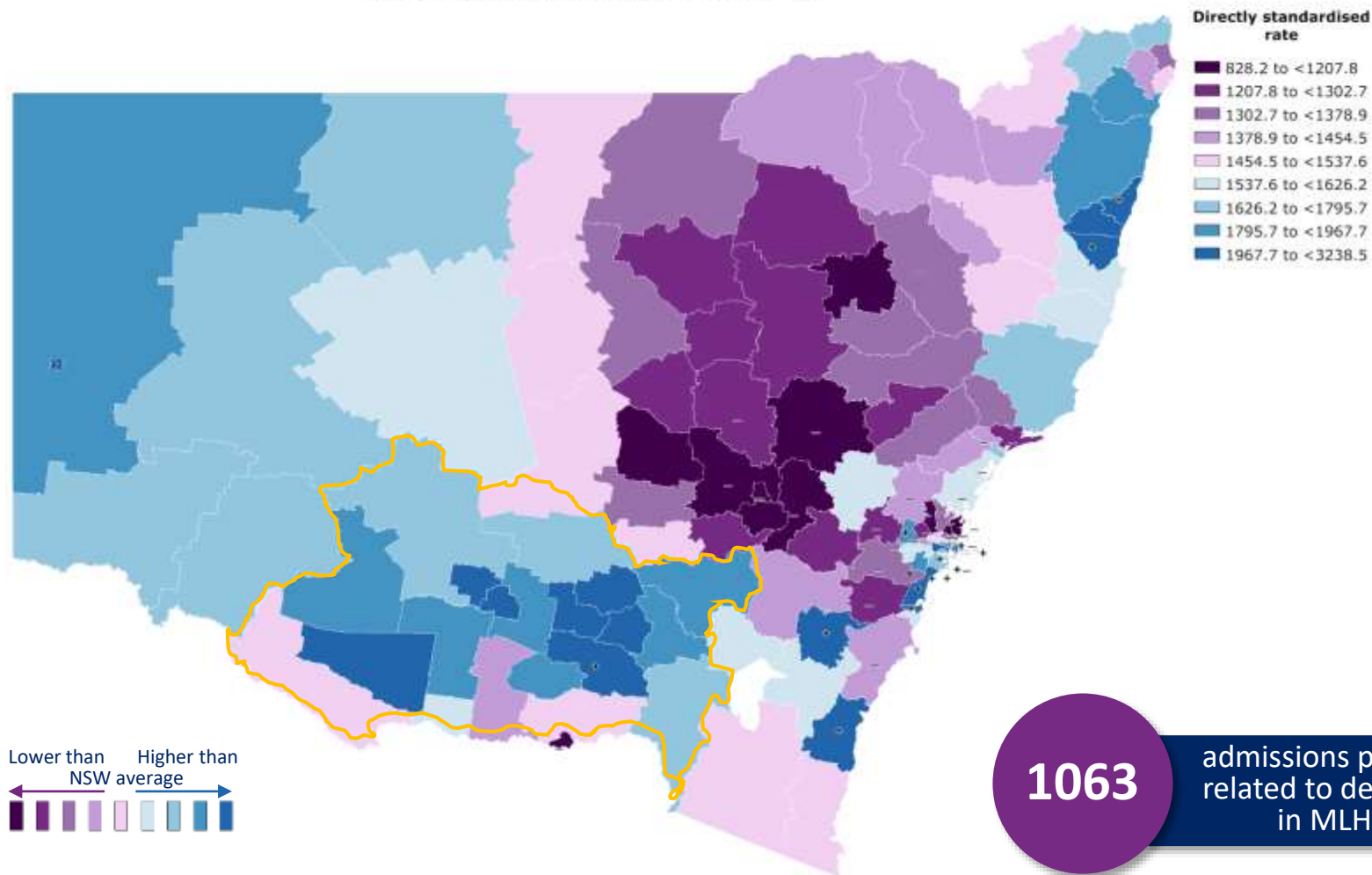
Lowest rates: Greater Hume, Murray River and Snowy Valleys LGAs.



Murrumbidgee Health Atlas

Dementia

Dementia as a principal diagnosis or as a comorbidity, hospitalisations by Local Government Area, persons aged 65 and over, NSW 2015-16 to 2016-17



Dementia hospitalisations are those where dementia was coded in the first diagnosis field; it was a comorbidity when it was coded in the 2nd 50th diagnosis fields and was not the principal diagnosis. Only those aged 65 years or over are included.

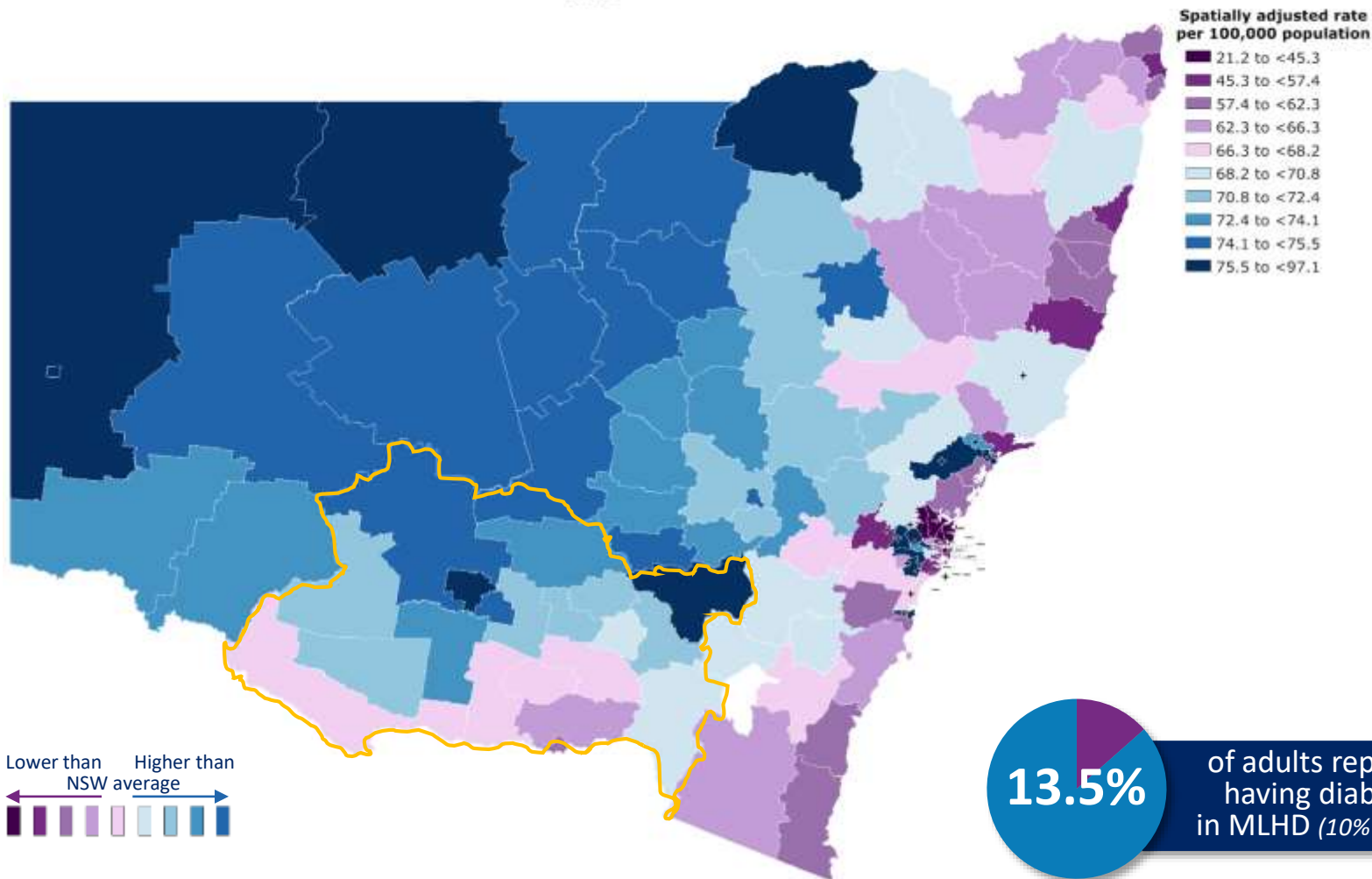
Highest rates: Edward River, Wagga Wagga, Junee, Temora, Coolamon, Griffith. The rates were significantly higher than NSW in Wagga Wagga.

Lowest rates: Albury and Federation LGAs.

Murrumbidgee Health Atlas

Diabetes death

Diabetes deaths by Local Government Area: Underlying cause (total) or associated cause (total), NSW 2015 to 2016



Diabetes deaths

There were 62 deaths in MLHD in 2015 where diabetes was the principal cause, but a total of 218 where diabetes was an underlying or associated cause making up 9 per cent of all deaths in 2015.

Highest rates: Griffith and Hilltops. Rates were not significantly higher than NSW.

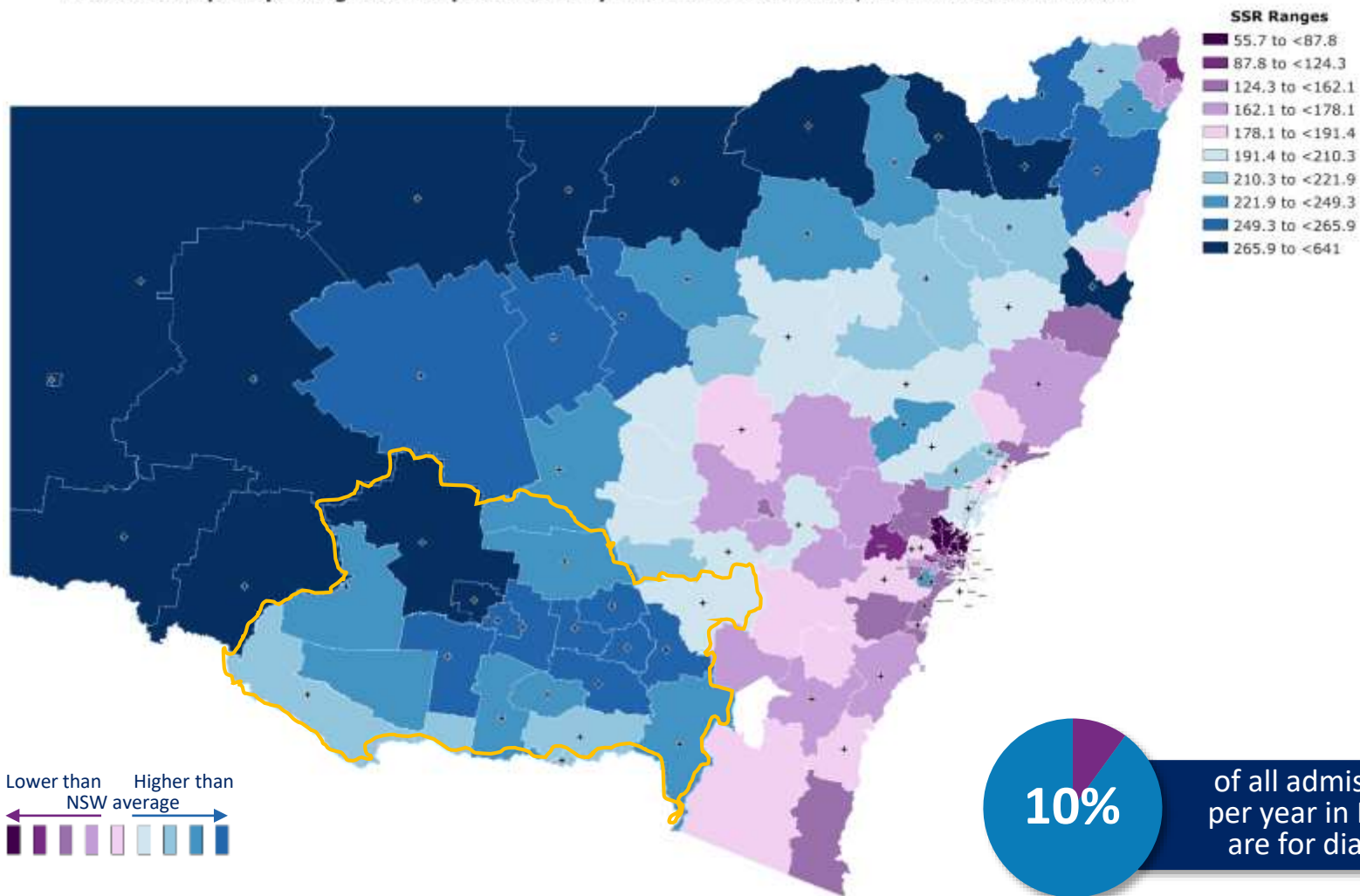
Lowest rates: Albury and Greater Hume LGAs

13.5% of adults reported having diabetes in MLHD (10% in NSW)

Murrumbidgee Health Atlas

Diabetes hospitalisation

Diabetes as a principal diagnosis: hospitalisations by Local Government Area, NSW 2015-16 to 2016-17

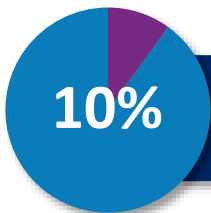


Diabetes hospitalisations

In 2016-17 there were 710 hospitalisations where diabetes (types 1 and 2) was the principal diagnosis in MLHD at an age adjusted rate of 255.7 per 100,000, the MLHD rate was significantly higher than NSW at 151.8 per 100,000 and all other LGAs except Far West.

Highest rates: Griffith and Carrathool. Rates were significantly higher than NSW in most LGAs.

Lowest rates: Murray River, Albury and Greater Hume LGAs



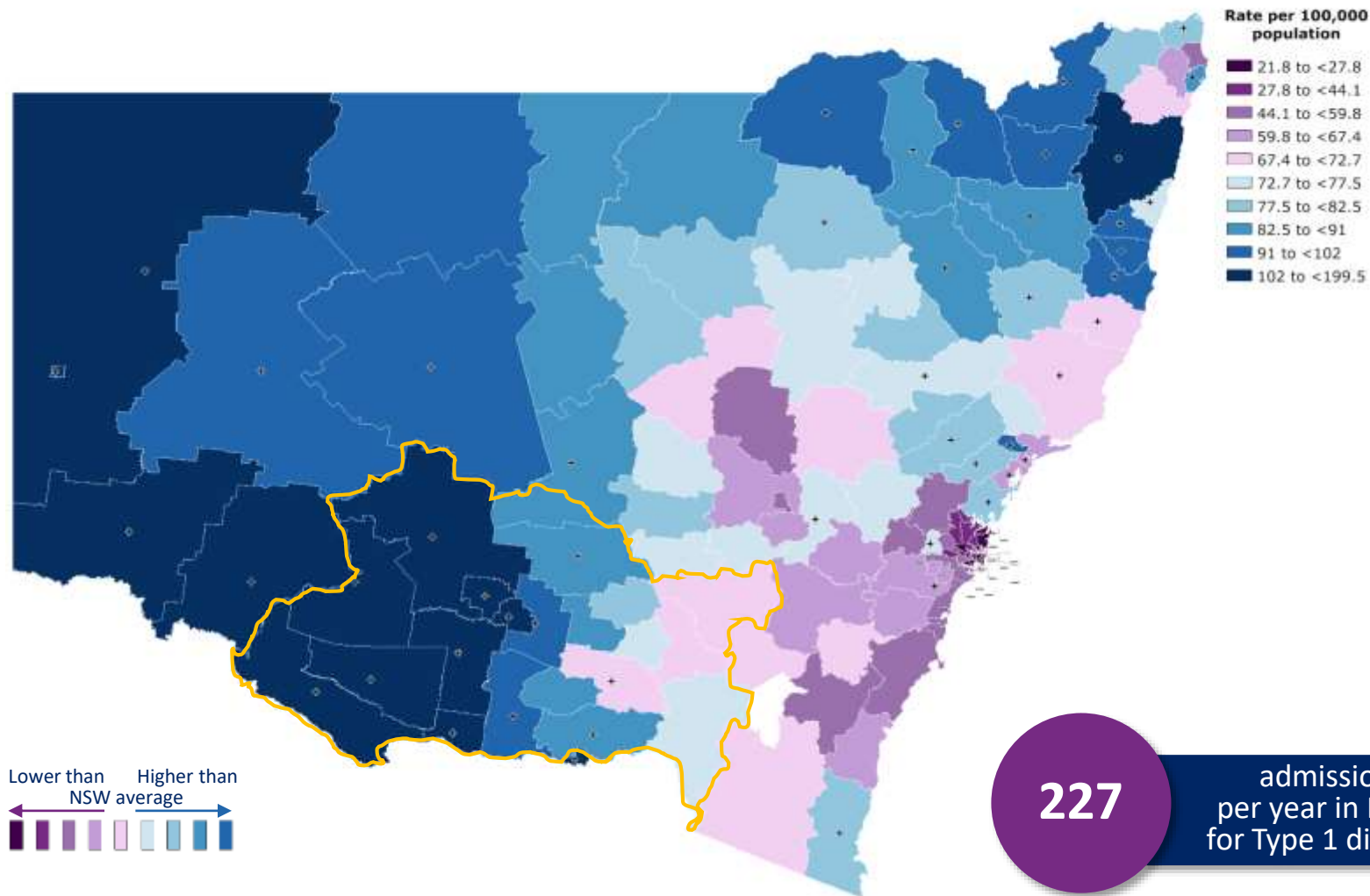
of all admissions per year in MLHD are for dialysis



Murrumbidgee Health Atlas

Type 1 diabetes

Diabetes hospitalisations by Local Government Area and type of diabetes: Type 1, NSW 2016-17



Type 1 Diabetes hospitalisations

Type 1 diabetes is estimated to be present in 10-15% of people with diabetes and is caused by a combination of genetic and environmental factors, but there are no known modifiable risk factors for this form of diabetes. Type 1 diabetes accounted for around 31% of hospitalisations and gestational diabetes for around 5%.

Highest rates: All the western LGAs of MLHD. Rates were significantly higher than NSW in these western LGAs.

Lowest rates: Hilltops and Gundagai LGAs

227

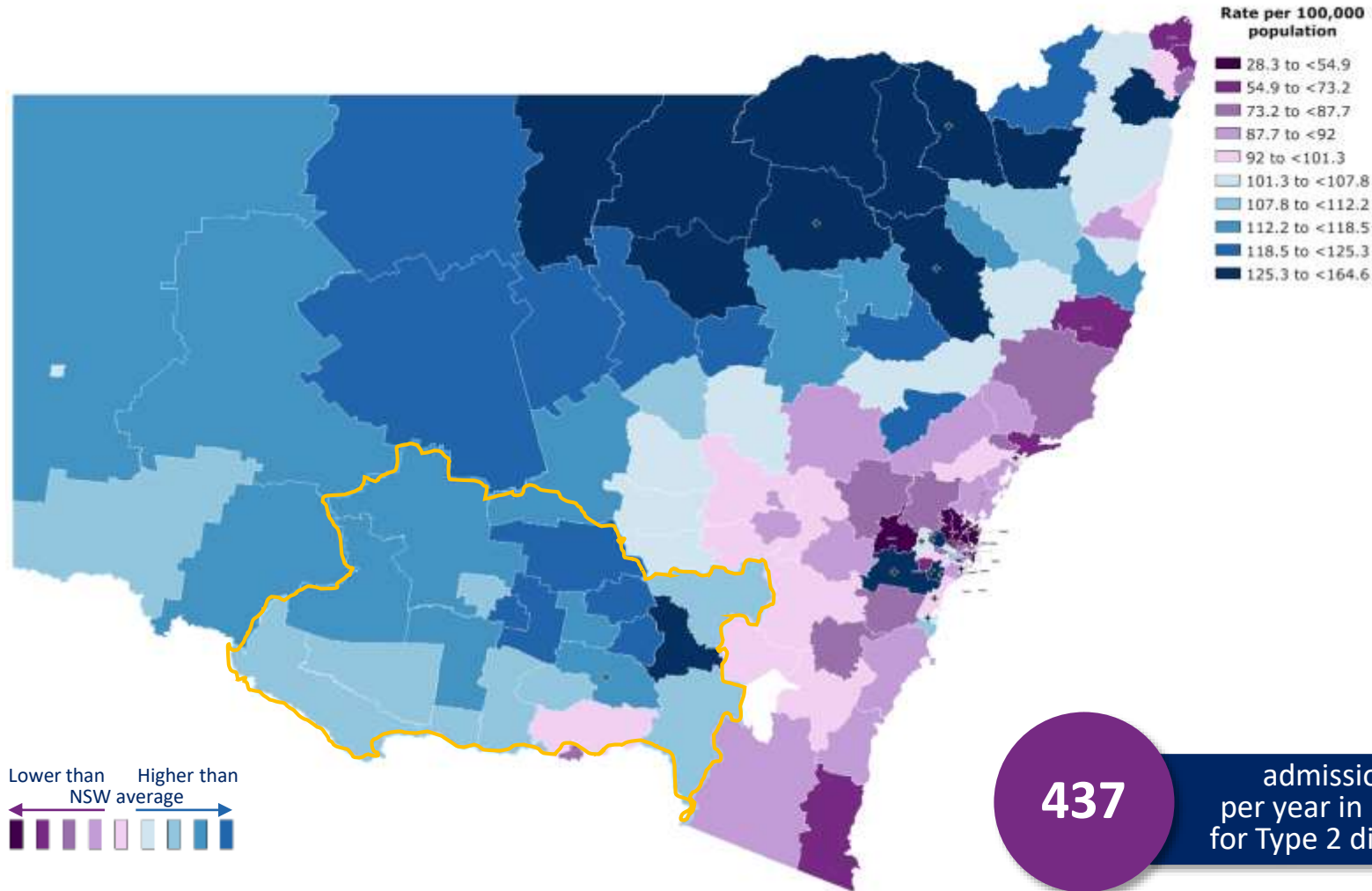
admissions per year in MLHD for Type 1 diabetes



Murrumbidgee Health Atlas

Type 2 diabetes

Diabetes hospitalisations by Local Government Area and type of diabetes: Type 2, NSW 2016-17



Type 2 Diabetes hospitalisations

While Type 2 diabetes accounts for up to 90% of all diabetes cases in the NSW community, it accounted for around 63% of all hospitalisations for diabetes in 2016-17.

Highest rates: Gundagai where the rate was not significantly higher due to small numbers, however the rate in Wagga Wagga was significantly higher than NSW.

Lowest rates: Albury and Greater Hume LGAs

437

admissions per year in MLHD for Type 2 diabetes

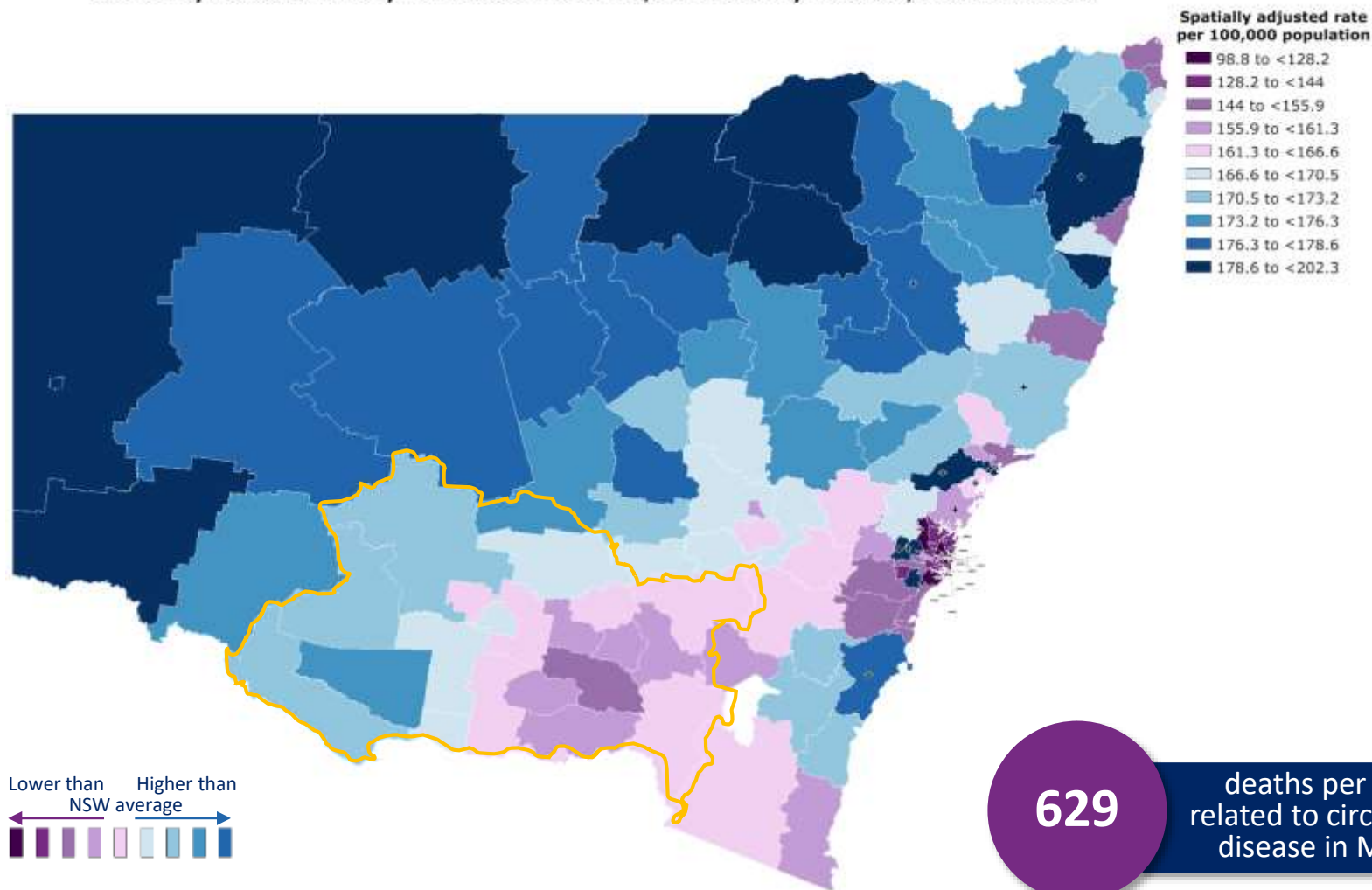


Lower than NSW average Higher than NSW average

Murrumbidgee Health Atlas

Circulatory disease death

Circulatory disease deaths by Local Government Area, All Circulatory Disease's, NSW 2015-2016



Cardiovascular (or circulatory) diseases comprise all diseases of the heart and blood vessels. Among these diseases, the four types responsible for the most deaths in NSW are: coronary heart disease (or ischaemic heart disease), stroke (or cerebrovascular disease), heart failure, and peripheral vascular disease.

Highest rates: Edward River, Murray River, Hay and Carrathool LGAs. Rates were not significantly higher than NSW.

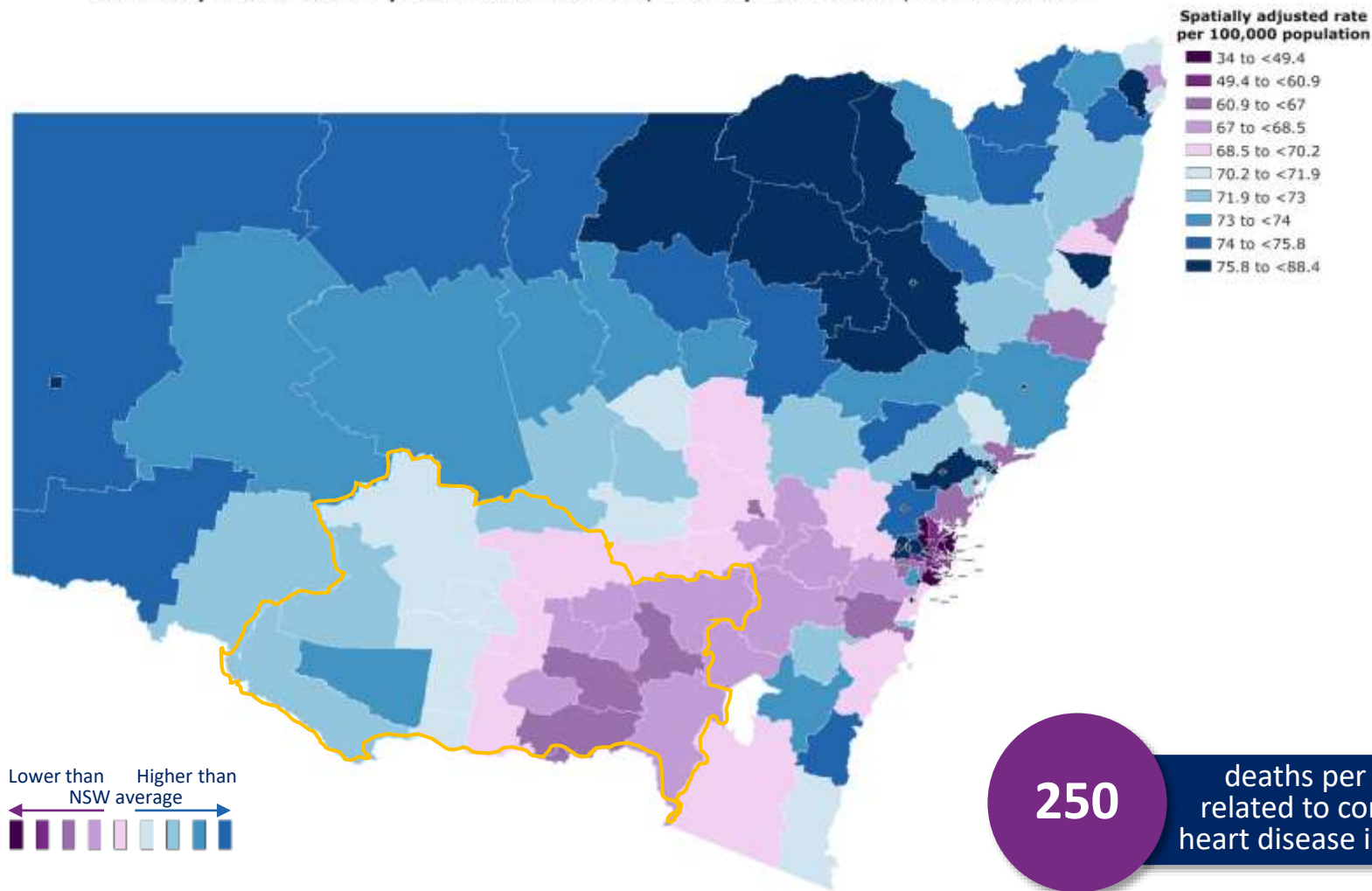
Lowest rates: Wagga Wagga and surrounding LGAs.

629

deaths per year related to circulatory disease in MLHD



Circulatory disease deaths by Local Government Area, Coronary Heart Disease, NSW 2015-2016



Coronary heart disease The rate of circulatory disease deaths has been decreasing steadily since the early 2000's and still dropped significantly from 2009 10 to 2012 13 and again in 2014 15. The majority of deaths were due to coronary heart disease (38%) followed by stroke (16%), heart failure (10%) and peripheral vascular disease (4%); ("other circulatory diseases" made up 32% of circulatory disease deaths). Rates of death for all causes have been decreasing since 2000 except for "other circulatory diseases".

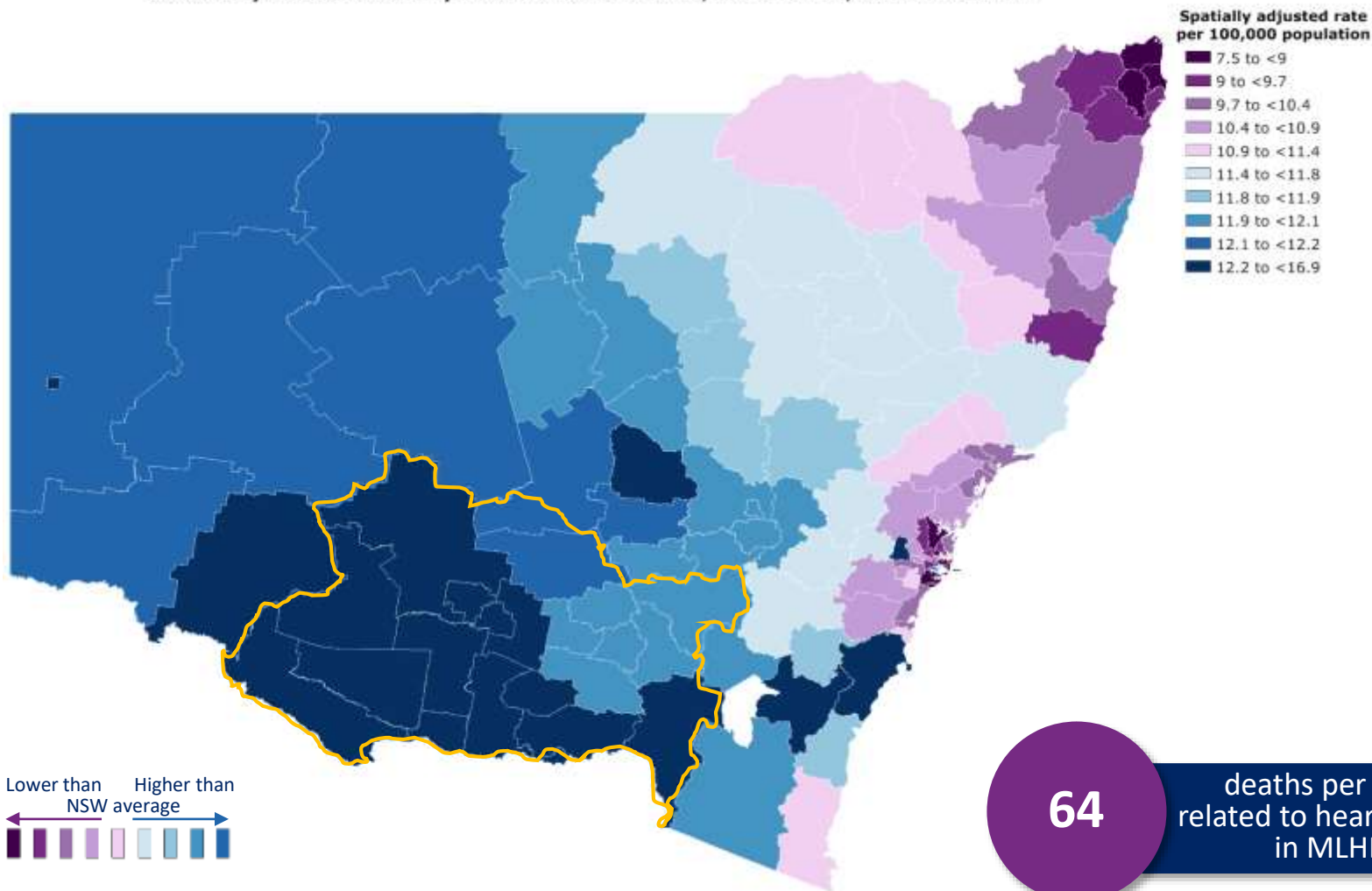
Highest rates: Edward River, Murray River, Hay and Carrathool LGAs. Rates were not significantly higher than NSW.

Lowest rates: Wagga Wagga and surrounding LGAs.

Murrumbidgee Health Atlas

Heart Failure death

Circulatory disease deaths by Local Government Area, Heart failure, NSW 2015-2016



Heart failure deaths primarily occurred in those aged 85 years and over in NSW. Heart failure made up 10% of all circulatory disease deaths.

Highest rates: The south western LGAs of MLHD had some of the highest rates of heart failure deaths in NSW however due to small numbers rates were not significantly higher than NSW.

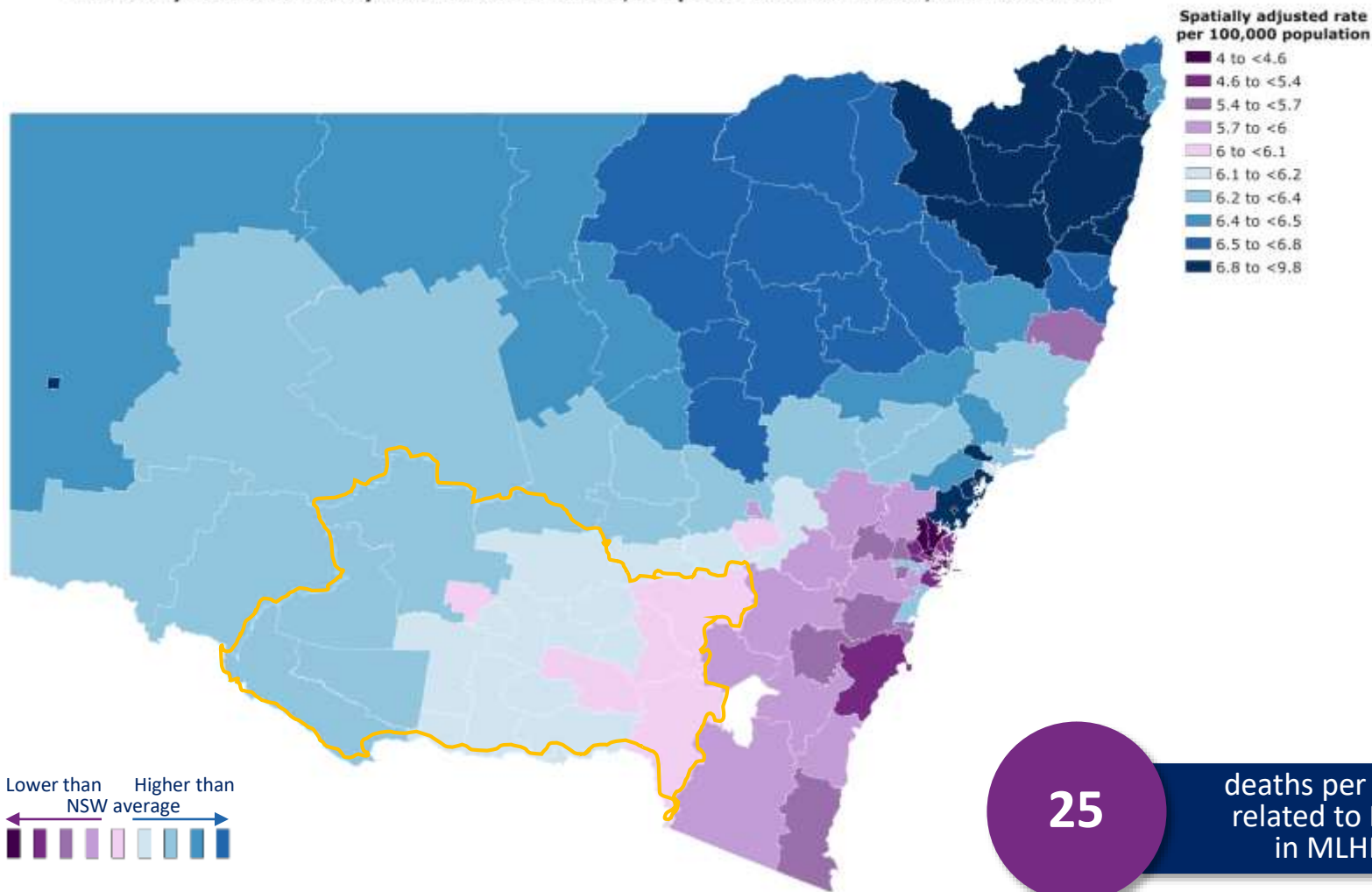
Lowest rates: Wagga Wagga and north eastern LGAs.

64

deaths per year related to heart failure in MLHD



Circulatory disease deaths by Local Government Area, Peripheral Vascular Disease, NSW 2015-2016



Peripheral vascular disease (PVD) deaths primarily occurred in those aged 90 years and over in NSW. Death from PVD made up 4% of all circulatory disease deaths.

Highest rates: The western LGAs of MLHD had the highest rates of PVD deaths however due to small numbers rates were not significantly higher than NSW.

Lowest rates: Griffith, Wagga Wagga and eastern LGAs had the lowest rates.

25

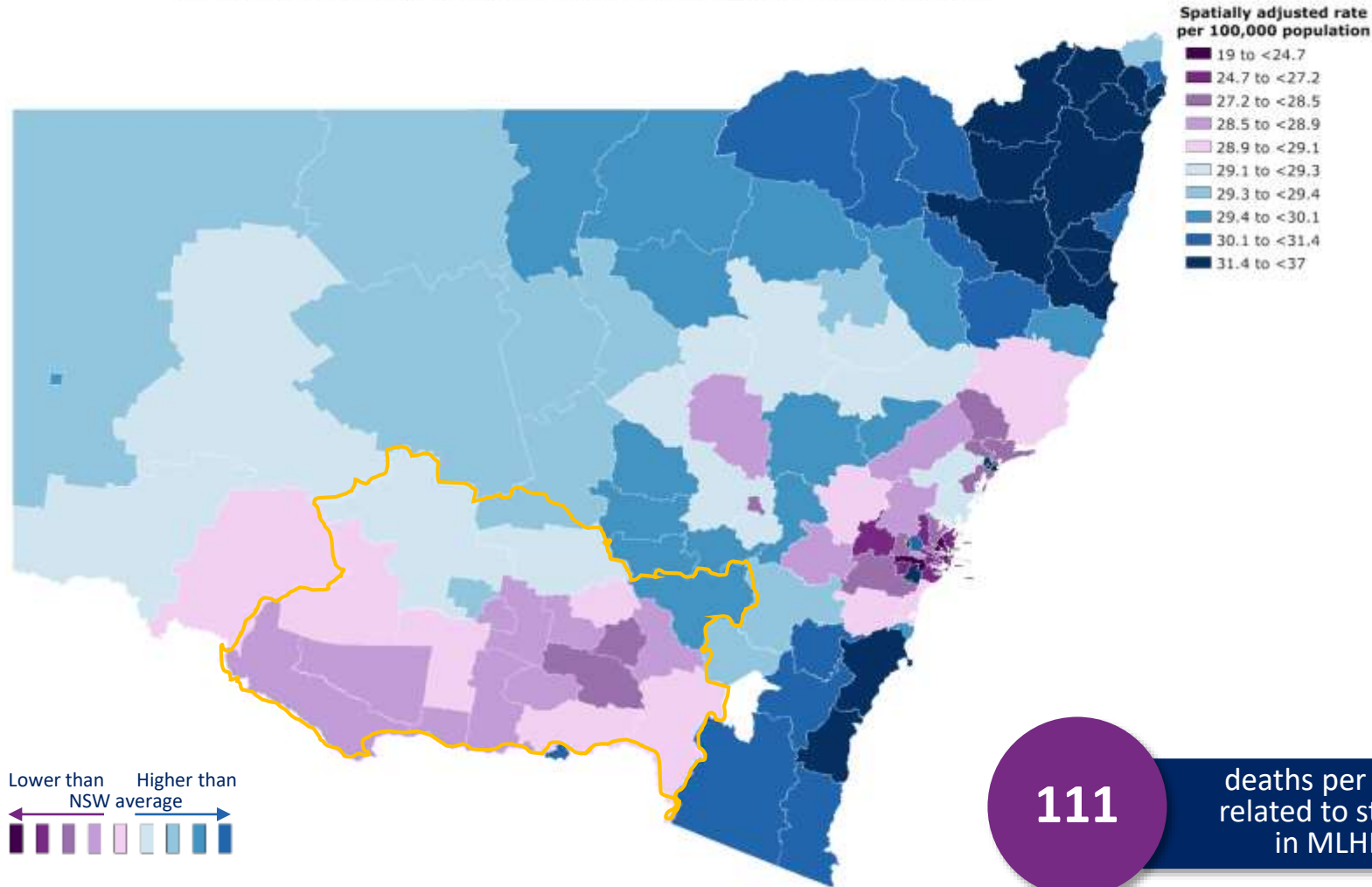
deaths per year related to PVD in MLHD



Murrumbidgee Health Atlas

Stroke death

Circulatory disease deaths by Local Government Area, Stroke, NSW 2015-2016



Stroke deaths primarily occurred in those aged 85 years and over in NSW. Death from stroke made up 16% of all circulatory disease deaths.

Highest rates: Albury, Hilltops and Griffith. Rates were not significantly higher than NSW.

Lowest rates: Wagga Wagga and Junee LGAs.

111

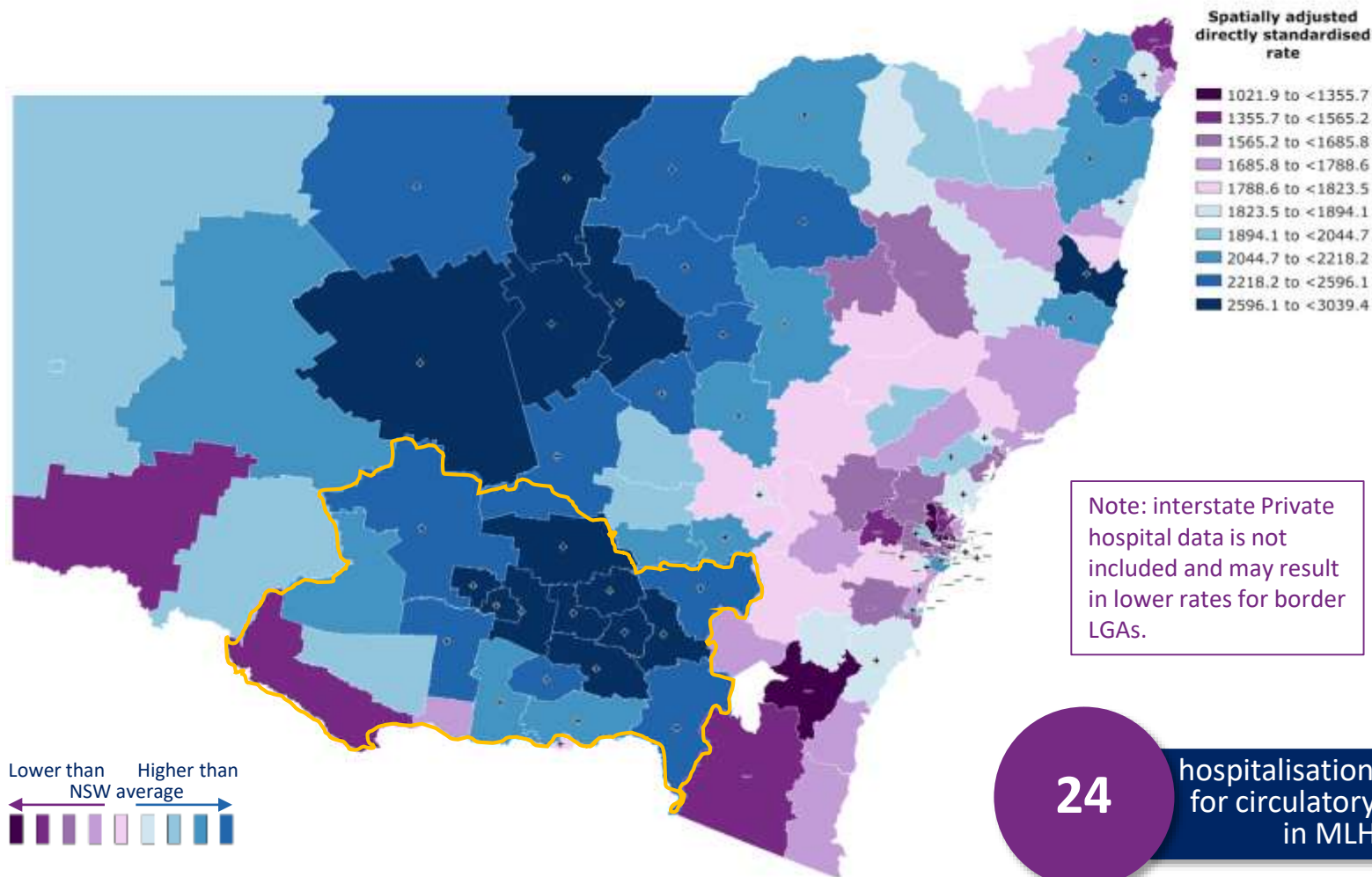
deaths per year related to stroke in MLHD



Murrumbidgee Health Atlas

Circulatory disease hospitalisation

Circulatory disease hospitalisations by Local Government Area, NSW 2015-16 to 2016-17



Note: interstate Private hospital data is not included and may result in lower rates for border LGAs.

Circulatory disease hospitalisation In 2016 17 there were 8,722 hospitalisations in total for circulatory disease, The age adjusted rate of hospitalisation for circulatory disease in MLHD in 2016 17 of 2,568 per 100,000 was significantly higher than NSW at 1,765 per 100,000. Overall Murrumbidgee LHD had the highest rates of most categories of circulatory disease hospitalisation compared to other LHDs in NSW and in fact was statistically significantly higher for almost all categories from all LHDs with the exception of tachycardia, varicose veins and TIA .

Highest rates: All central MLHD LGAs. Rates were significantly higher than NSW in all LGAs except Hay, Edward River, Murray River and Berrigan.

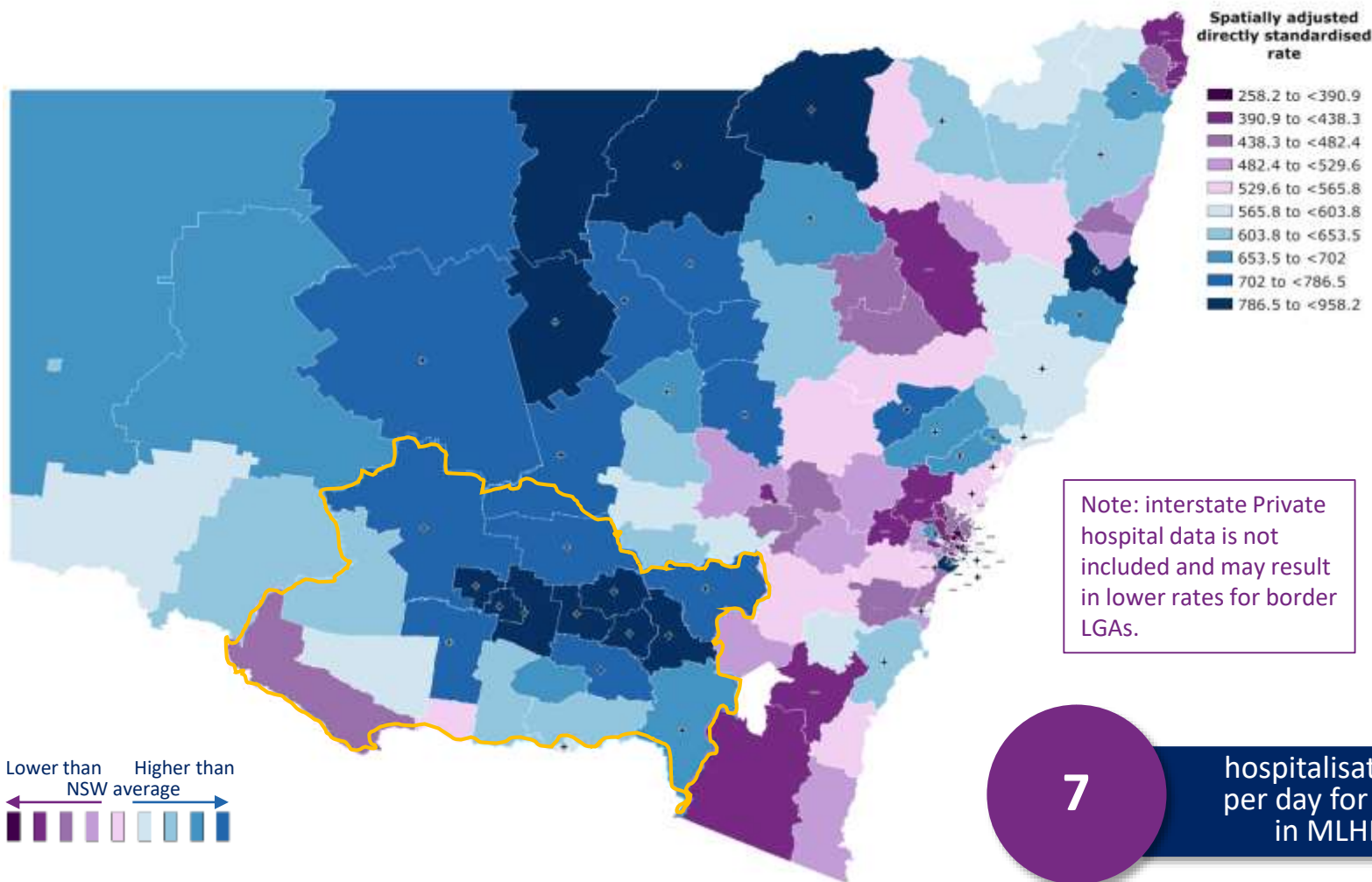
Lowest rates: Murray River and Berrigan LGAs

24 hospitalisations per day for circulatory disease in MLHD

Murrumbidgee Health Atlas

CHD hospitalisation

Coronary heart disease hospitalisations by Local Government Area, persons of all age, NSW 2015-16 to 2016-17



Coronary Heart disease hospitalisation made up 27% of circulatory disease hospitalisations. Murrumbidgee LHD had significantly higher hospitalisation rates of CHD compared to all other LHDs in NSW.

Highest rates: Temora, Junee, Gundagai, Coolamon, Narrandera, Griffith and Leeton LGAs. Rates were significantly higher than NSW in these and the following LGAs: Hilltops, Bland, Carrathool, Murrumbidgee, Wagga Wagga, Tumbarumba and Albury.

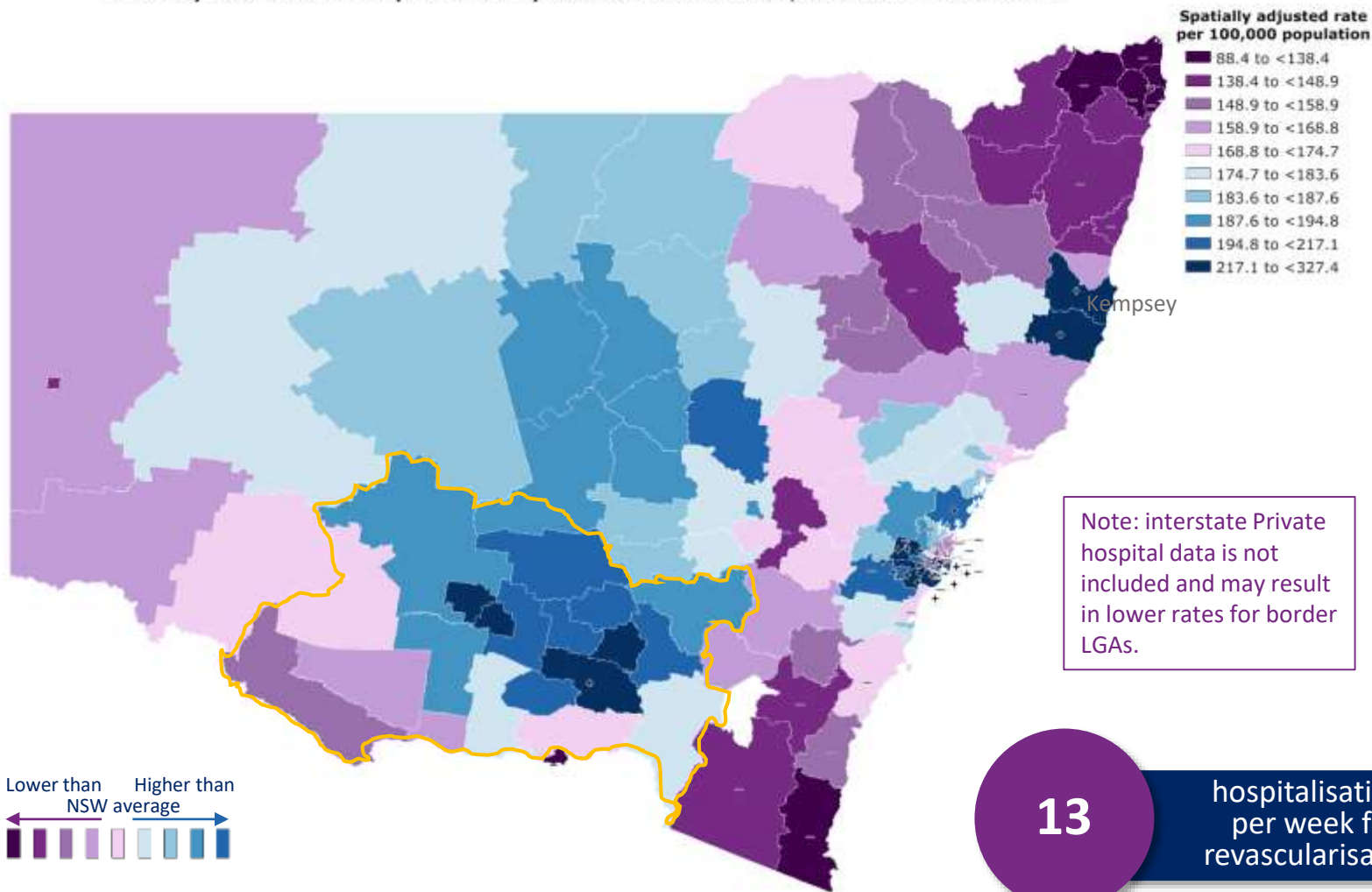
Lowest rates: Murray River and Berrigan LGAs.

7

hospitalisations per day for CHD in MLHD



Coronary revascularisation procedures by Local Government Area, NSW 2015-16 to 2016-17



Cardiovascular procedures

used to restore adequate blood flow to blocked arteries were highest for residents of the South Eastern Sydney LHD and lowest in the Northern NSW LHD. Murrumbidgee LHD residents had a CVD procedure rate of 206 per 100,000 (2016-17) which was significantly higher than NSW at 186 per 100,000. The combined procedure rate had been increasing steadily since the early 1990's due to increases in angioplasty and stent surgery. Males have significantly higher rates of these procedures than females.

Highest rates: Wagga Wagga, Junee, Griffith and Leeton. Rates were significantly higher than NSW in Wagga Wagga.

Lowest rates: Albury and Murray LGAs

13

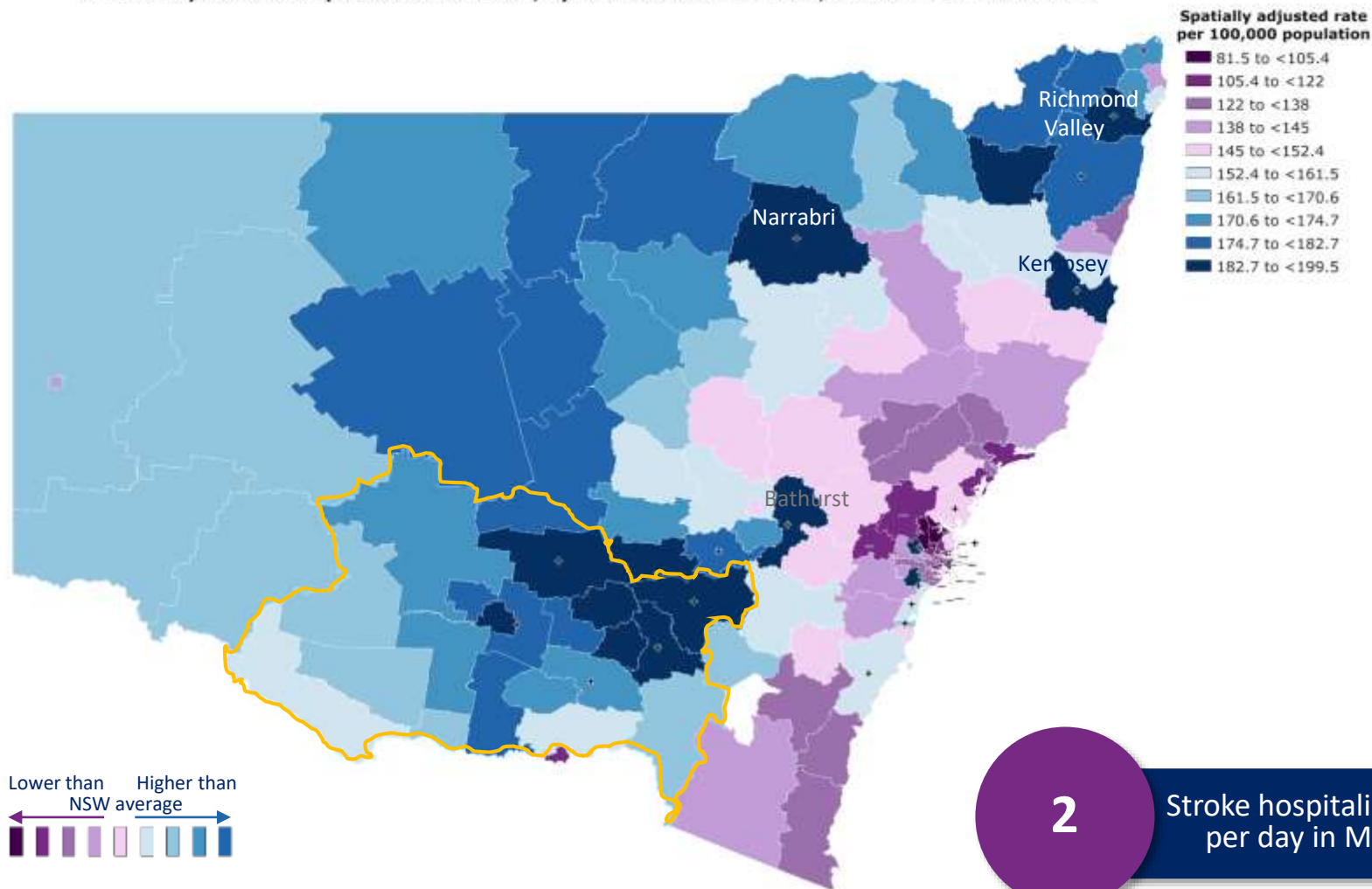
hospitalisations per week for revascularisation



Murrumbidgee Health Atlas

Stroke hospitalisation

Circulatory disease hospitalisations: Stroke, by Local Government Area, NSW 2014-15 to 2015-16



Stroke hospitalisations rates were significantly higher in MLHD than NSW.

Highest rates: Gundagai, Bland, Hilltops, Temora, Junee and Griffith. Rates were significantly higher than NSW in Gundagai, Bland, Hilltops and Wagga Wagga and Narrandera.

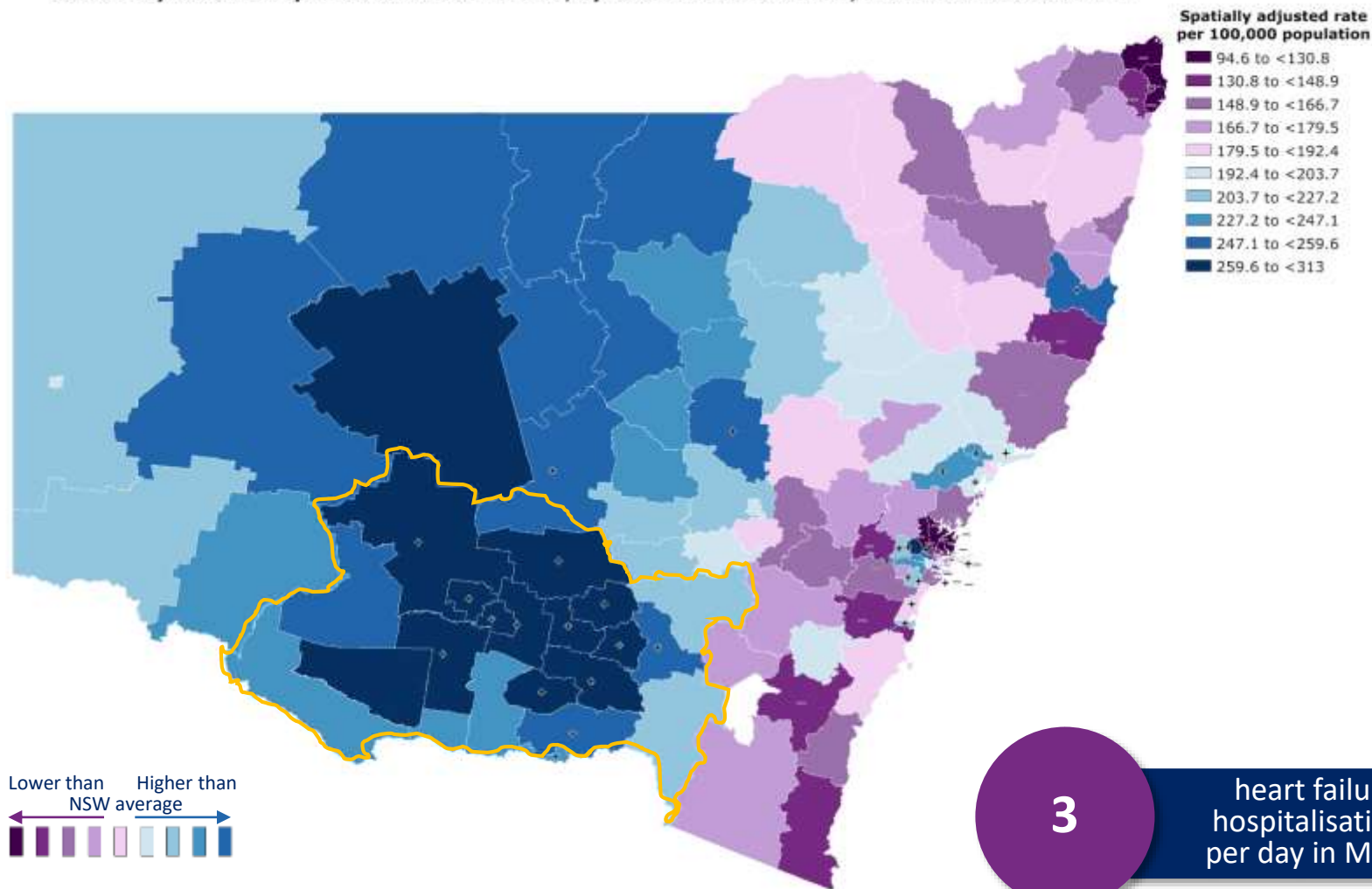
Lowest rates: Albury LGA

2

Stroke hospitalisations per day in MLHD



Circulatory disease hospitalisations: Heart failure, by Local Government Area, NSW 2014-15 to 2015-16



Heart failure hospitalisation

There are 1,000 hospitalisations annually for heart failure in MLHD, at a rate significantly higher rate than that of NSW.

Highest rates: All central LGAs had rates significantly higher than NSW.

Lowest rates: Hilltops and Snowy Valleys LGAs

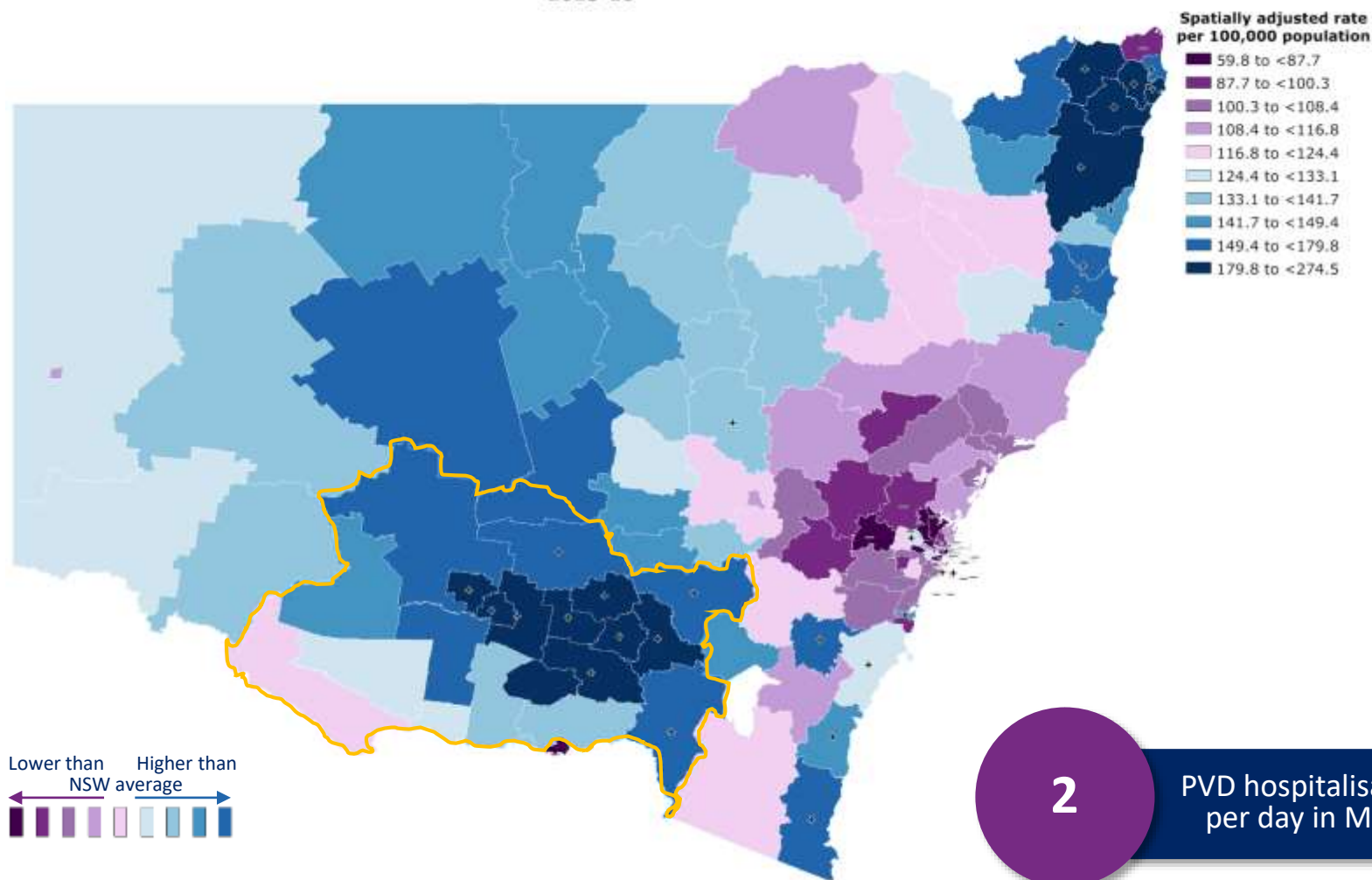
3

heart failure hospitalisations per day in MLHD



Murrumbidgee Health Atlas Peripheral vascular disease hospitalisation

Circulatory disease hospitalisations: Peripheral Vascular Disease, by Local Government Area, NSW 2014-15 to 2015-16



Peripheral vascular disease hospitalisation. There were 680 PVD hospitalisations in 2016 17 in MLHD, at a rate significantly higher than NSW rates.

Highest rates: Wagga Wagga, Temora, Junee, Gundagai, Coolamon, Narrandera, Leeton and Griffith LGAs. Rates were significantly higher than NSW. Rates were higher in Bland, Hilltops and Snowy Valleys LGAs also.

Lowest rates: Albury and Murray LGAs

2

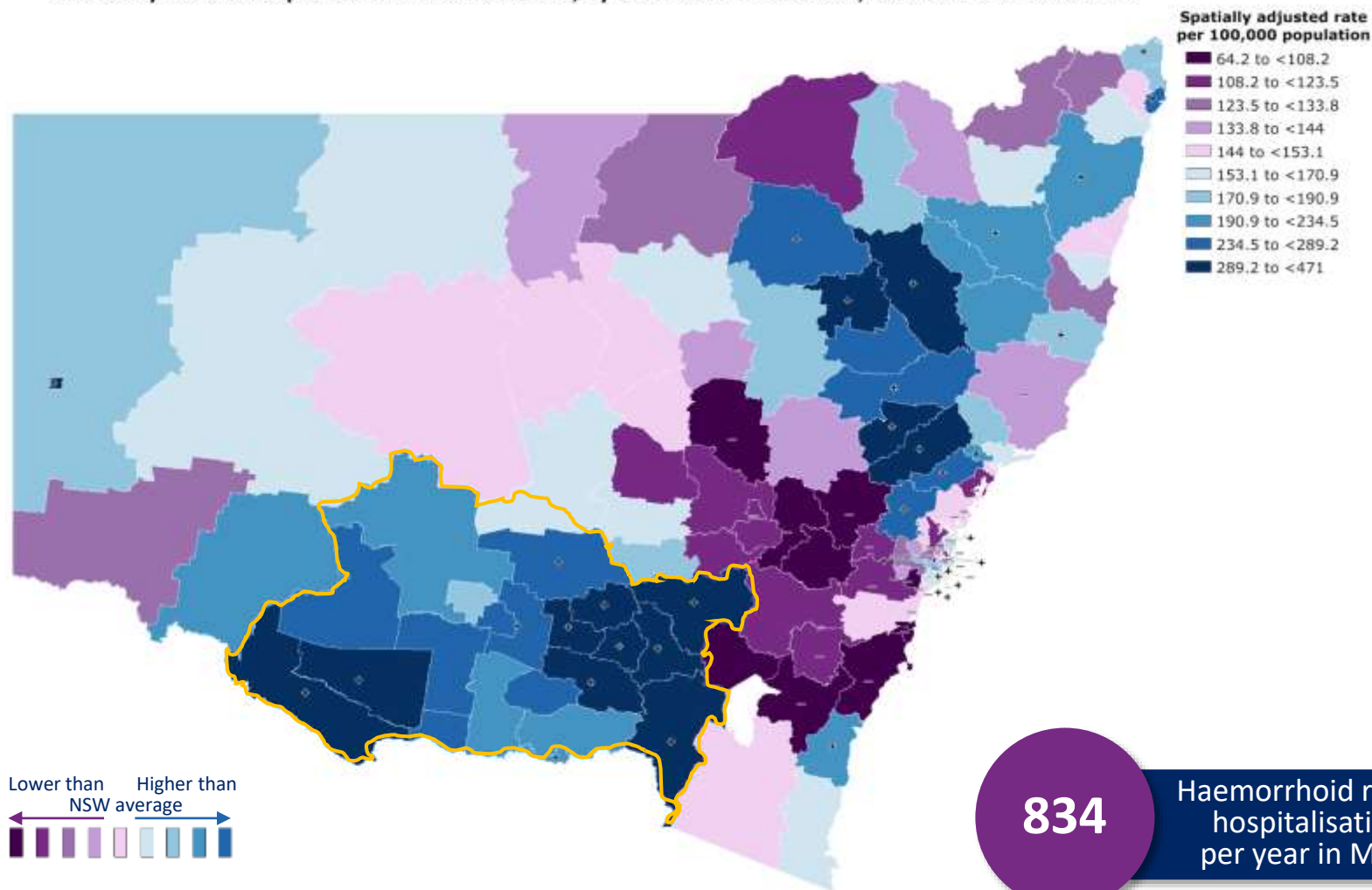
PVD hospitalisations per day in MLHD



Murrumbidgee Health Atlas

Haemorrhoids

Circulatory disease hospitalisations: Haemorrhoids, by Local Government Area, NSW 2014-15 to 2015-16



Haemorrhoid hospitalisations make up 10% of all circulatory disease hospitalisations in MLHD and occur at a significantly higher rate than NSW.

Highest rates: Wagga Wagga, Temora, Junee, Gundagai, Coolamon, Snowy Valleys, Murray River and Edward River LGAs. Rates were significantly higher than NSW.

Lowest rates: Griffith LGA

834

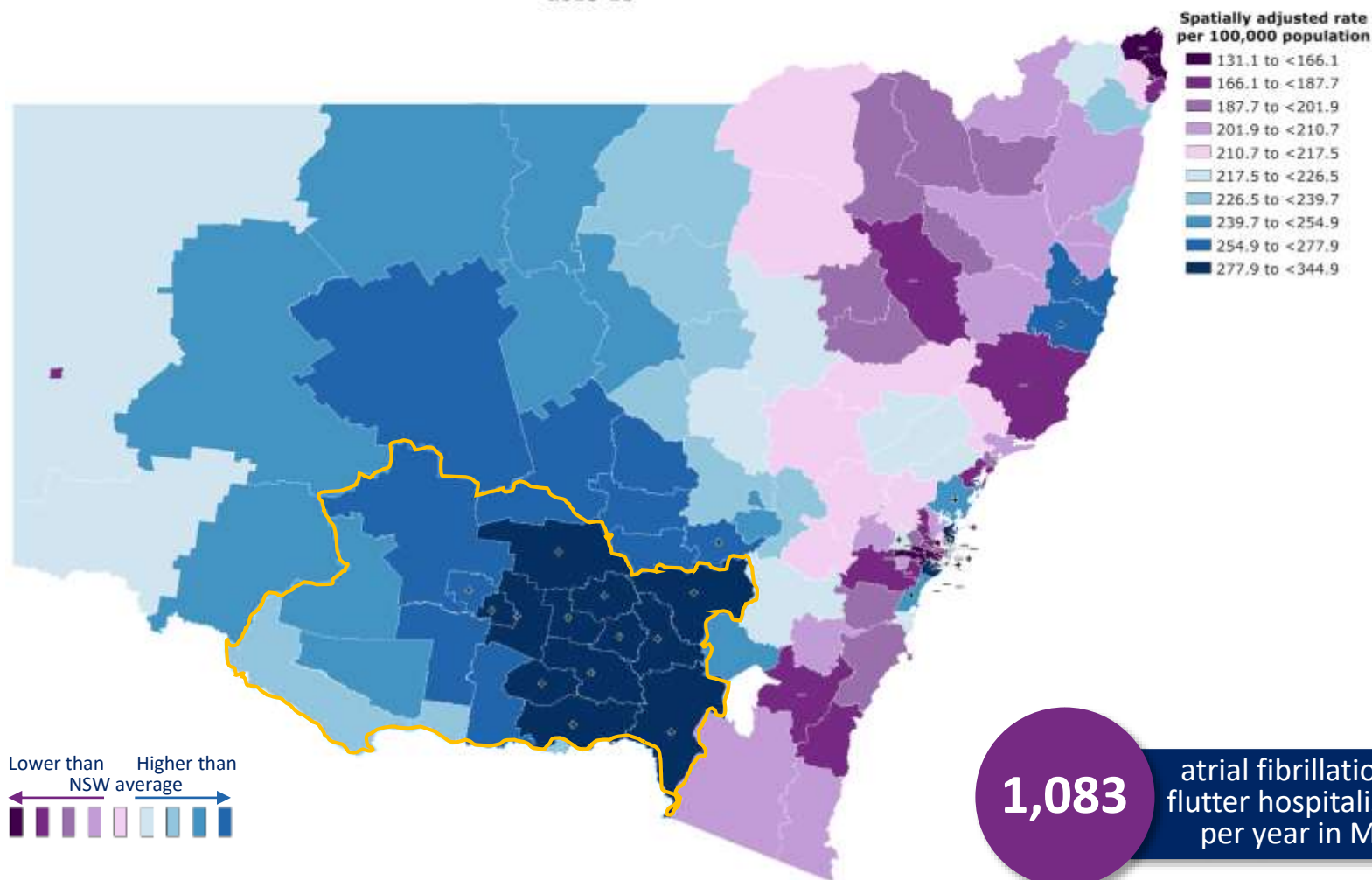
Haemorrhoid related hospitalisations per year in MLHD



Murrumbidgee Health Atlas

Atrial fibrillation and flutter

Circulatory disease hospitalisations: Atrial fibrillation and flutter, by Local Government Area, NSW 2014-15 to 2015-16



Atrial fibrillation and flutter hospitalisations.

Highest rates: All eastern LGAs of MLHD had significantly higher rates than NSW.

Lowest rates: Albury and Murray LGAs

1,083

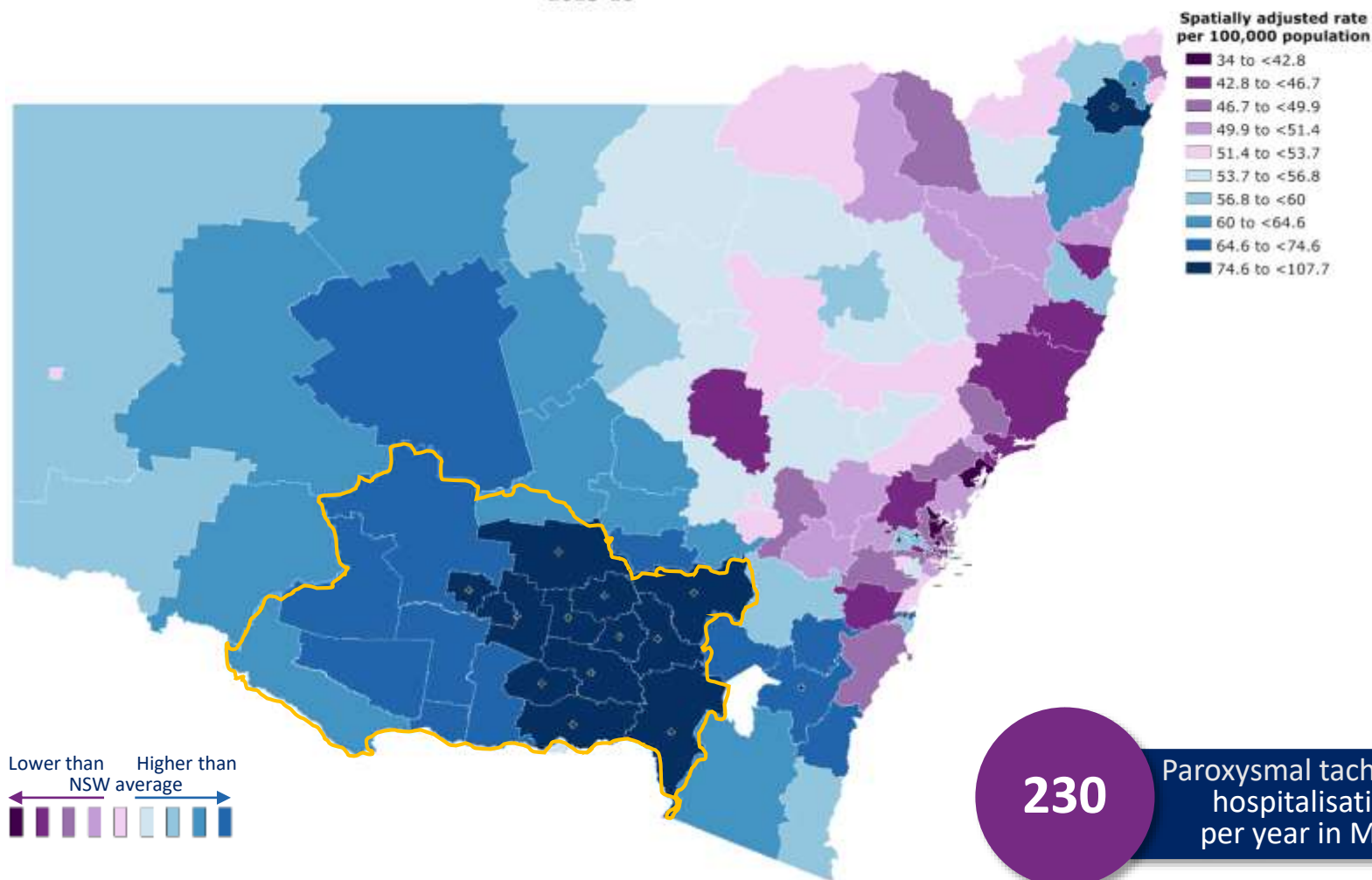
atrial fibrillation and flutter hospitalisations per year in MLHD



Murrumbidgee Health Atlas

Paroxysmal tachycardia

Circulatory disease hospitalisations: Paroxysmal tachycardia, by Local Government Area, NSW 2014-15 to 2015-16



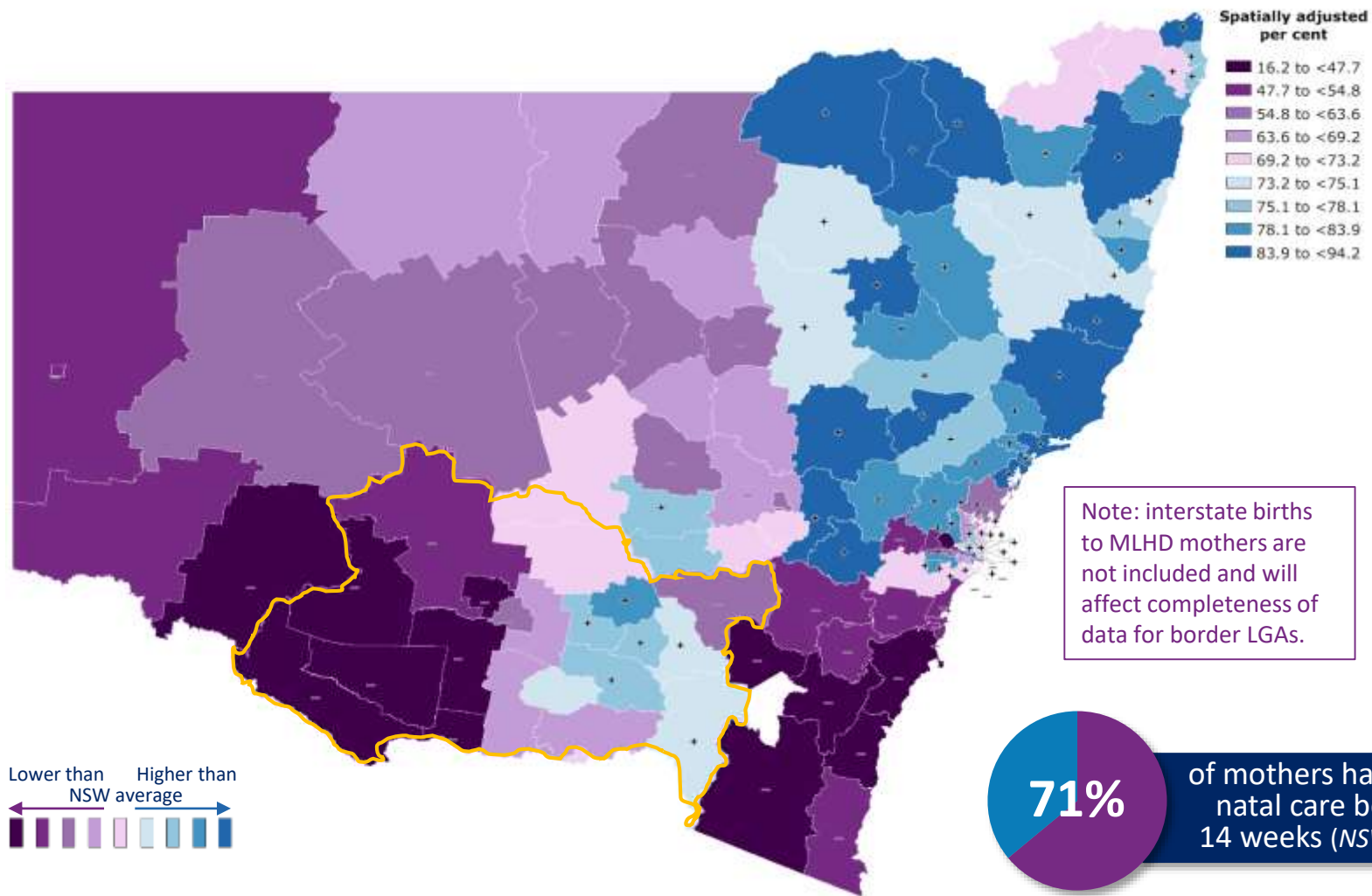
Paroxysmal tachycardia hospitalisations. Paroxysmal atrial tachycardia is a type of arrhythmia, or irregular heartbeat. Paroxysmal means that the episode of arrhythmia begins and ends abruptly. Tachycardia means that the heart is beating abnormally fast.

Highest rates: All eastern LGAs of MLHD had significantly higher rates of hospital admission than NSW.

Lowest rates: Murray River LGA

230 Paroxysmal tachycardia hospitalisations per year in MLHD

First antenatal visit Before 14 weeks of gestation by Local Government Area, NSW 2015 to 2017



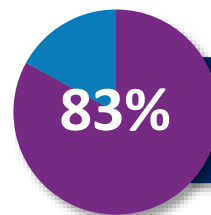
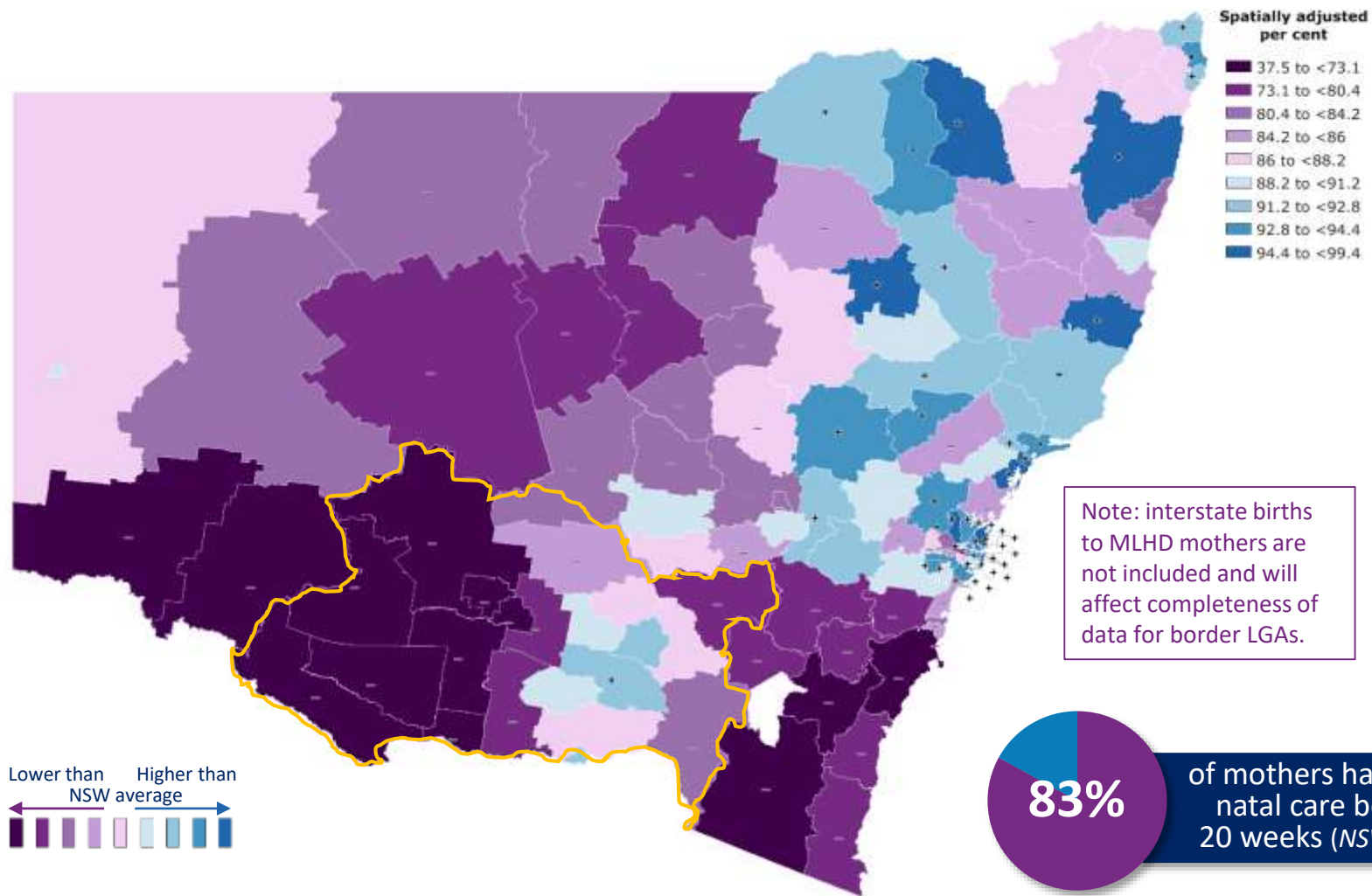
Antenatal care (or pre natal care) should commence as early as possible in pregnancy to ensure the best outcomes for the mother and the baby.

Highest rates: Temora, Wagga Wagga, Junee, Coolamon and Snowy Valleys LGAs. Rates were significantly higher than NSW.

Lowest rates: Griffith, Hay, Edward River, Murray River, Murrumbidgee and Berrigan LGAs. Western LGAs all had significantly lower rates than NSW of early antenatal care.



First antenatal visit Before 20 weeks of gestation by Local Government Area, NSW 2015 to 2017



of mothers had ante natal care before 20 weeks (NSW 91%)



Antenatal care (or pre natal care) should commence as early as possible in pregnancy to ensure the best outcomes for the mother and the baby.

Highest rates: Wagga Wagga. Rates were significantly higher than NSW.

Lowest rates: All Western LGAs. Western LGAs all had significantly lower rates than NSW of early antenatal care at 20 weeks.

Murrumbidgee Health Atlas

Discussion

Spatial patterns of Disease:

In MLHD deaths from circulatory disease (of which coronary heart disease, peripheral vascular disease, heart failure and stroke are components) did not occur at higher rates by LGA than NSW. The exception to this was heart failure which was highest in the south western LGAs of MLHD. Generally heart failure deaths occur in those aged 85 years or over and are not included in the preventable deaths categories.

In contrast to low rates of death however, rates of hospitalisation for most subgroups of circulatory disease occurred at significantly higher rates by LGA in MLHD than NSW, generally clustering around the central Riverina area of Wagga Wagga and LGAs just to the north particularly Coolamon, Junee and Gundagai.

MLHD LGAs in general have lower than average stroke death rates but higher than average stroke hospitalisation rates potentially indicating that stroke victims in MLHD are getting the appropriate hospital care in a timely and effective manner (Maps 39 and 43).

Some populations in MLHD had high rates of hospitalisation across many health indicators (Table 1) of these Narrandera and Hilltops had at least 1 in 5 people in the LGA living in highly disadvantaged communities and Gundagai 1 in 6. Murray River and Greater Hume LGAs on the other hand had proportionally fewer disadvantaged households and consistently had lower rates of hospitalisation across many indicators. Avoidable deaths and Preventable Hospitalisations were significantly higher than NSW rates in Hilltops, Bland, Carrathool and Wagga Wagga LGAs.

The major issues of concern across MLHD LGAs are:

SMOKING
INJURY

SMOKING DURING PREGNANCY
DIABETES

OBESITY
HEART DISEASE

Many factors may influence the spatial patterns of hospitalisations such as availability of service, remoteness, admission policies and coding practices as well as the level of ill-health in the community. Due to relatively small numbers of deaths at LGA level there may be large fluctuations in rates from year to year.

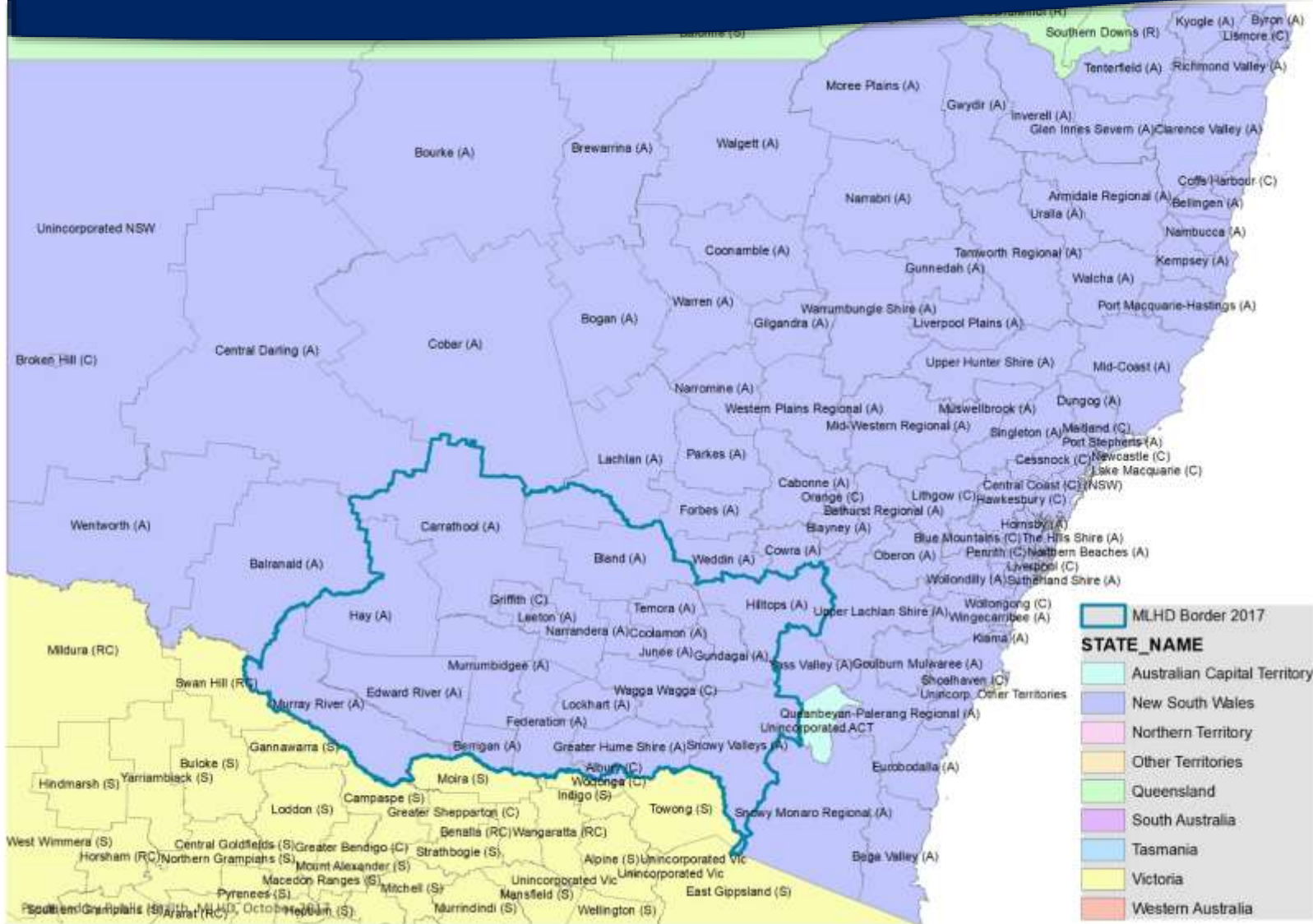
Many factors may influence the spatial patterns of hospitalisations such as availability of service, remoteness, admission policies and coding practices as well as the level of ill health and health risk behaviours in the community.

Table 1:

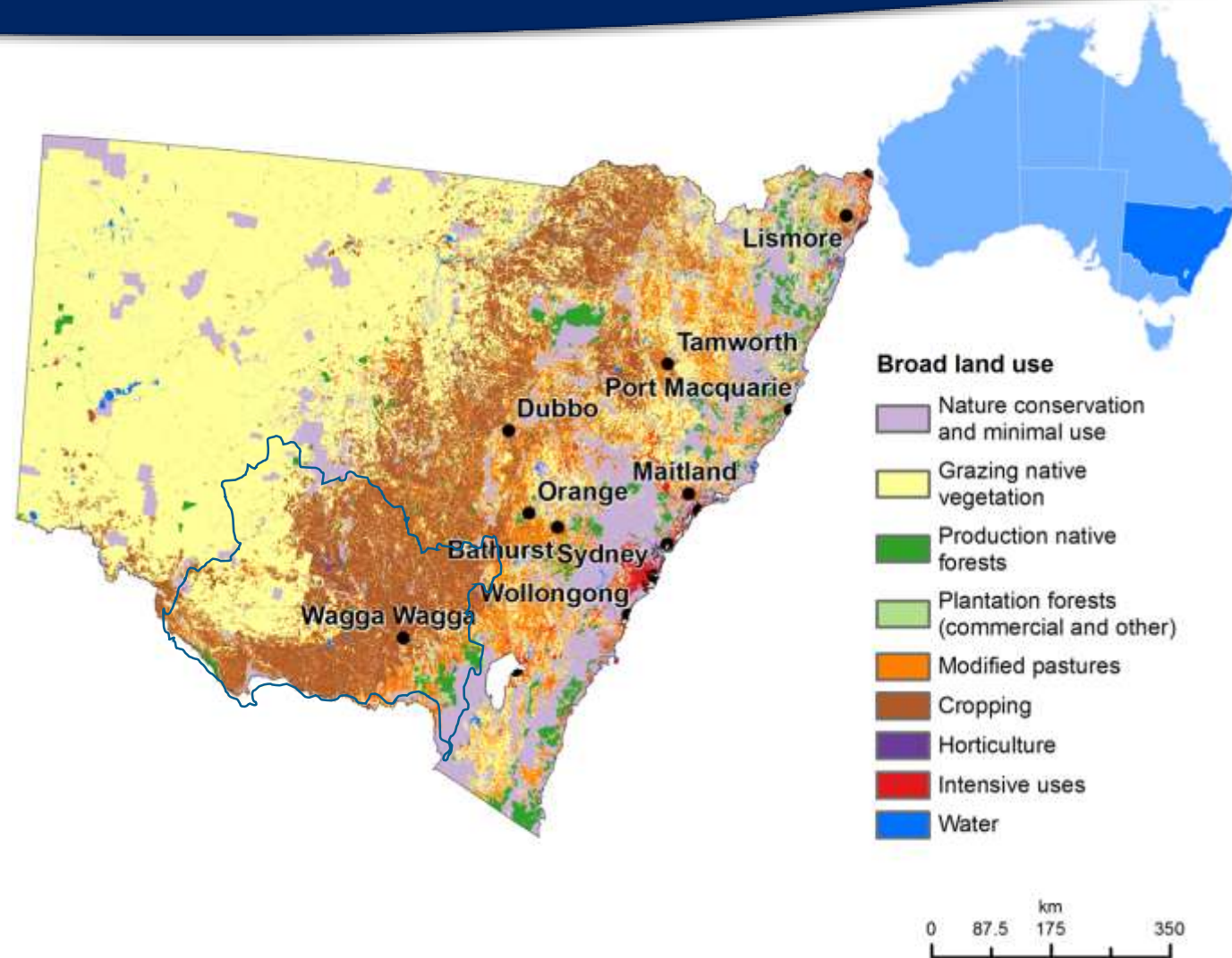
Worst ranked LGAs for included indicators	Best ranked LGAs for included indicators
Hilltops	Greater Hume
Gundagai	Berrigan
Bland	Murray River
Narrandera	Hay
Snowy Valleys	Albury

Murrumbidgee Health Atlas

Reference maps



NSW Local Government Areas (2016)



Broad land use

Murrumbidgee Health Atlas

Reference maps

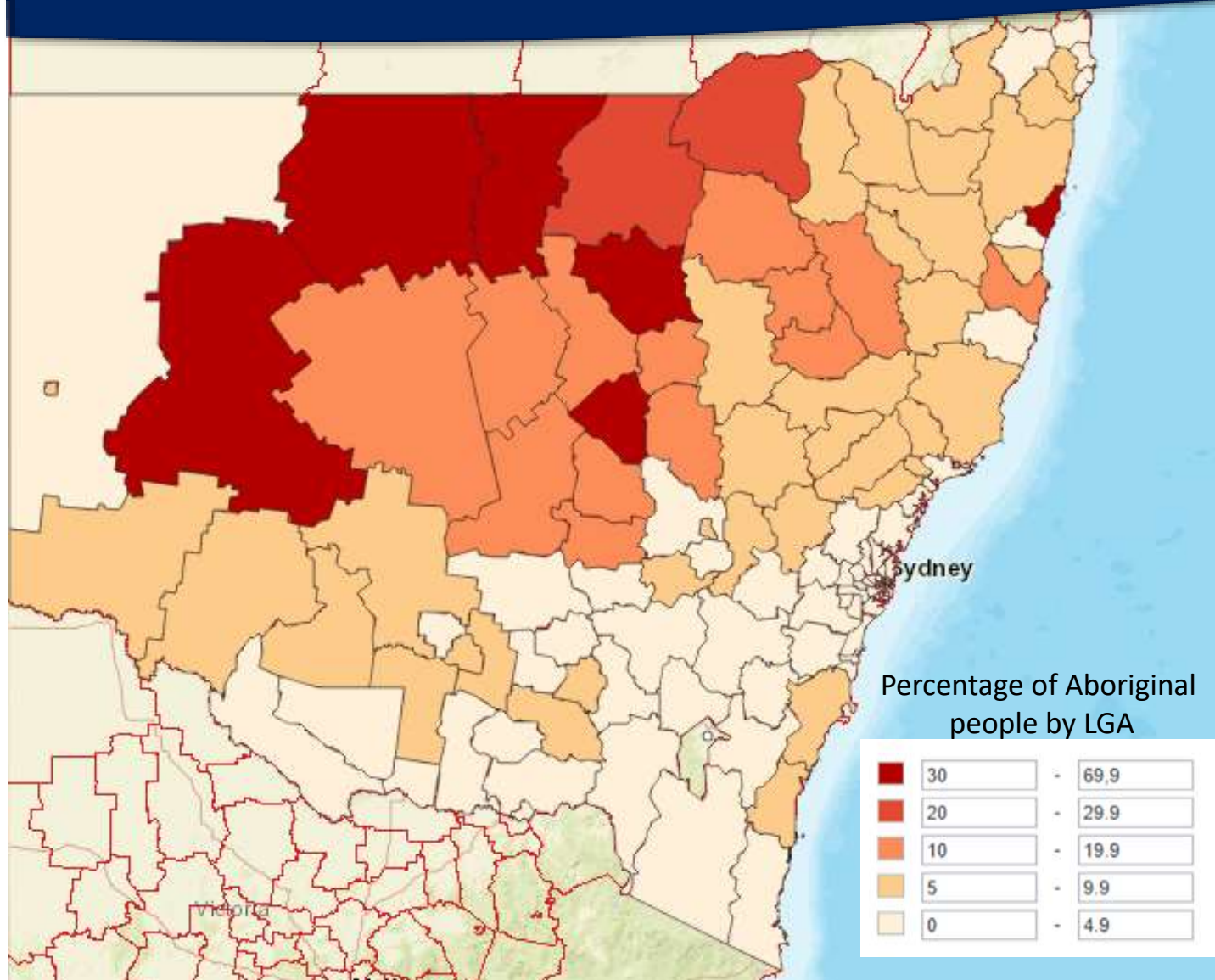


Remoteness:

ARIA 2011

Murrumbidgee Health Atlas

Reference maps



Aboriginal population

2016 Percentage of Aboriginal or Torres Strait Islander people by LGA in NSW