

**AUSTRALIAN COMMISSION
ON SAFETY AND QUALITY IN HEALTH CARE**

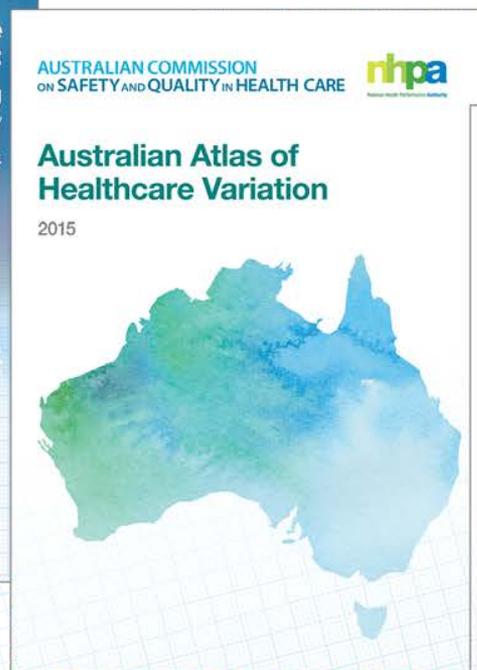
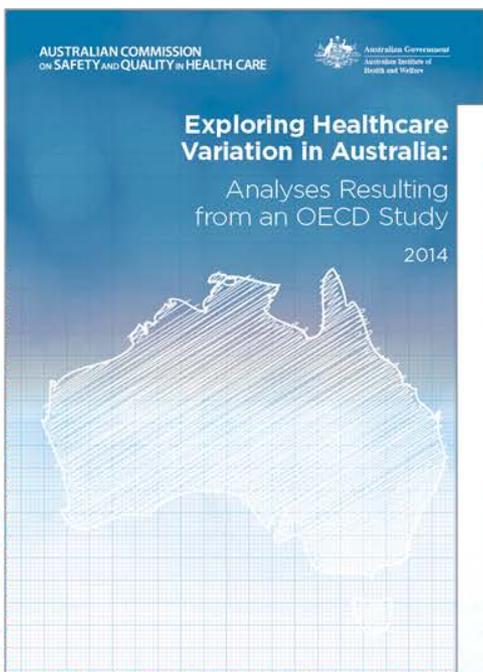
**Chronic disease
and infection:
potentially
preventable
hospitalisations**

**The Second Australian
Atlas of Healthcare
Variation**

2017



The Australian Atlas of Healthcare Variation series



AUSTRALIAN COMMISSION
ON SAFETY AND QUALITY IN HEALTH CARE



Interactive Atlas Platform

The Australian Atlas of Healthcare Variation

Mapping variation is an invaluable tool for understanding how our healthcare system is providing care. The Australian Atlas of Healthcare Variation series illuminates variation by mapping use of health care according to where people live. Each Atlas identifies specific achievable actions for exploration and quality improvement.

Healthcare Variation - what does it tell us?

Some variation is expected and associated with need-related factors such as underlying differences in the health of specific populations, or personal preferences. However, the weight of evidence in Australia and internationally suggests that much of the variation documented in the Atlas is likely to be unwarranted. Understanding this variation is critical to improving the quality, value and appropriateness of health care.

The Second Australian Atlas of Healthcare Variation data set specifications are available at [METeOR](#)

The First Australian Atlas of Healthcare Variation data set specifications are available at [METeOR](#)

Interactive Atlas

**The First
Australian Atlas
of Healthcare
Variation**



2015

Interactive Atlas

**The Second
Australian Atlas
of Healthcare
Variation**



2017

Interactive Atlas



Second Australian Atlas of Healthcare Variation

Examines variation nationally in 18 clinical items, grouped into 4 themes



Chronic disease and infection

- Chronic obstructive pulmonary disease (COPD)
- Heart failure
- Cellulitis
- Kidney and urinary tract infections
- Diabetes complications



Cardiovascular conditions

- Acute myocardial infarction
- Atrial fibrillation



Women's health and maternity

- Hysterectomy
- Endometrial ablation
- Cervical loop excision or cervical laser ablation
- Vaginal deliveries with third or fourth degree perineal tear
- Caesarean section, ages 20 to 34 years



Surgical interventions

- Knee replacement
- Lumbar spinal decompression
- Lumbar spinal fusion
- Laparoscopic cholecystectomy
- Appendicectomy
- Cataract surgery





Australian Commission on Safety and Quality in Health Care

- Australian Government agency
- Leads & coordinates national improvements in safety & quality of health care based on best available evidence
- Works in partnership with patients, consumers, clinicians, managers, policy makers & health care organisations
- Aims to ensure that the health system is sustainable, better informed, supported & organised to deliver safe & high quality care





Inside this slide pack

- Why does variation matter?
- How is variation measured in the Atlas?
- How is variation presented in the Atlas?
- Chronic disease and infection: potentially preventable hospitalisations key findings
- Conclusion
- Further resources





Why does variation matter?

- Large variations in healthcare use have been documented by researchers around the world for many years
- A proportion of this variation is termed '*unwarranted*'
- Unwarranted variation:
 - is unrelated to patient need or preference
 - may signal inappropriate care
 - may signal ineffective use of resources
- It raises questions about appropriateness of care, health system efficiency, equity and access
- Can highlight opportunities for further investigation and for the health system to improve.





How is variation measured in the Atlas?

- Healthcare use is mapped **by residence of patient** (not location of the healthcare provider)
- Location of residence mapped to Statistical Area Level 3 (SA3)
- Data are **age- and sex-standardised**
- Data sources used:
 - National Hospital Morbidity Database (NHMD)
 - National Perinatal Data Collection (NPDC)
- Data analysis and extraction performed by the Australian Institute of Health and Welfare (AIHW).





How is variation presented in the Atlas?

- Data are presented in maps and graphs
- For items where there were small numbers, three years of data have been presented
- Statistical Area Level 3 data is presented for:
 - state and territory analysis
 - remoteness and socioeconomic disadvantage
- State and territory level data is presented for:
 - Aboriginal and Torres Strait Islander Australian status
 - public and private patient funding status.



Chronic disease and infection: potentially preventable hospitalisations key findings

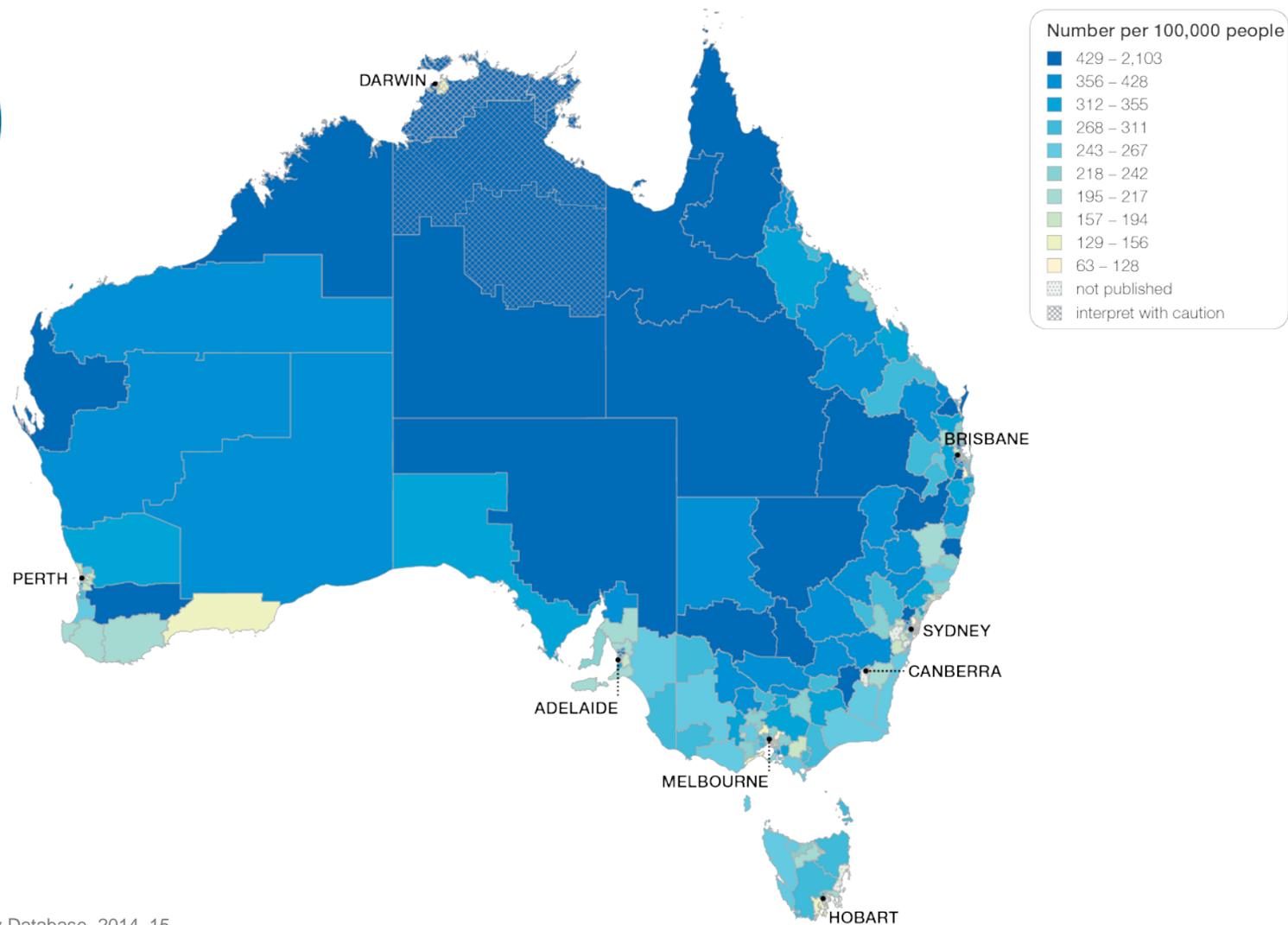
Data item	Range across SA3s per 100,000 people	Times difference	Times difference excluding top and bottom 10%	Number over one year
1.1 Chronic obstructive pulmonary disease Hospitalisations, all ages	63 to 990	15.7	3.3	66,250
1.2 Heart failure Hospitalisations, all ages	90 to 632	7.0	2.1	55,511
1.3 Cellulitis Hospitalisations, all ages	102 to 1,262	12.4	2.9	59,466
1.4 Kidney and urinary tract infections Hospitalisations, all ages	140 to 899	6.4	2.2	73,277
1.5 Diabetes complications Hospitalisations, all ages	52 to 601	11.6	2.8	43,737

National Hospital Morbidity Database , 2014–15



1.1 Chronic obstructive pulmonary disease (COPD) hospitalisations

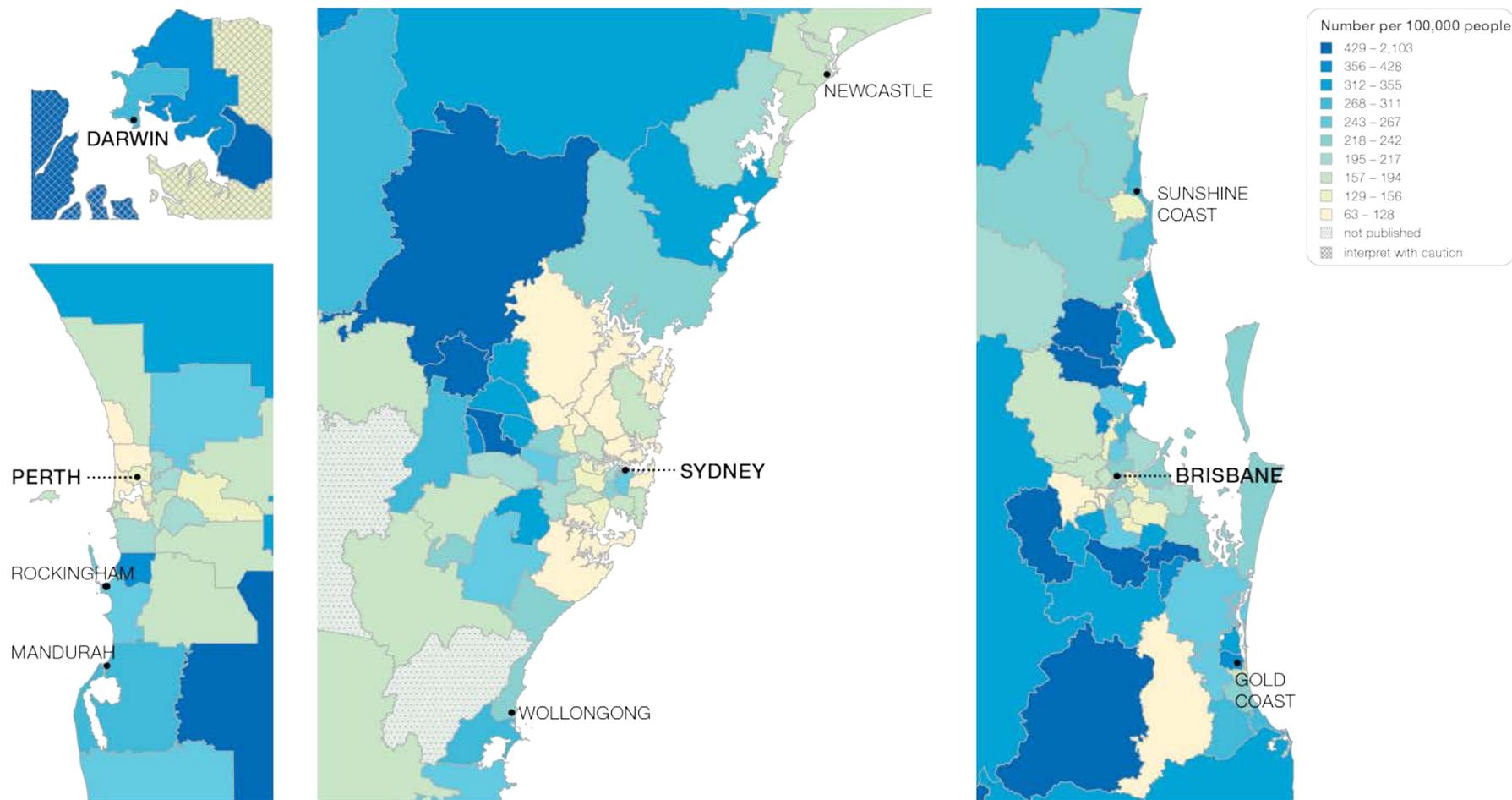
15.7x
AS HIGH
in the highest rate area
compared to the
lowest rate area



National Hospital Morbidity Database, 2014–15



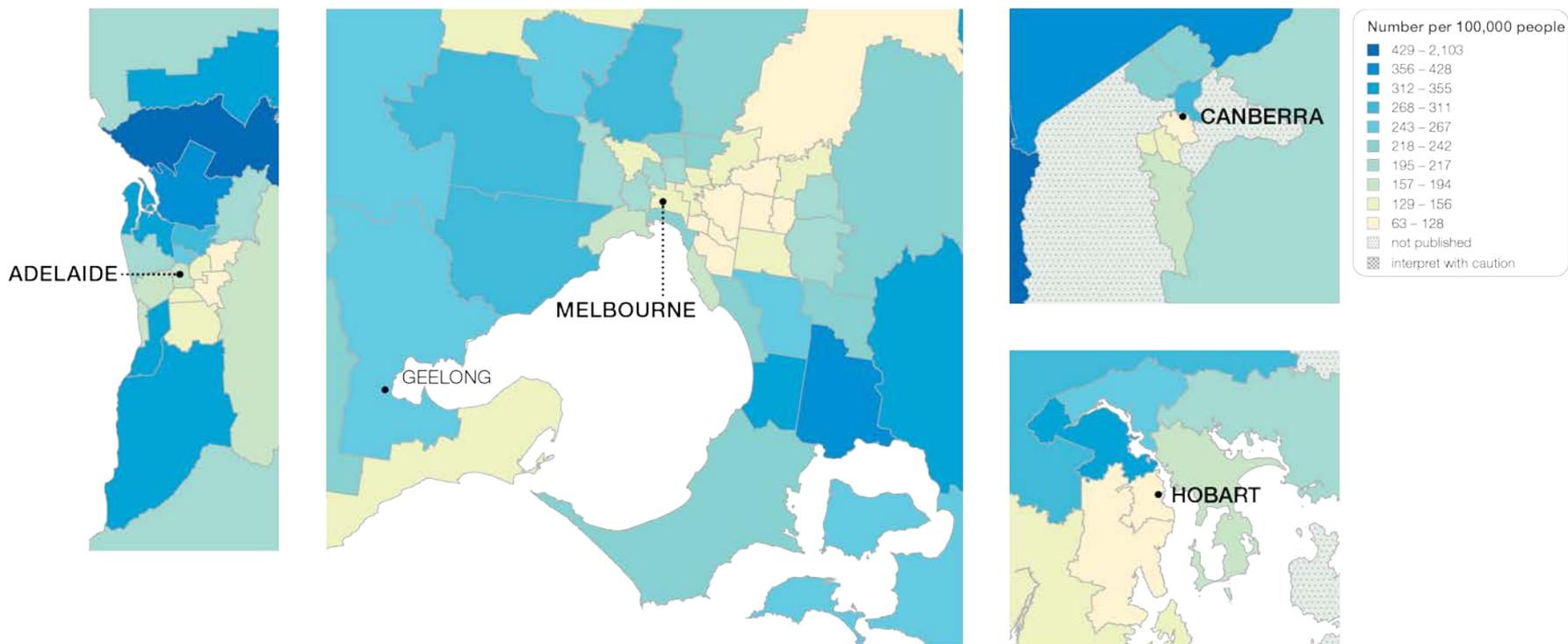
1.1 Chronic obstructive pulmonary disease (COPD) hospitalisations



National Hospital Morbidity Database, 2014–15



1.1 Chronic obstructive pulmonary disease (COPD) hospitalisations

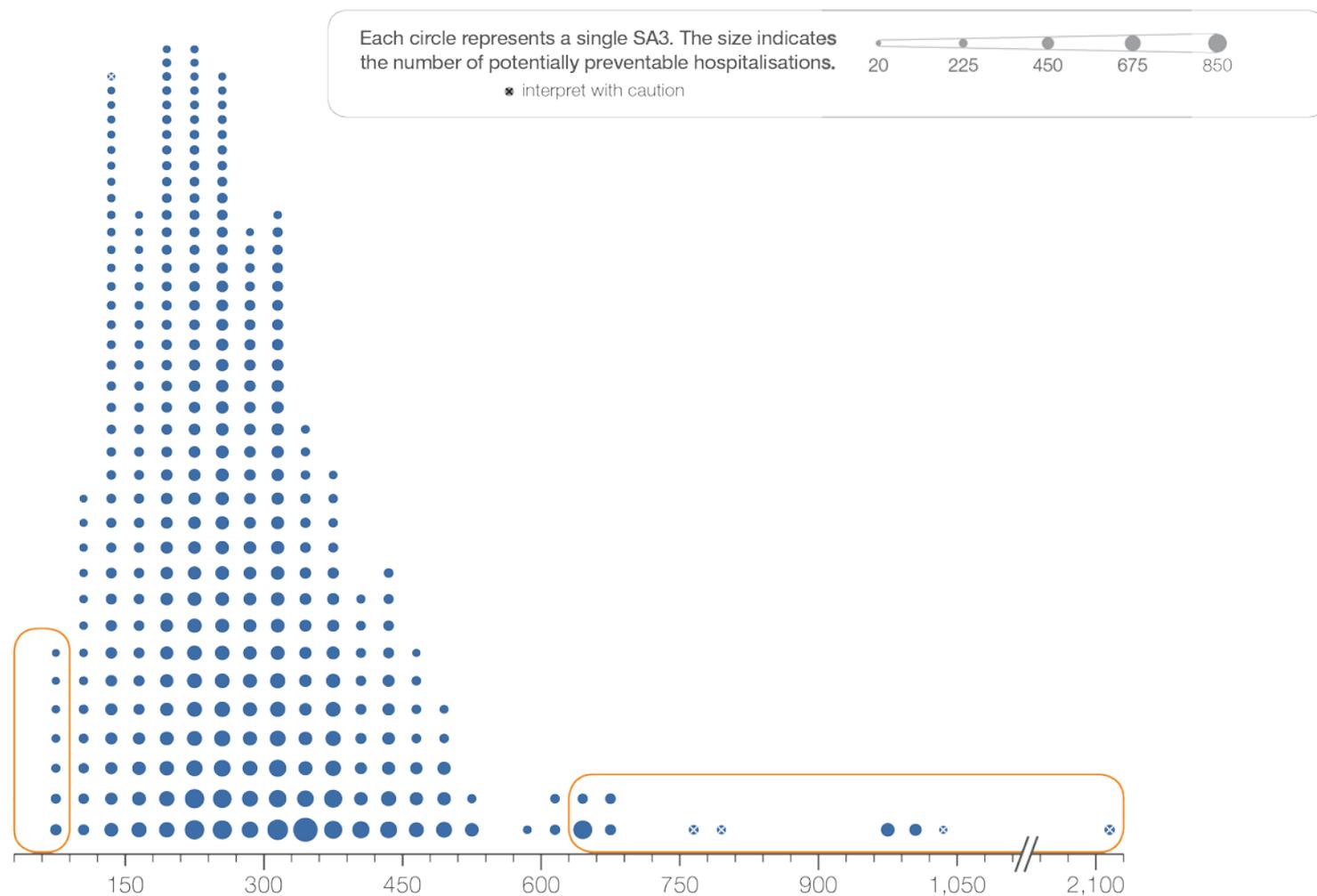


National Hospital Morbidity Database, 2014–15





1.1 Chronic obstructive pulmonary disease (COPD) hospitalisations



National Hospital Morbidity Database, 2014–15

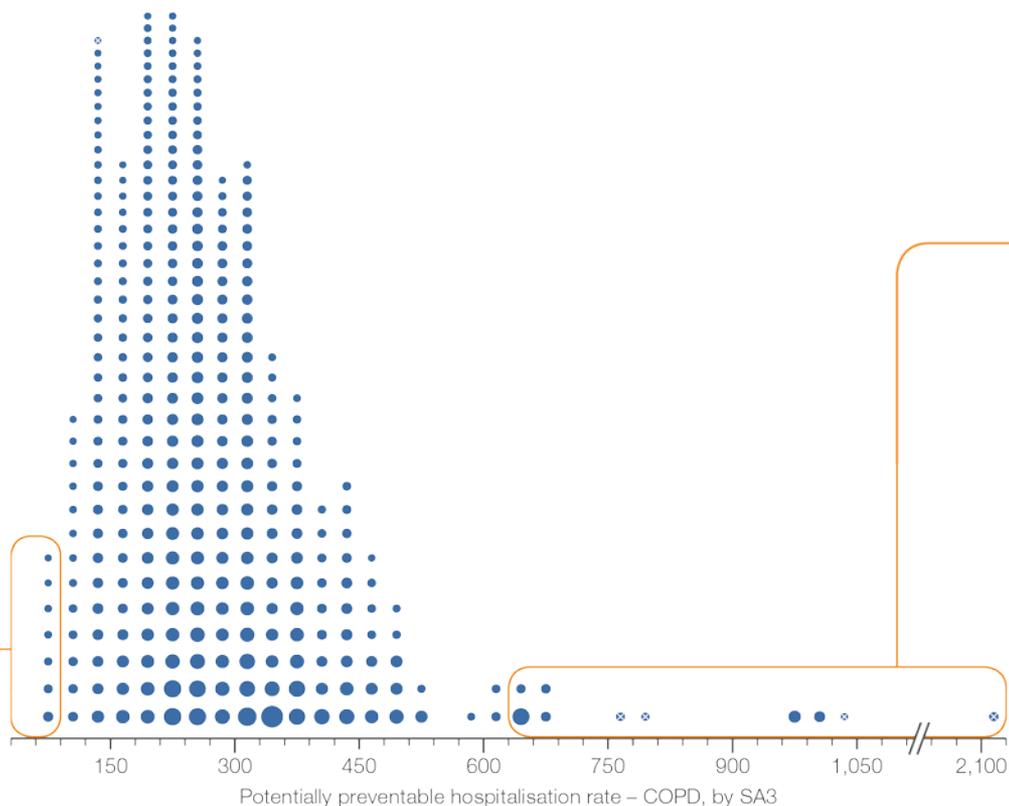


1.1 Chronic obstructive pulmonary disease (COPD) hospitalisations

Each circle represents a single SA3. The size indicates the number of potentially preventable hospitalisations.



• interpret with caution



Highest rate areas

SA3	State	Rate	Hospitalisations
East Arnhem	NT	2,103*	147
Barkly	NT	1,043*	42
Alice Springs	NT	990	244
Bourke - Cobar - Coonamble	NSW	965	311
Katherine	NT	789*	95
Daly - Tiwi - West Arnhem	NT	761*	122
Kimberley	WA	679	165
Outback - North and East	SA	663	186
Mount Druitt	NSW	659	570
Far North	Qld	631	146

Lowest rate areas

SA3	State	Rate	Hospitalisations
Sherwood - Indooroopilly	Qld	63	32
Cottesloe - Claremont	WA	71	71
Ku-ring-gai	NSW	72	135
Burnside	SA	74	59
North Sydney - Mosman	NSW	78	92
Boroondara	Vic	85	197
Hobart - South and West	Tas	89	38

National Hospital Morbidity Database, 2014–15



1.1 Chronic obstructive pulmonary disease (COPD) hospitalisations

Aboriginal and Torres Strait Islander status



National Hospital Morbidity Database, 2014–15

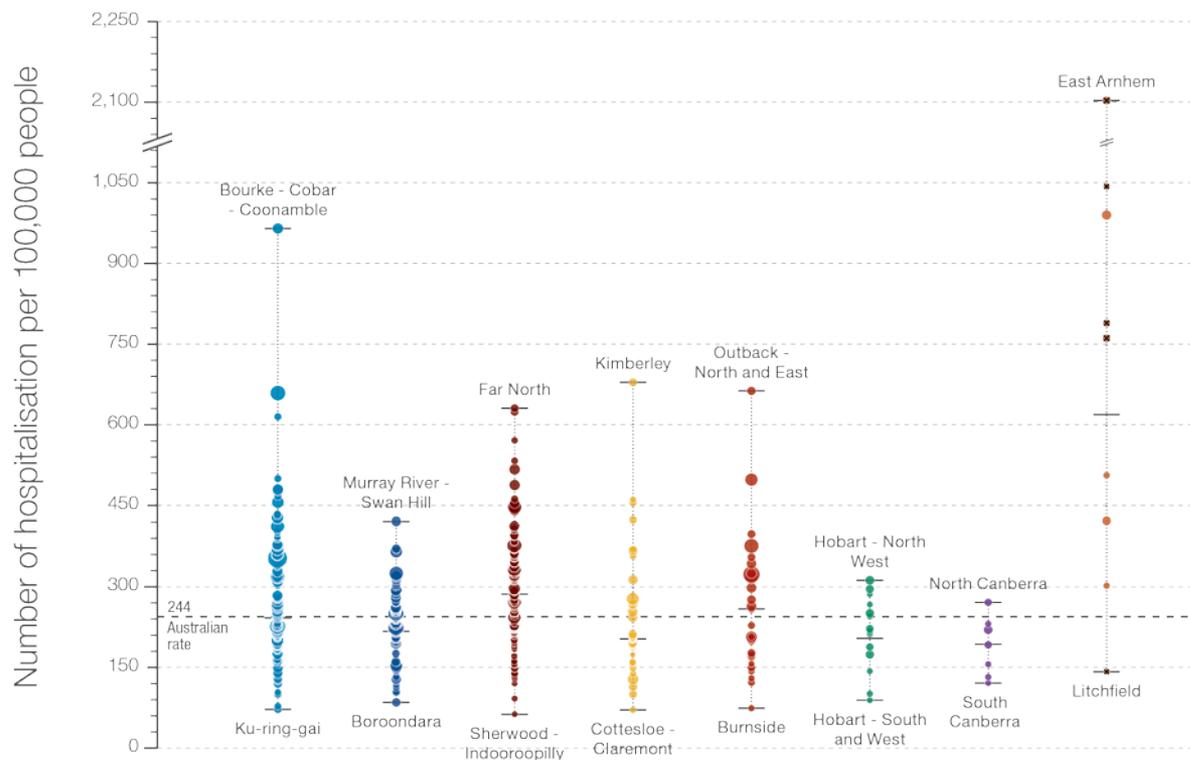


1.1 Chronic obstructive pulmonary disease (COPD) hospitalisations

State and territory

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Highest rate	965	421	631	679	663	312	271	2,103*
State/territory	242	217	286	203	259	204	193	619
Lowest rate	72	85	63	71	74	89	121	142*
No. hospitalisations	22,072	14,882	14,846	5,352	5,799	1,438	700	1,001

Each circle represents a single SA3. The size indicates the number of potentially preventable hospitalisations.



National Hospital Morbidity Database, 2014–15



1.1 Chronic obstructive pulmonary disease (COPD) hospitalisations

Remoteness and socioeconomic status

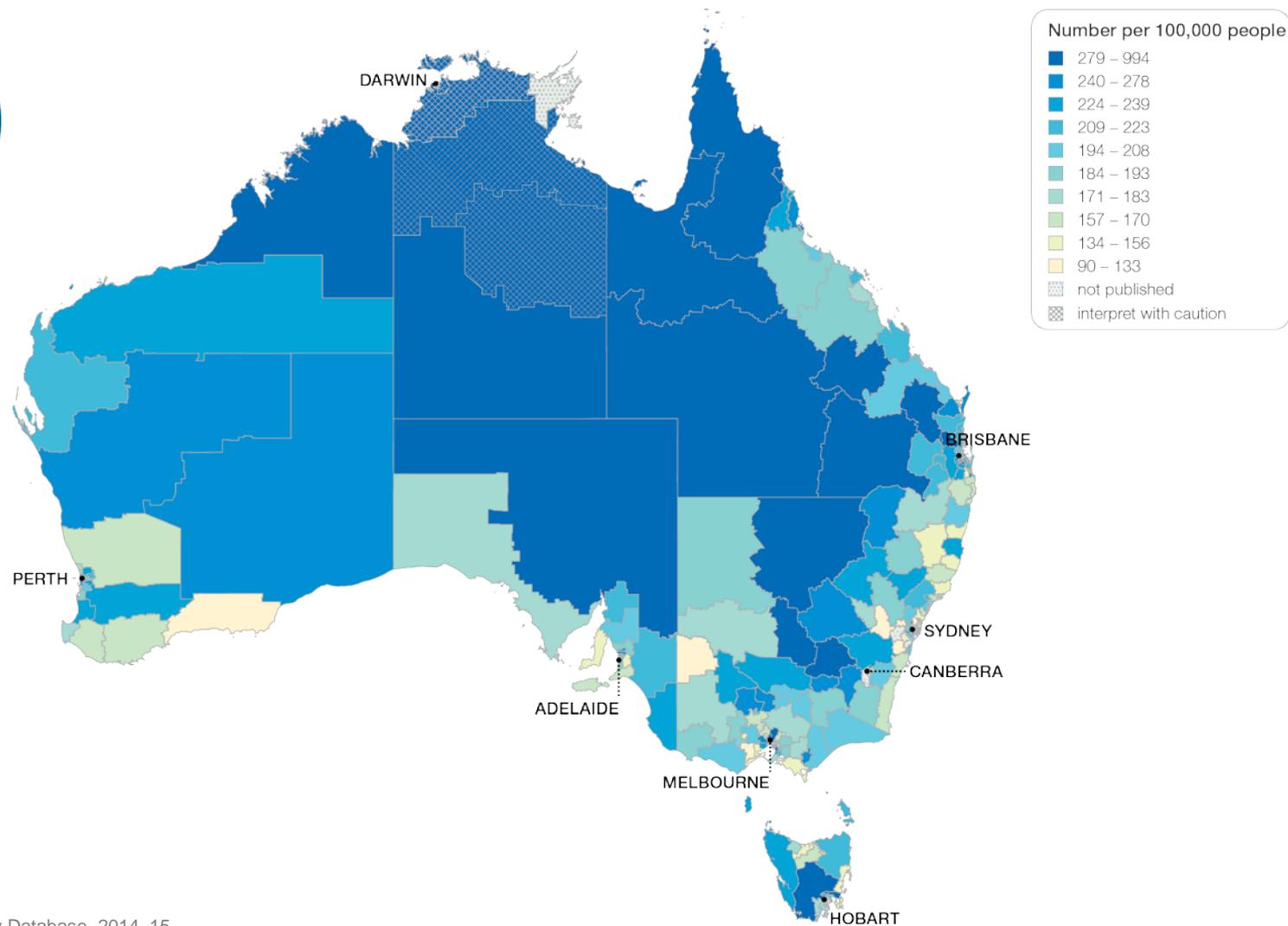


National Hospital Morbidity Database, 2014–15



1.2 Heart failure hospitalisations

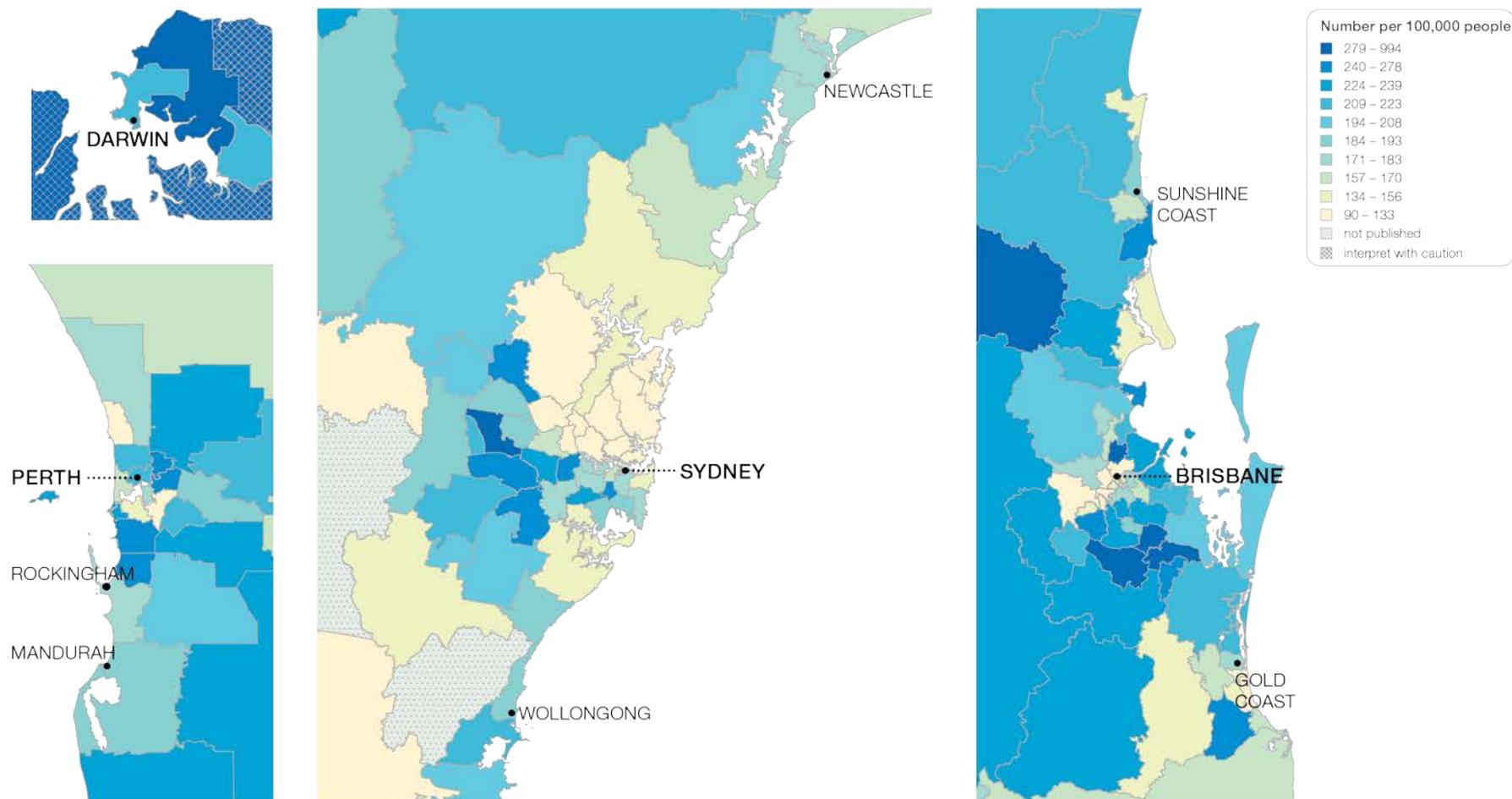
7.0x
AS HIGH
in the highest rate area
compared to the
lowest rate area



National Hospital Morbidity Database, 2014–15



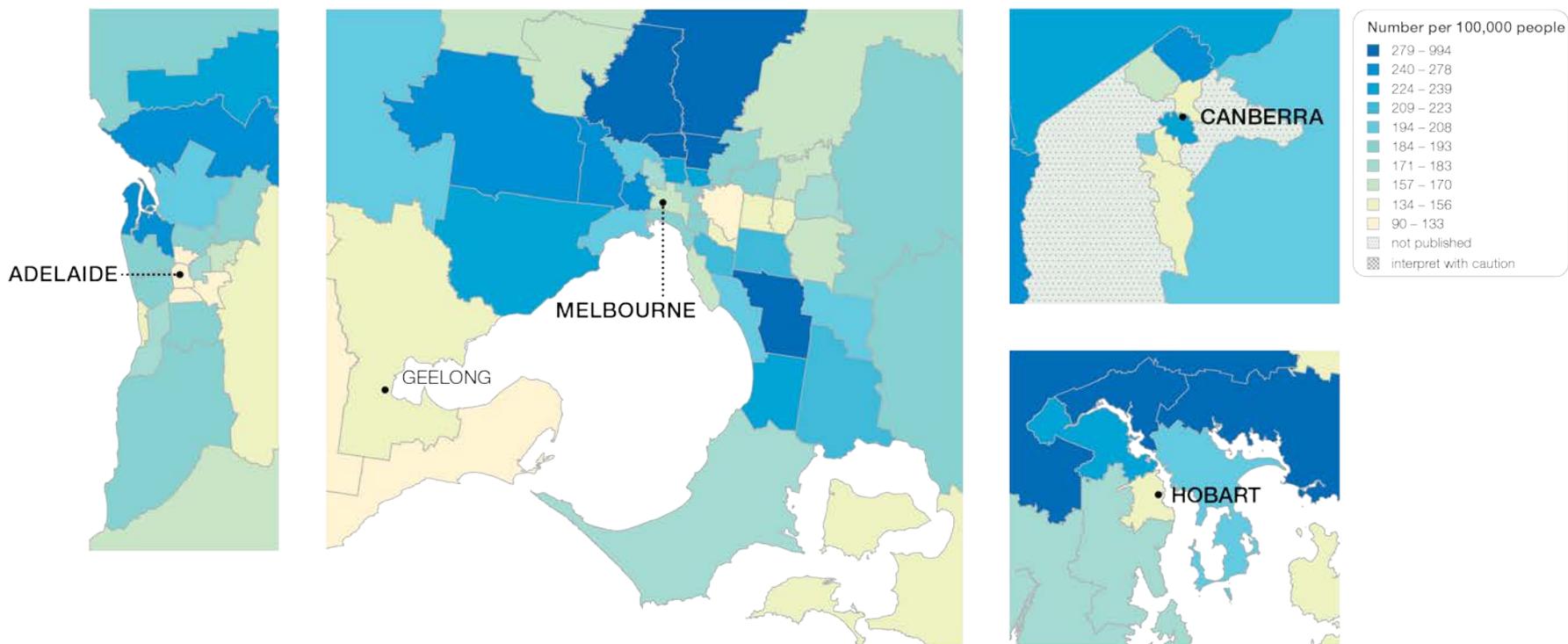
1.2 Heart failure hospitalisations



National Hospital Morbidity Database, 2014–15



1.2 Heart failure hospitalisations

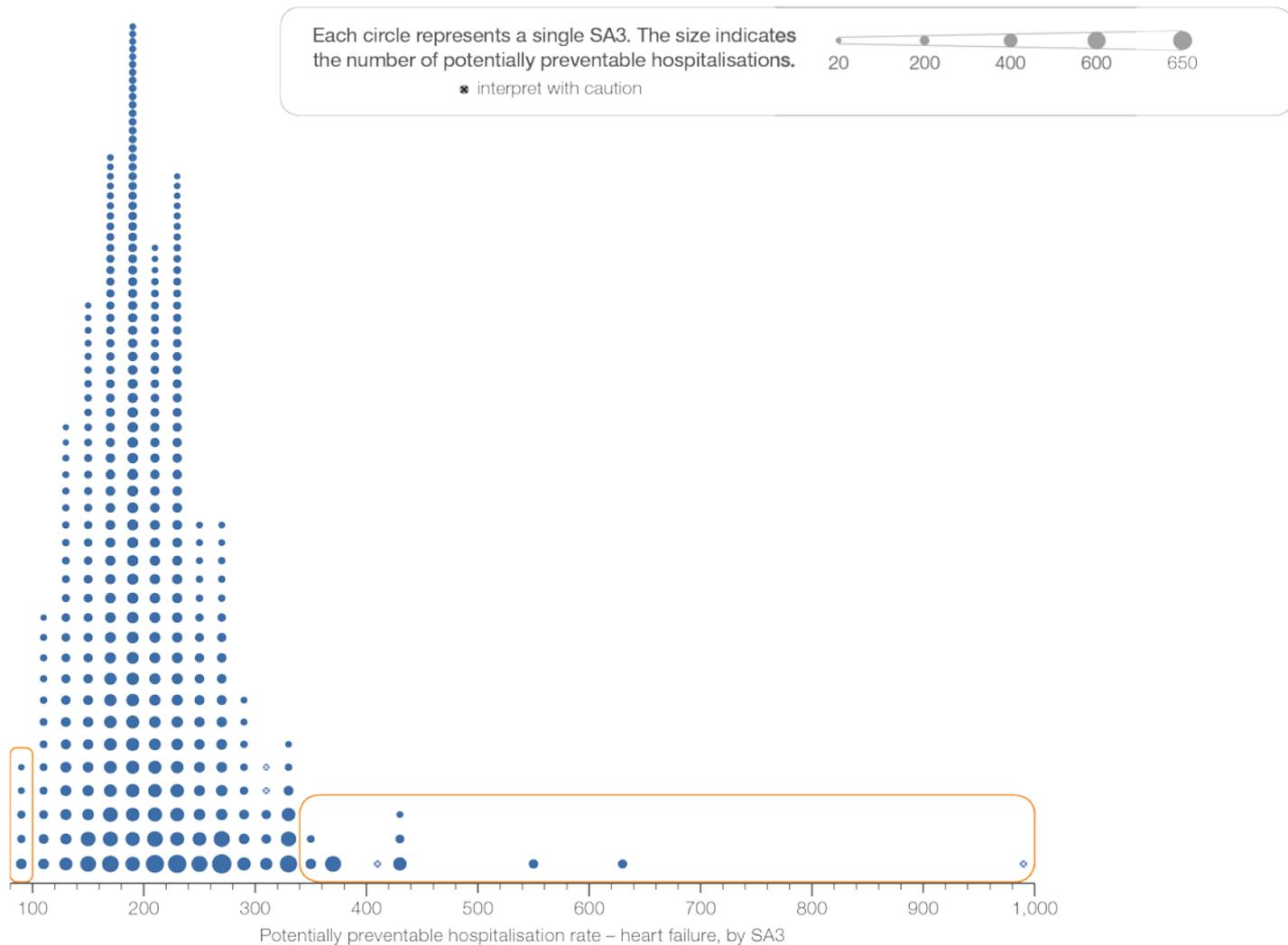


National Hospital Morbidity Database, 2014–15





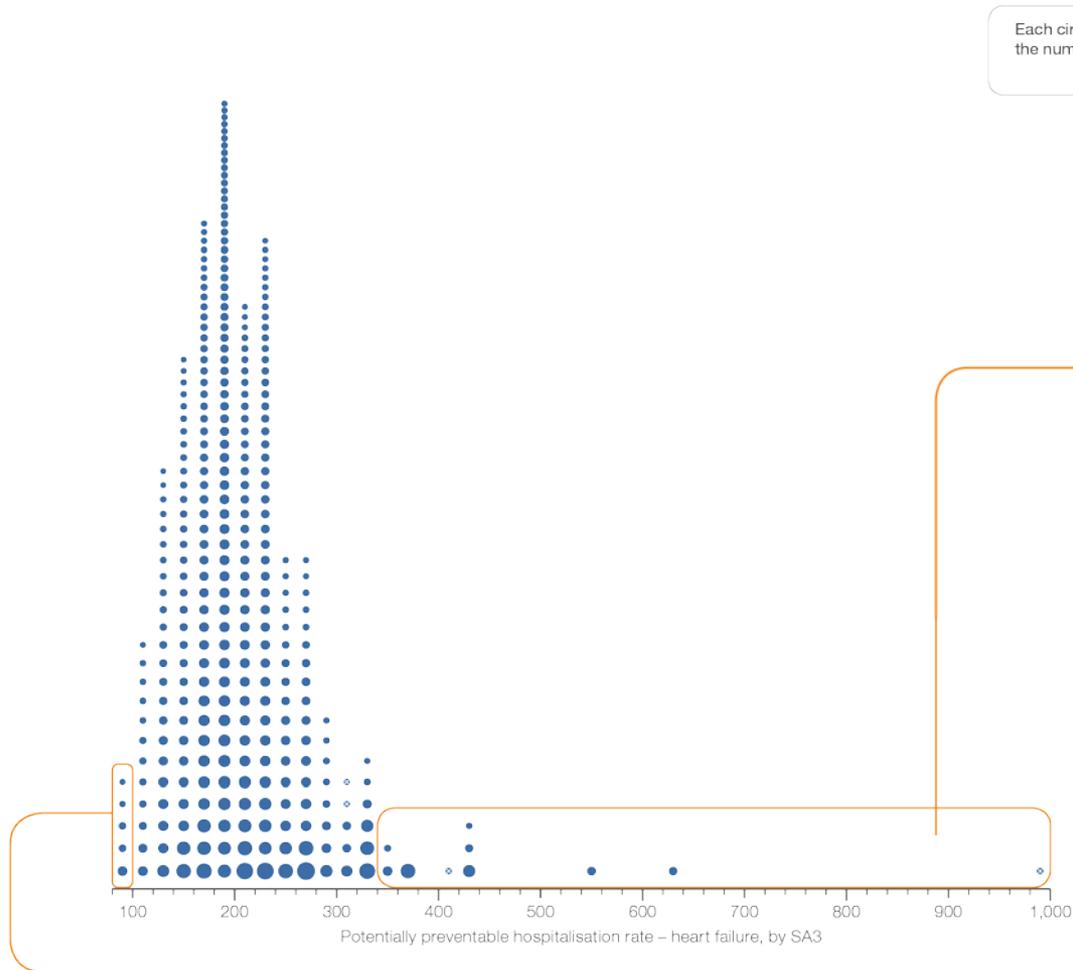
1.2 Heart failure hospitalisations



National Hospital Morbidity Database, 2014–15



1.2 Heart failure hospitalisations



Each circle represents a single SA3. The size indicates the number of potentially preventable hospitalisations.



★ Interpret with caution

Highest rate areas

SA3	State	Rate	Hospitalisations
Barkly	NT	994*	61
Kimberley	WA	632	154
Alice Springs	NT	554	167
Mount Druitt	NSW	437	350
Bourke - Cobar - Coonamble	NSW	429	137
Port Douglas - Daintree	Qld	424	50
Katherine	NT	400*	58
Wagga Wagga	NSW	363	471
Outback - South	Qld	358	86
Griffith - Murrumbidgee (West)	NSW	340	216

Lowest rate areas

SA3	State	Rate	Hospitalisations
Dural - Wisemans Ferry	NSW	90	29
Sherwood - Indooroopilly	Qld	94	48
Warringah	NSW	95	220
Launceston	Tas	96	115
Surf Coast - Bellarine Peninsula	Vic	98	109

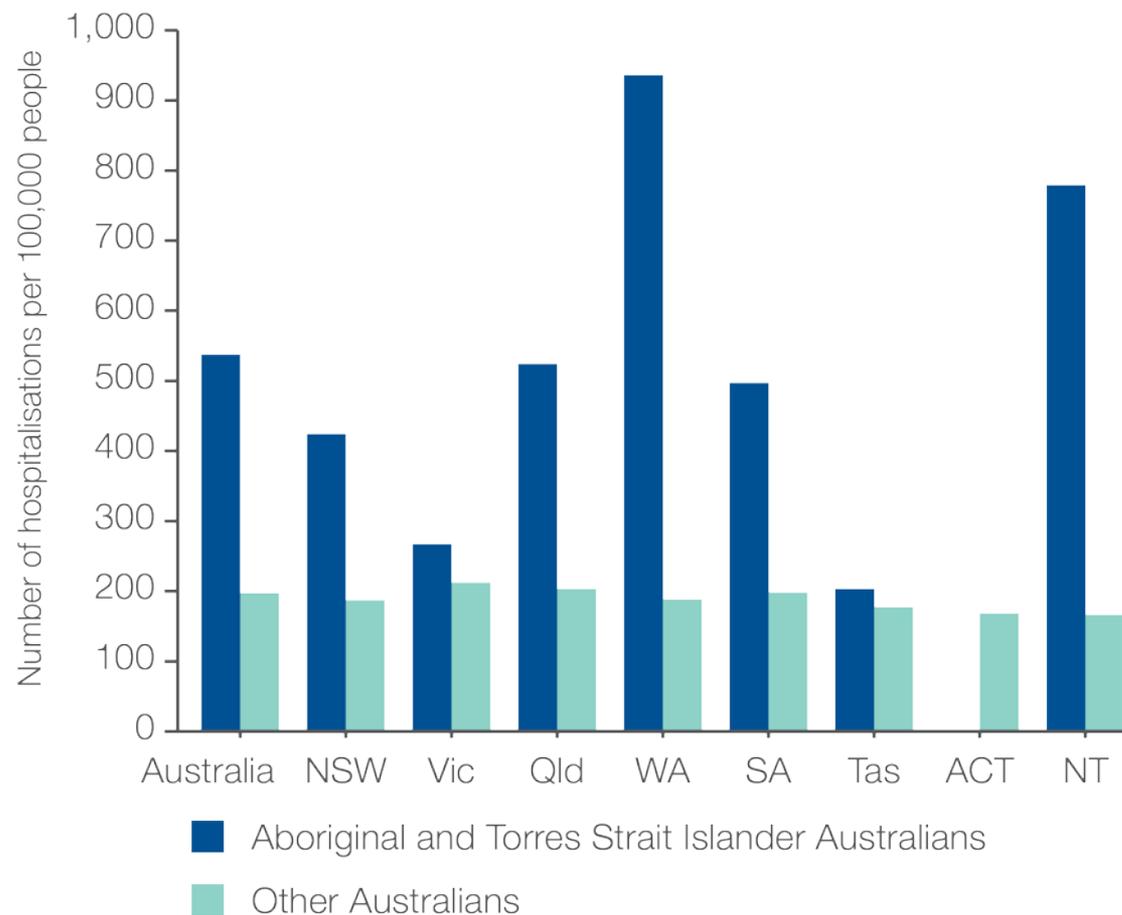
National Hospital Morbidity Database, 2014–15





1.2 Heart failure hospitalisations

Aboriginal and Torres Strait Islander status



National Hospital Morbidity Database, 2014–15



1.2 Heart failure hospitalisations

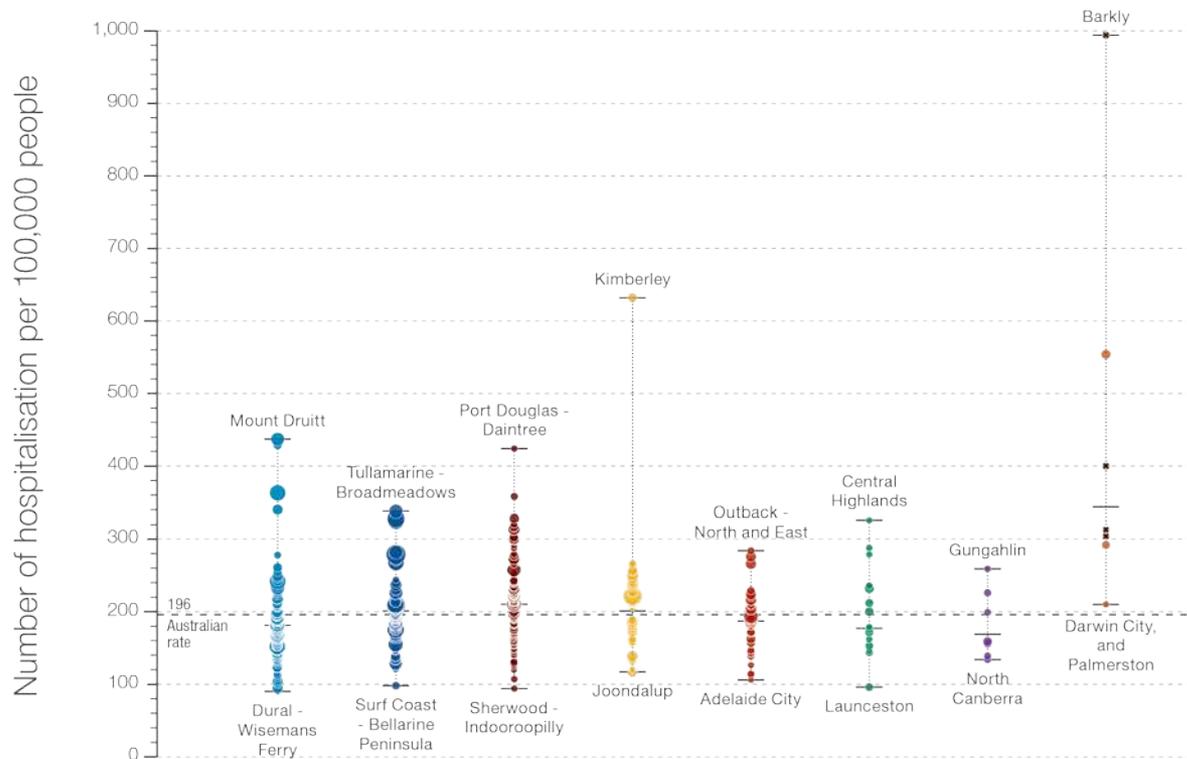
State and territory

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Highest rate	437	338	424	632	284	326	259	994*
State/territory	181	201	210	201	187	177	169	344
Lowest rate	90	98	94	117	106	96	134	210
No. hospitalisations	17,394	14,580	10,997	5,355	4,536	1,295	614	572

Each circle represents a single SA3. The size indicates the number of potentially preventable hospitalisations.



interpret with caution

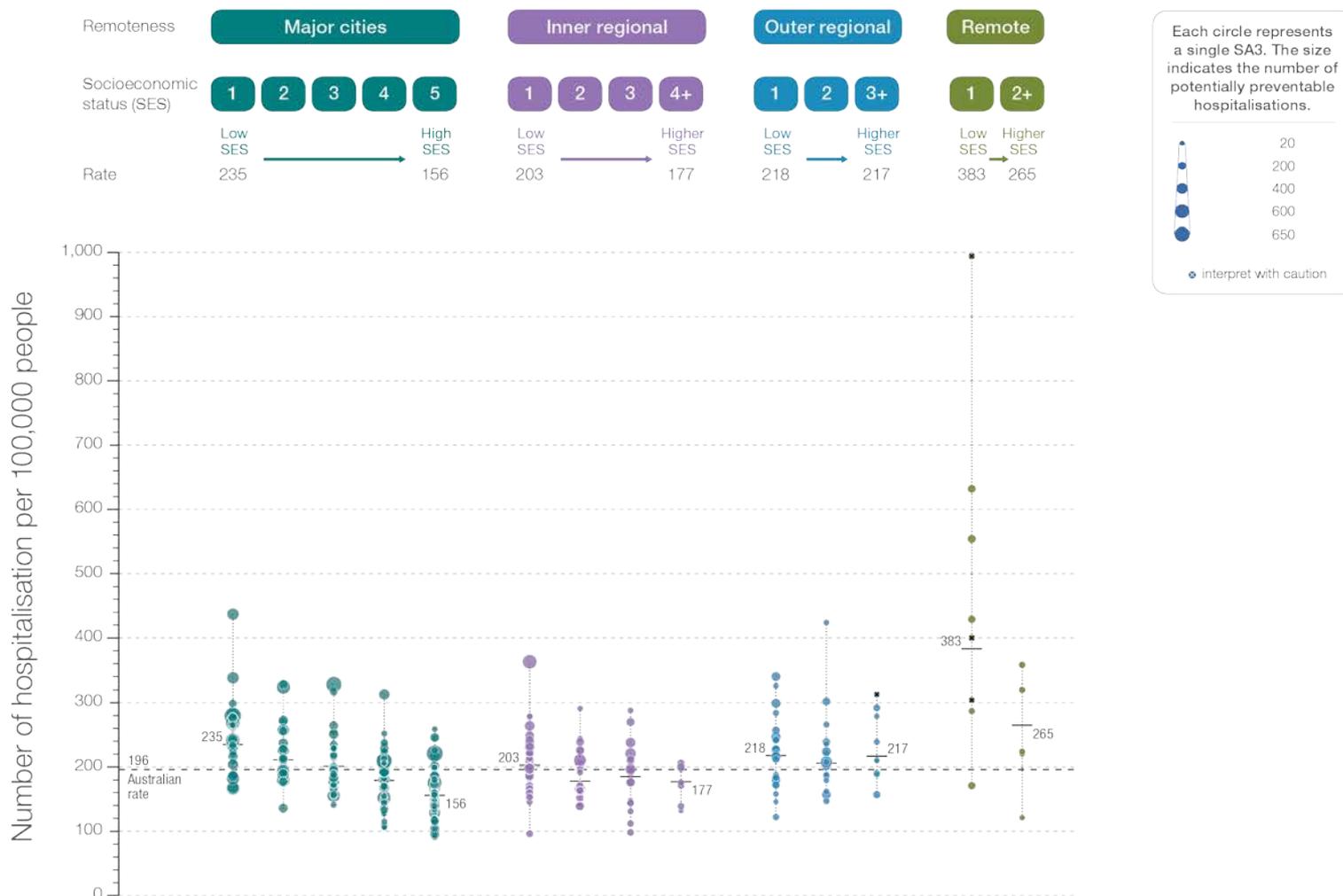


National Hospital Morbidity Database, 2014–15



1.2 Heart failure hospitalisations

Remoteness and socioeconomic status

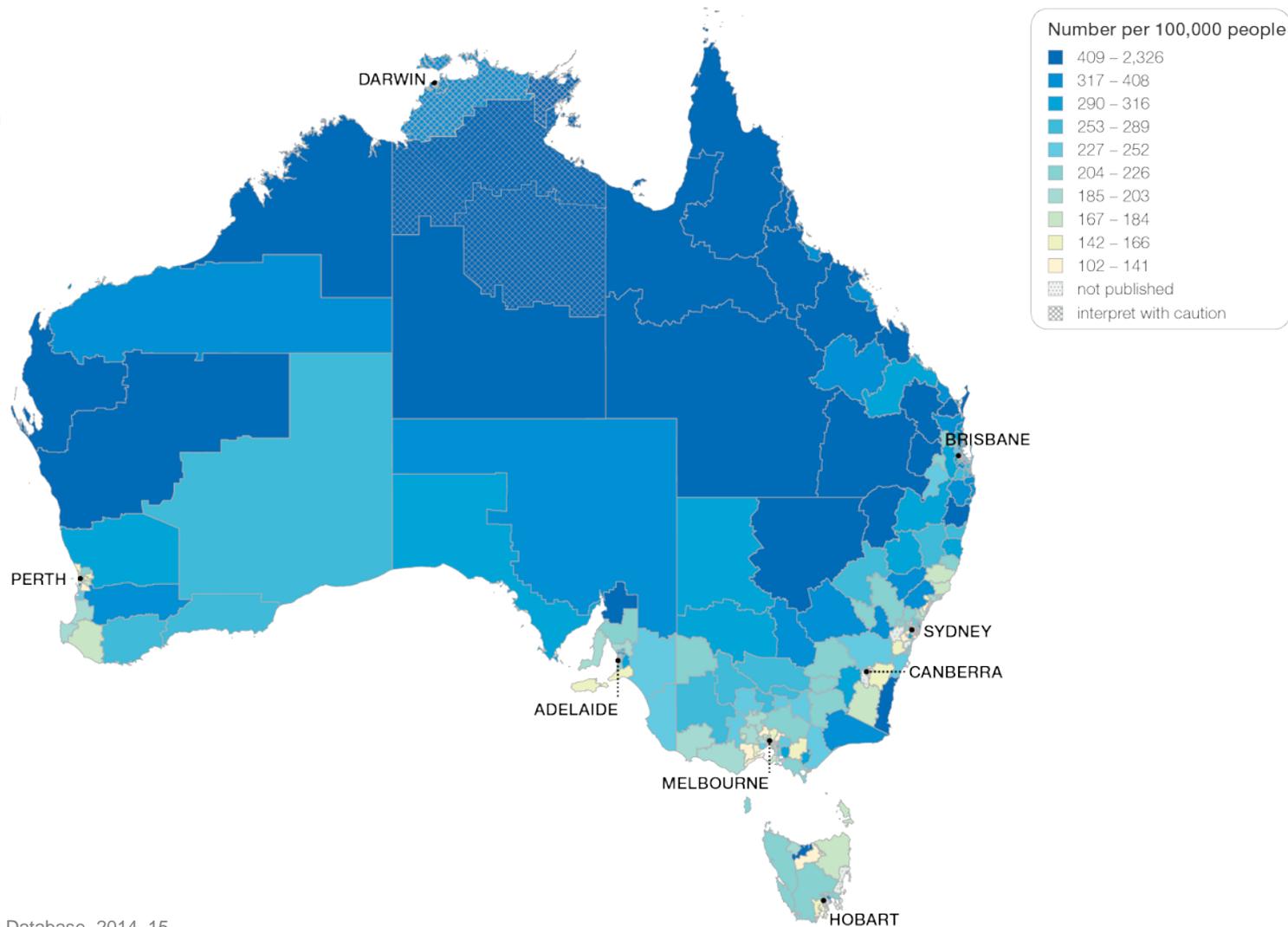


National Hospital Morbidity Database, 2014–15



1.3 Cellulitis hospitalisations

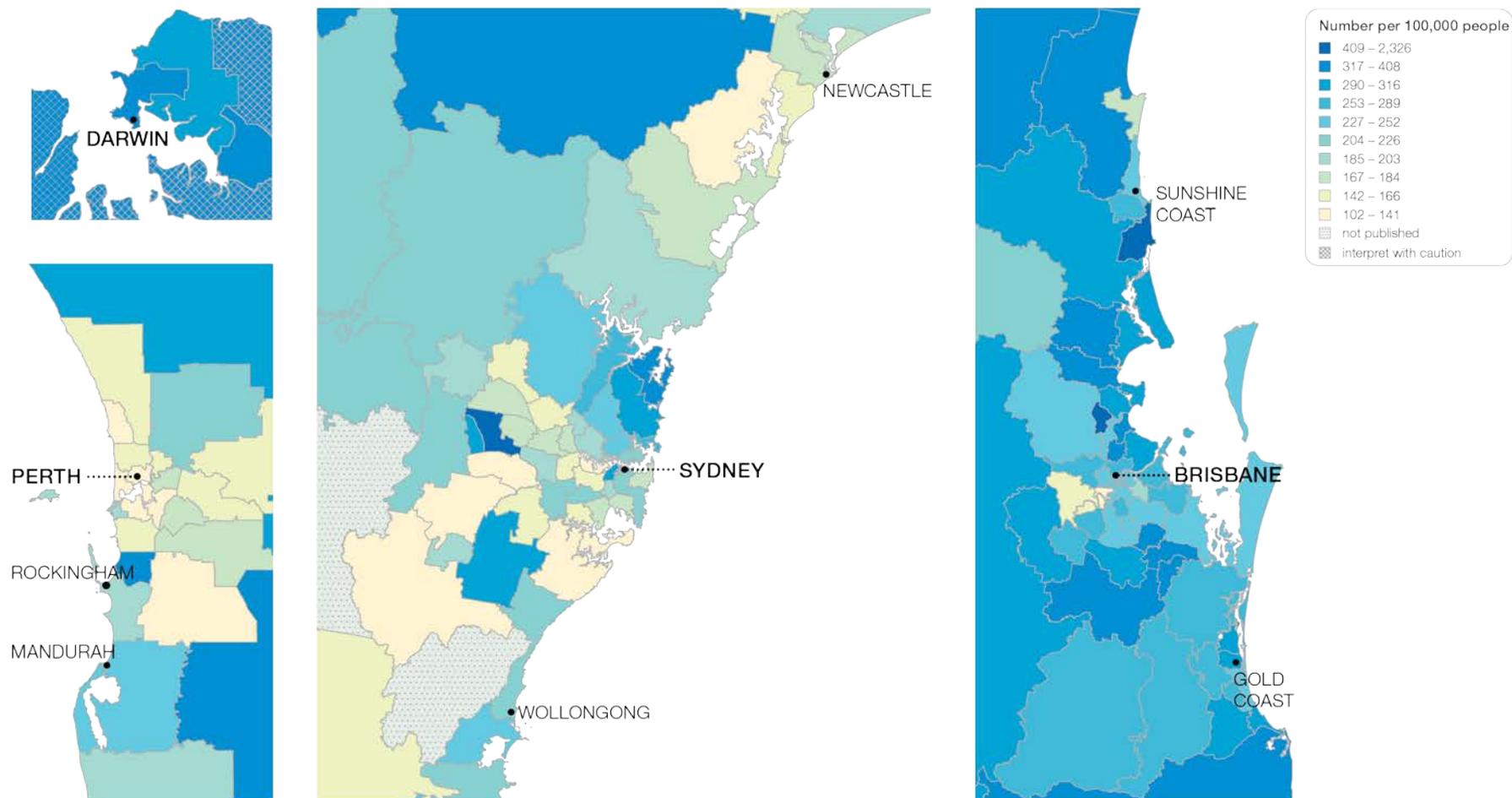
12.4x
AS HIGH
in the highest rate area
compared to the
lowest rate area



National Hospital Morbidity Database, 2014–15



1.3 Cellulitis hospitalisations



National Hospital Morbidity Database, 2014–15



1.3 Cellulitis hospitalisations

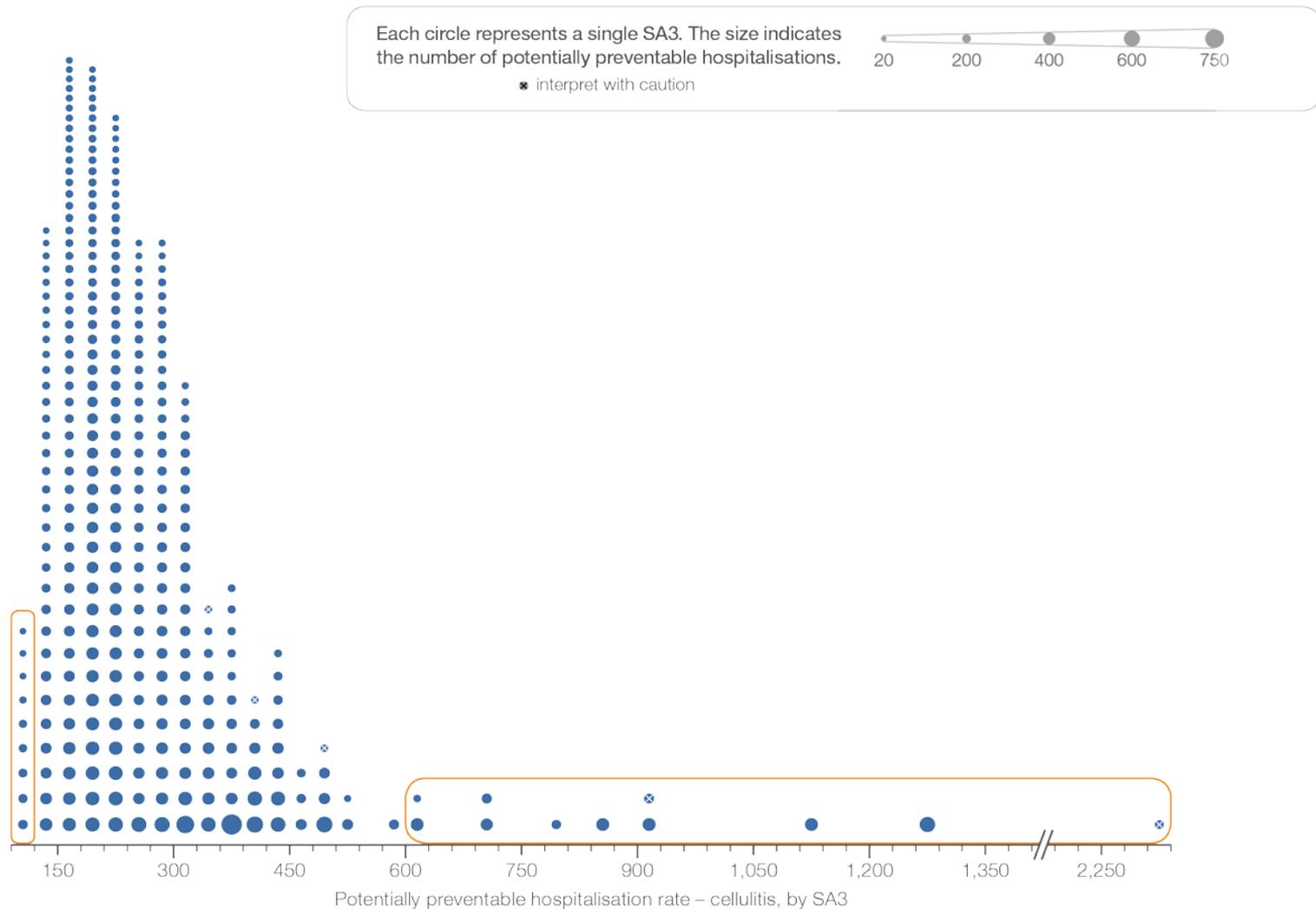


National Hospital Morbidity Database, 2014–15





1.3 Cellulitis hospitalisations



National Hospital Morbidity Database, 2014–15

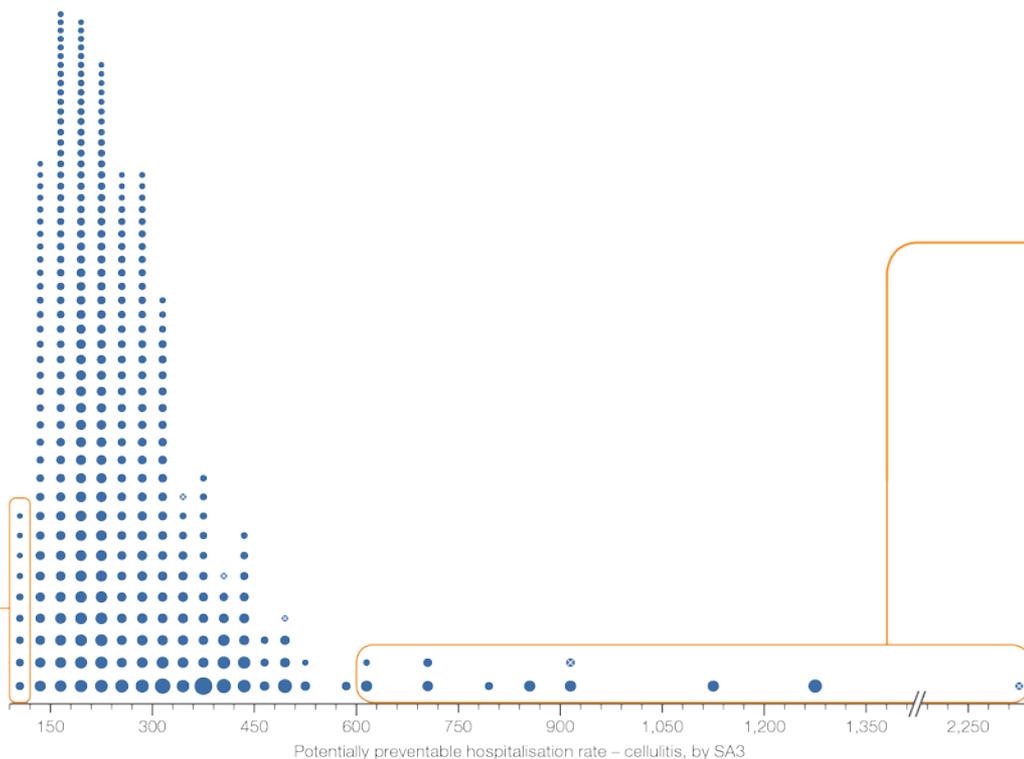


1.3 Cellulitis hospitalisations

Each circle represents a single SA3. The size indicates the number of potentially preventable hospitalisations.



• Interpret with caution



Potentially preventable hospitalisation rate – cellulitis, by SA3

Highest rate areas

SA3	State	Rate	Hospitalisations
Barkly	NT	2,326*	138
Kimberley	WA	1,262	461
Far North	Qld	1,131	341
Innisfail - Cassowary Coast	Qld	922	341
Katherine	NT	910*	188
Alice Springs	NT	856	338
Outback - South	Qld	802	165
Tablelands (East) - Kuranda	Qld	717	297
Bourke - Cobar - Coonamble	NSW	693	198
Devonport	Tas	628	333
Port Douglas - Daintree	Qld	619	73

Lowest rate areas

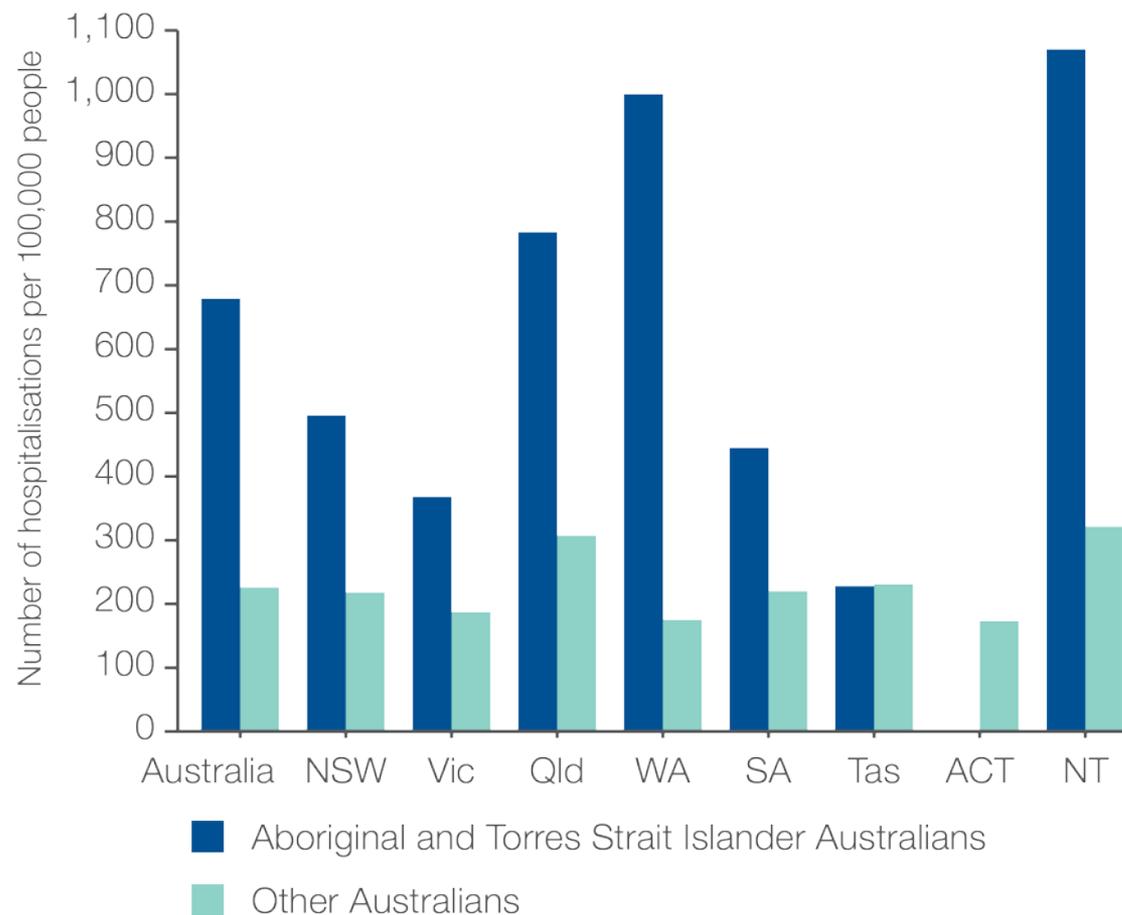
SA3	State	Rate	Hospitalisations
Nilumbik - Kinglake	Vic	102	62
Meander Valley - West Tamar	Tas	102	24
Canning	WA	104	115
South Canberra	ACT	111	32
Sutherland - Menai - Heathcote	NSW	112	134
Launceston	Tas	112	106
Macedon Ranges	Vic	113	33
Cronulla - Miranda - Caringbah	NSW	117	175
Melville	WA	119	151

National Hospital Morbidity Database, 2014–15



1.3 Cellulitis hospitalisations

Aboriginal and Torres Strait Islander status



National Hospital Morbidity Database, 2014–15



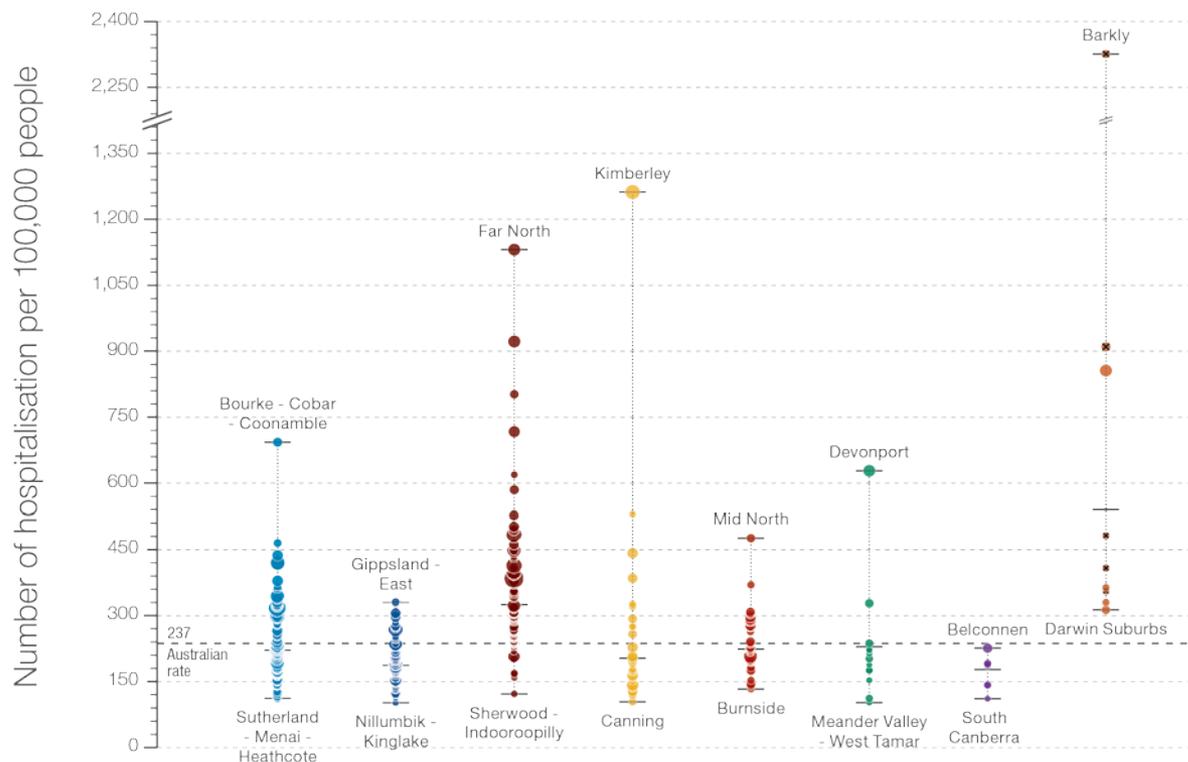
1.3 Cellulitis hospitalisations

State and territory

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Highest rate	693	329	1,131	1,262	476	628	226	2,326*
State/territory	221	187	325	203	224	229	177	540
Lowest rate	112	102	122	104	133	102	111	313
No. hospitalisations	18,340	11,787	15,871	5,274	4,433	1,314	670	1,210

Each circle represents a single SA3. The size indicates the number of potentially preventable hospitalisations.

interpret with caution

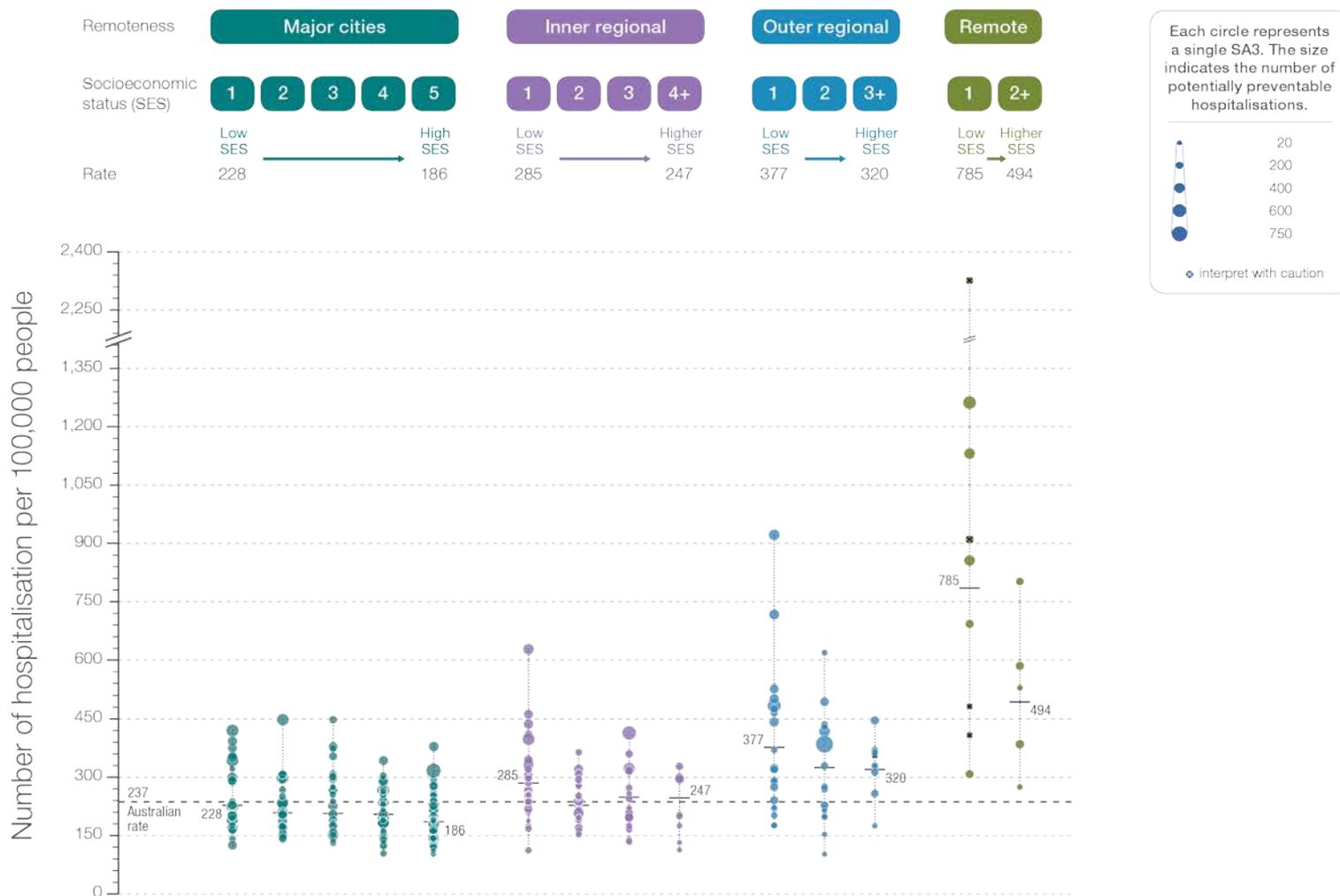


National Hospital Morbidity Database, 2014–15



1.3 Cellulitis hospitalisations

Remoteness and socioeconomic status

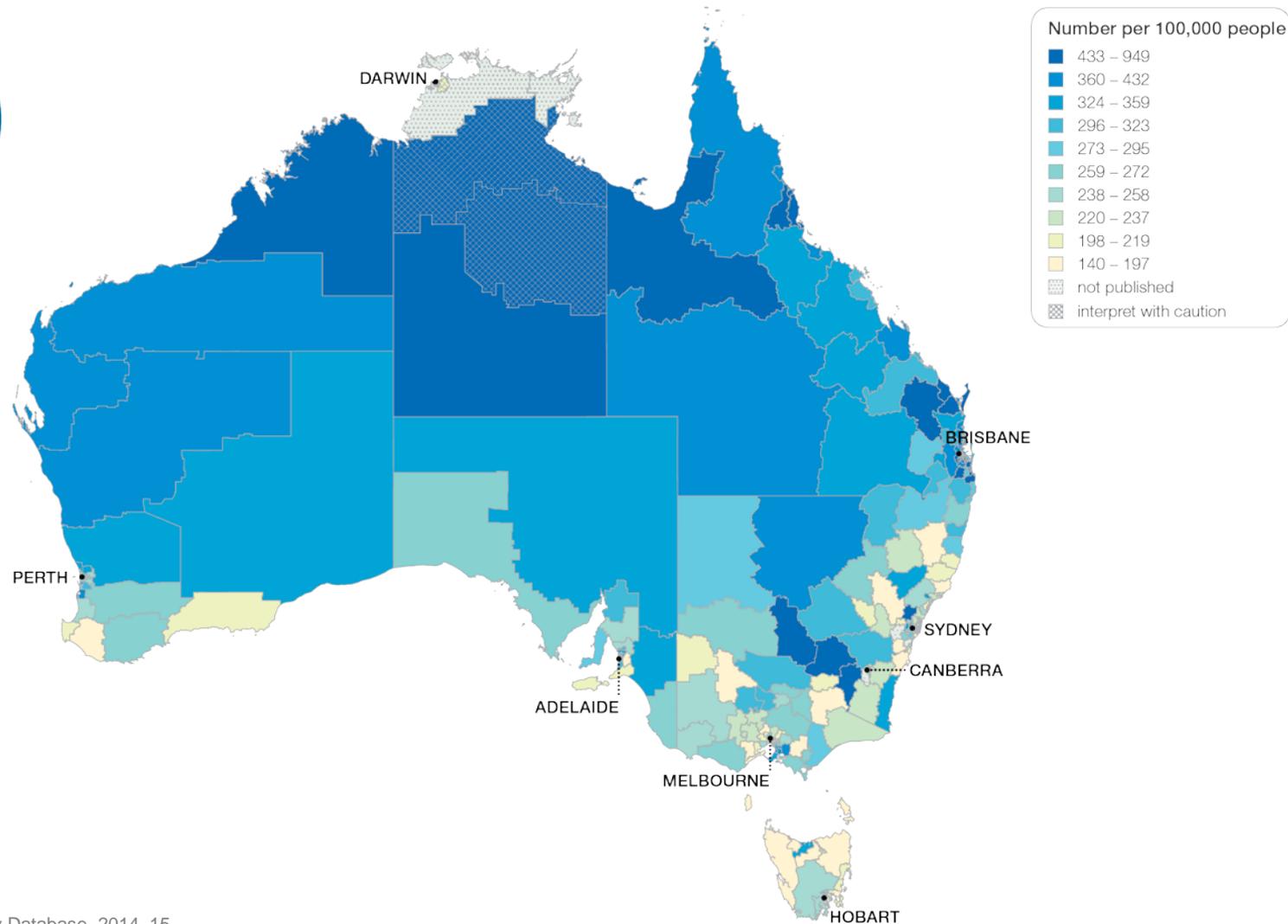


National Hospital Morbidity Database, 2014–15



1.4 Kidney and urinary tract infections hospitalisations

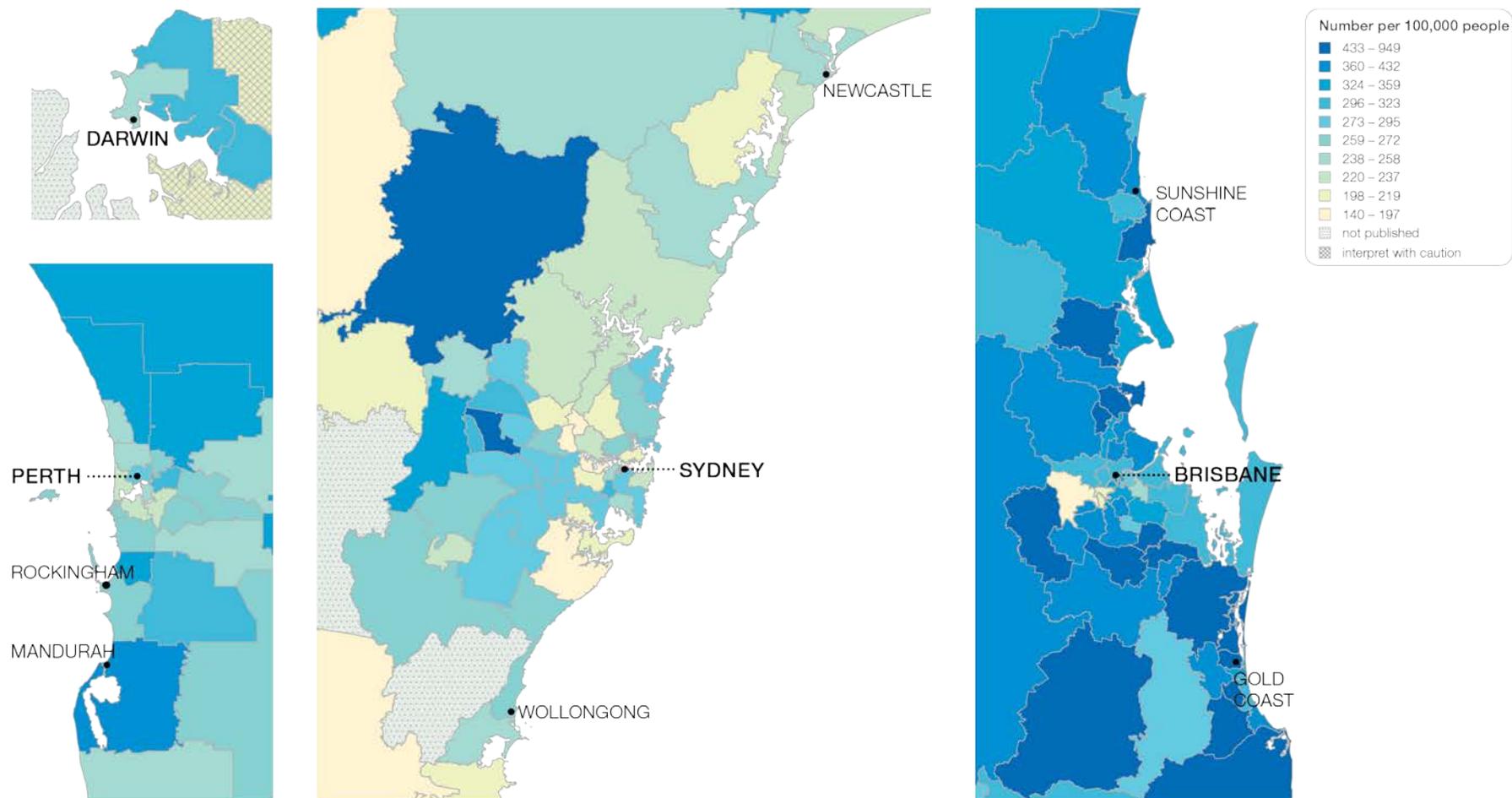
6.4x
AS HIGH
in the highest rate area
compared to the
lowest rate area



National Hospital Morbidity Database, 2014–15



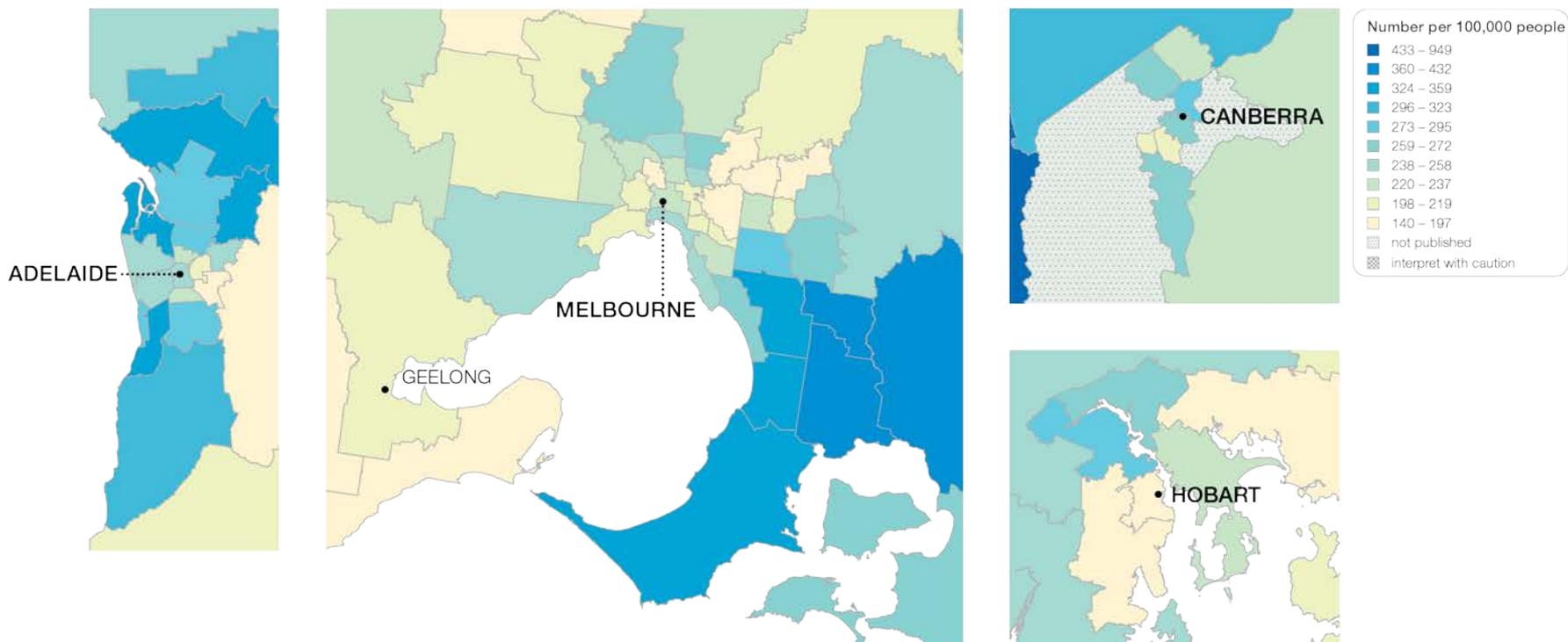
1.4 Kidney and urinary tract infections hospitalisations



National Hospital Morbidity Database, 2014–15



1.4 Kidney and urinary tract infections hospitalisations

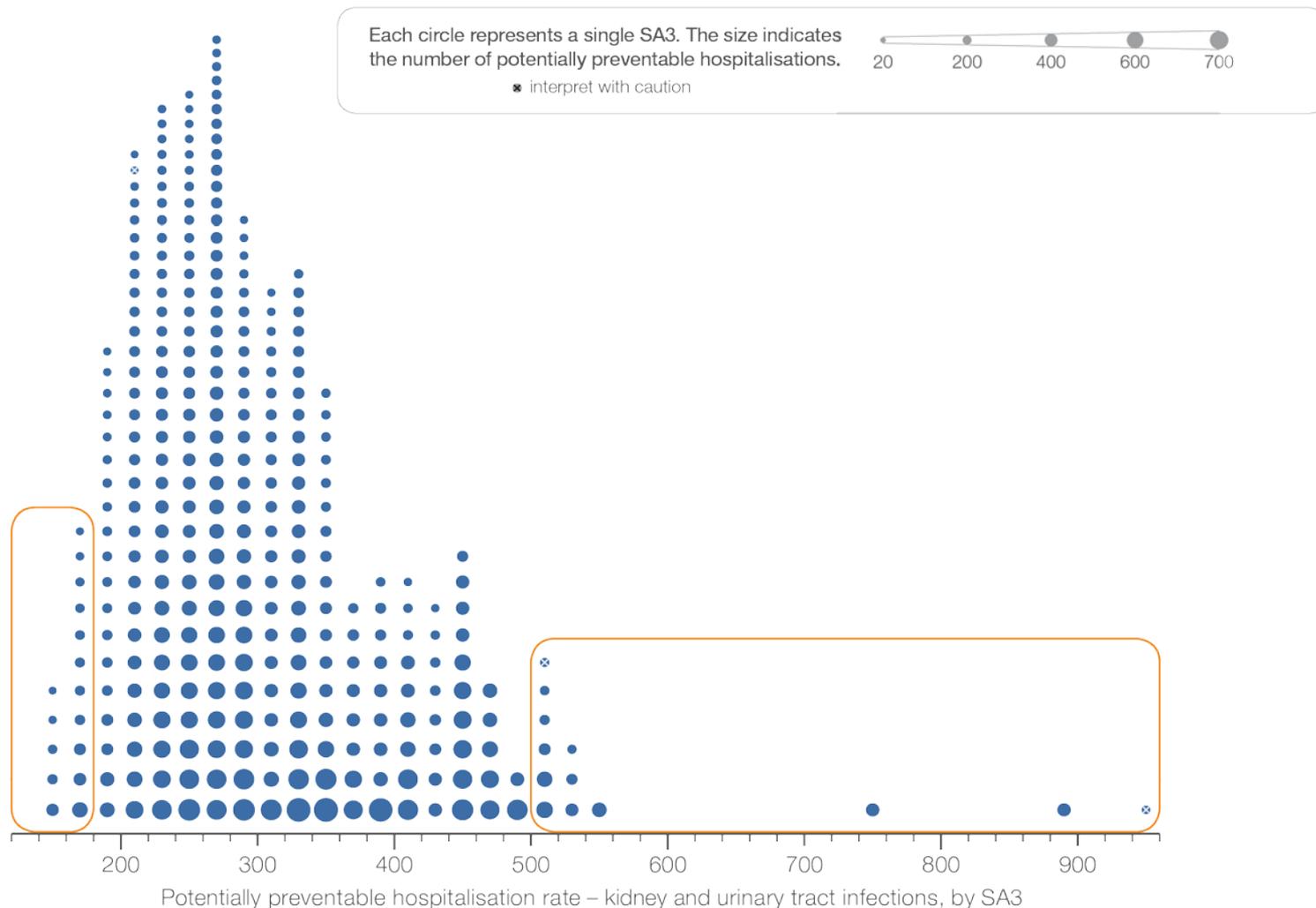


National Hospital Morbidity Database, 2014–15





1.4 Kidney and urinary tract infections hospitalisations



National Hospital Morbidity Database, 2014–15

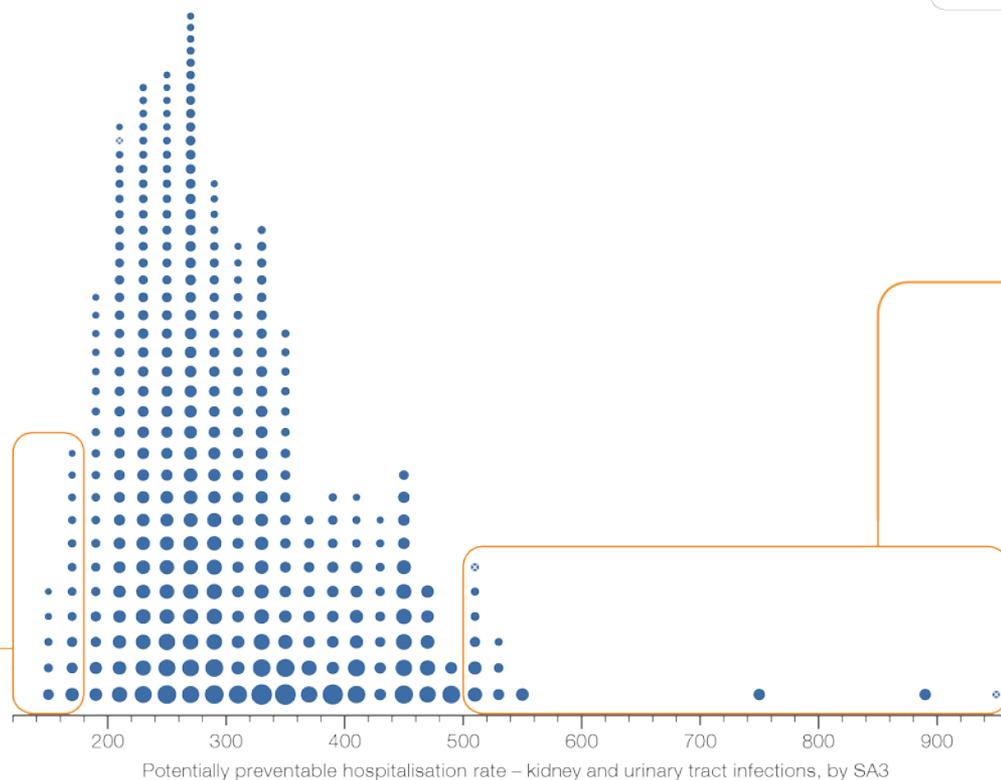


1.4 Kidney and urinary tract infections hospitalisations

Each circle represents a single SA3. The size indicates the number of potentially preventable hospitalisations.



• interpret with caution



Highest rate areas

SA3	State	Rate	Hospitalisations
Barkly	NT	949*	54
Kimberley	WA	899	248
Alice Springs	NT	750	249
Loganlea - Carbrook	Qld	543	308
Beaudesert	Qld	533	82
Mudgeeraba - Tallebudgera	Qld	530	159
Tablelands (East) - Kuranda	Qld	523	234
Outback - North	Qld	517	125
Springwood - Kingston	Qld	516	388
Tumut - Tumbarumba	NSW	514	97
Katherine	NT	511*	83
Innisfail - Cassowary Coast	Qld	508	197
Southport	Qld	503	343

Lowest rate areas

SA3	State	Rate	Hospitalisations
Barwon - West	Vic	140	23
Burnie - Ulverstone	Tas	144	92
Shoalhaven	NSW	157	214
Surf Coast - Bellarine Peninsula	Vic	158	127
Manjimup	WA	158	43
Adelaide Hills	SA	161	117
Burnside	SA	162	104
Baw Baw	Vic	166	88
Sutherland - Menai - Heathcote	NSW	167	192
Macedon Ranges	Vic	167	50
Boroondara	Vic	171	343
North East	Tas	171	77
Southern Highlands	NSW	176	115
Manningham - West	Vic	177	225
Sorell - Dodges Ferry	Tas	178	30
Carlingford	NSW	179	130

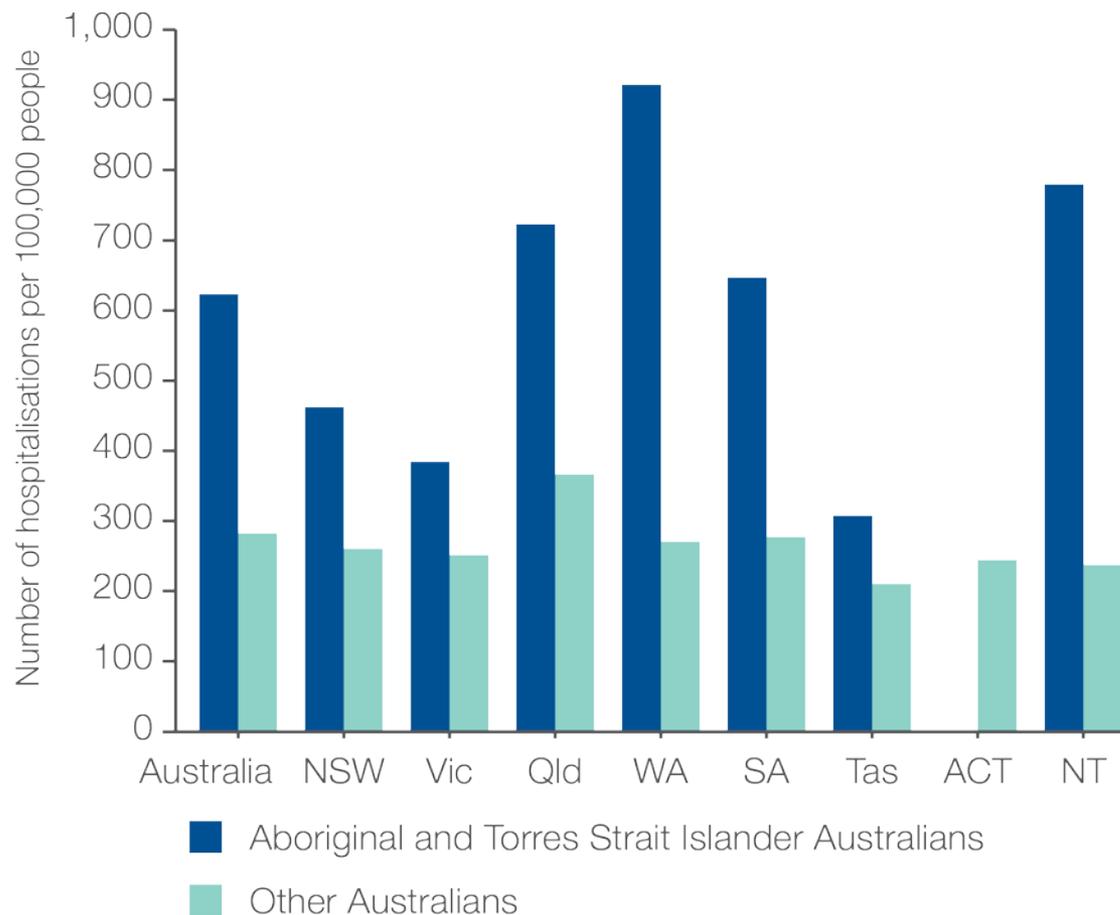
National Hospital Morbidity Database, 2014–15





1.4 Kidney and urinary tract infections hospitalisations

Aboriginal and Torres Strait Islander status



National Hospital Morbidity Database, 2014–15



1.3 Cellulitis hospitalisations

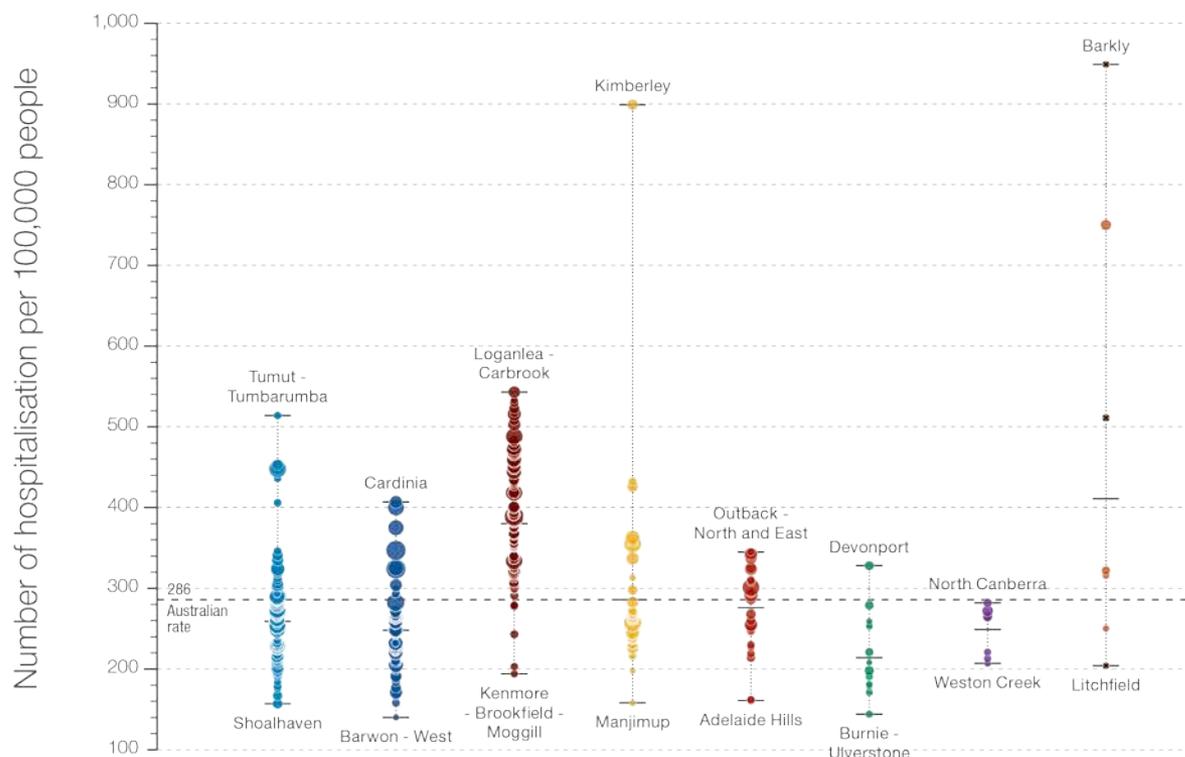
State and territory

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Highest rate	514	407	543	899	345	328	282	949*
State/territory	259	248	380	286	276	214	249	411
Lowest rate	157	140	194	158	161	144	207	204*
No. hospitalisations	22,088	16,002	18,720	7,365	5,602	1,301	930	766

Each circle represents a single SA3. The size indicates the number of potentially preventable hospitalisations.



interpret with caution

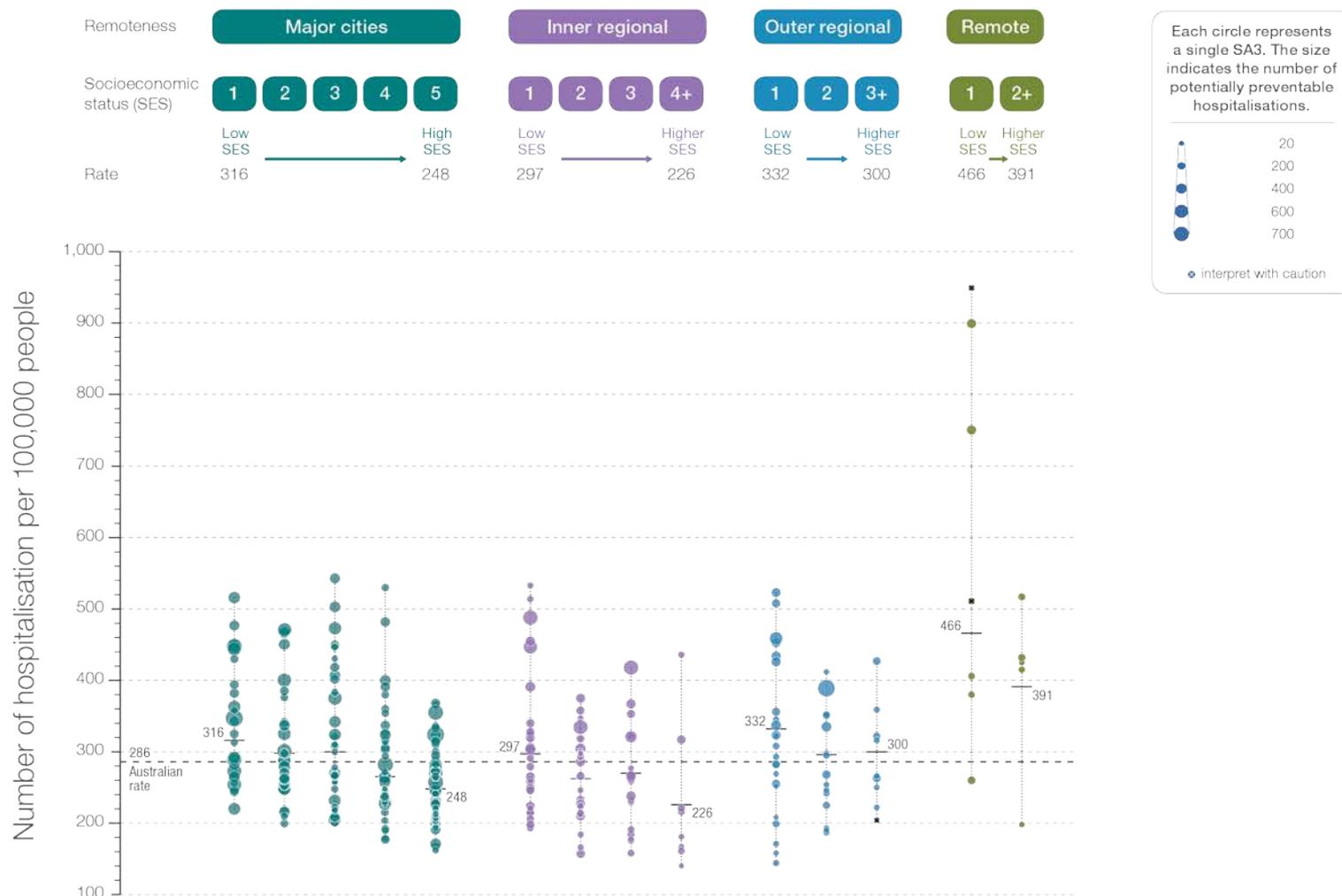


National Hospital Morbidity Database, 2014-15



1.4 Kidney and urinary tract infections hospitalisations

Remoteness and socioeconomic status

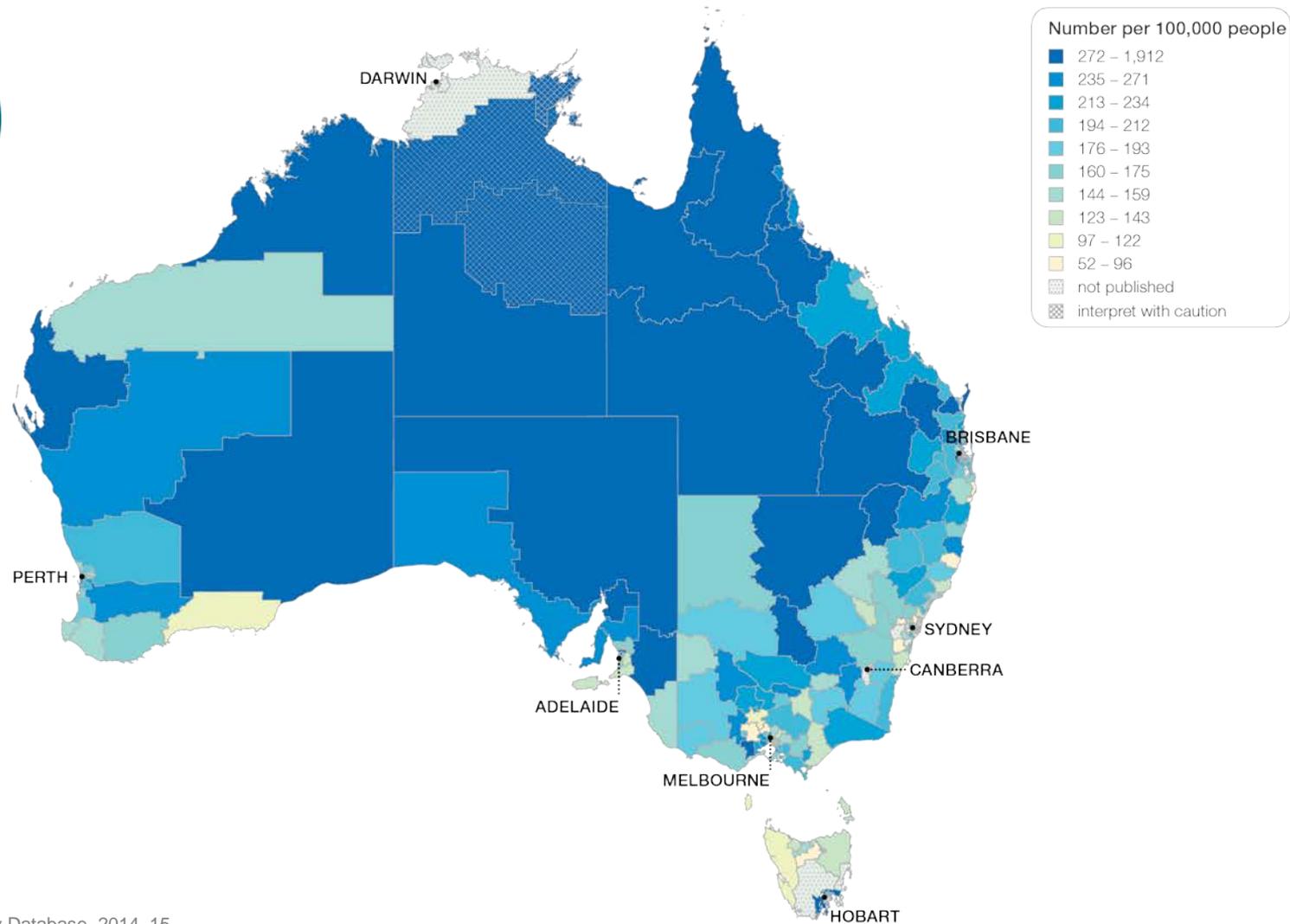


National Hospital Morbidity Database, 2014–15



1.5 Diabetes complications hospitalisations

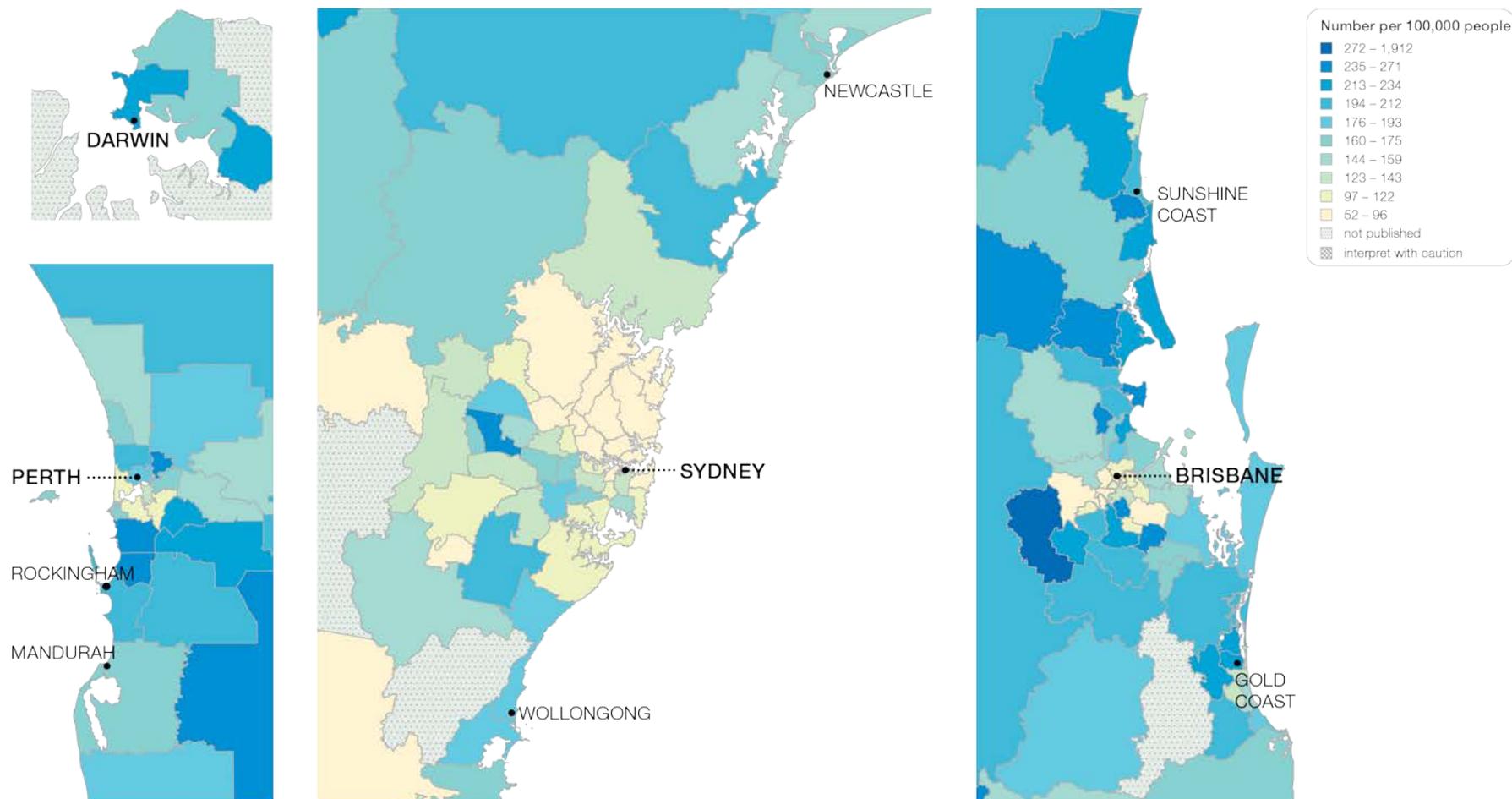
11.6x
AS HIGH
in the highest rate area
compared to the
lowest rate area



National Hospital Morbidity Database, 2014–15



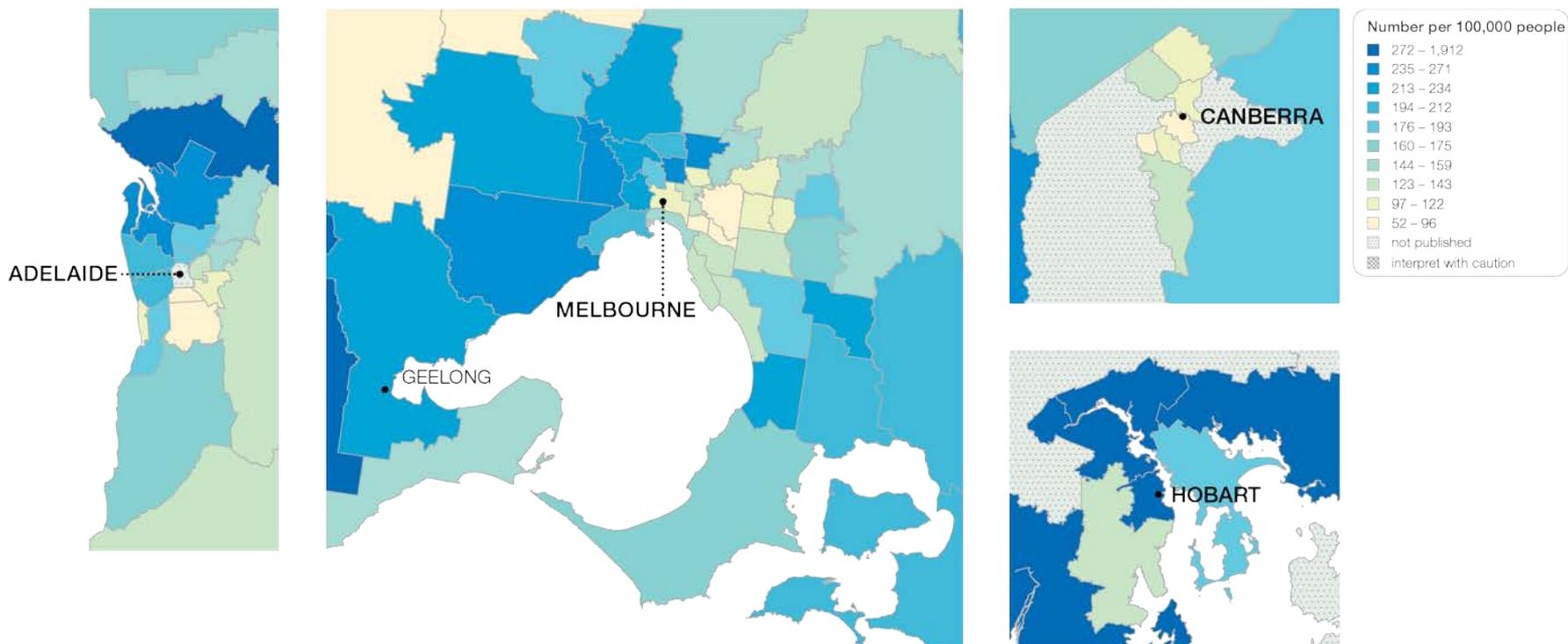
1.5 Diabetes complications hospitalisations



National Hospital Morbidity Database, 2014–15



1.5 Diabetes complications hospitalisations

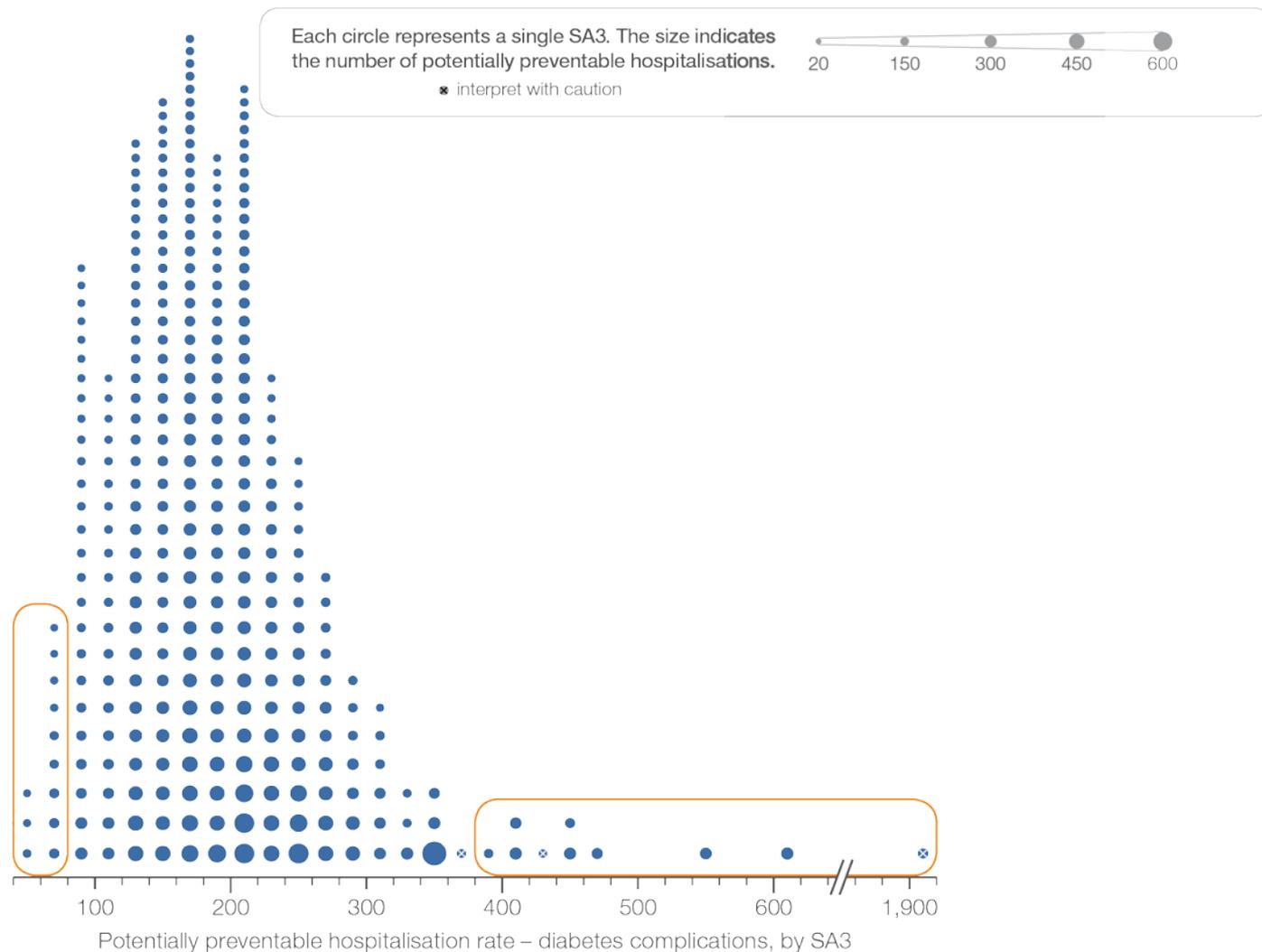


National Hospital Morbidity Database, 2014–15





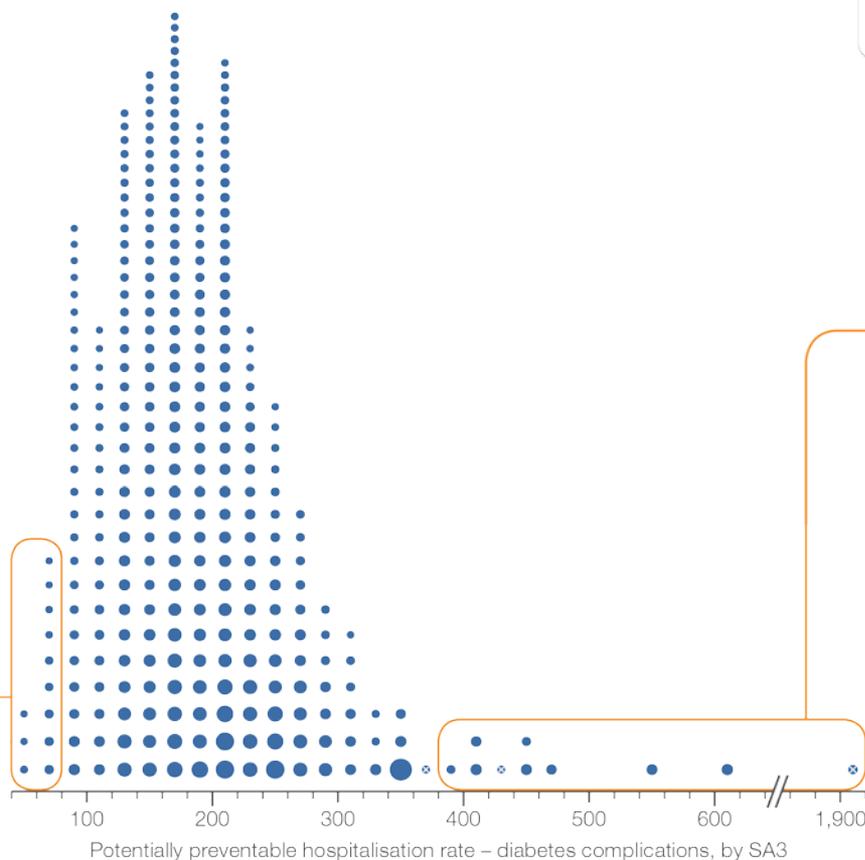
1.5 Diabetes complications hospitalisations



National Hospital Morbidity Database, 2014–15



1.5 Diabetes complications hospitalisations



Each circle represents a single SA3. The size indicates the number of potentially preventable hospitalisations.



• interpret with caution

Highest rate areas

SA3	State	Rate	Hospitalisations
Barkly	NT	1,912*	107
Outback - North	Qld	601	181
Far North	Qld	542	164
Outback - North and East	SA	473	141
Outback - South	Qld	453	95
Alice Springs	NT	452	173
East Arnhem	NT	421*	50
Kimberley	WA	408	152
Tablelands (East) - Kuranda	Qld	407	181
Barwon - West	Vic	395	84

Lowest rate areas

SA3	State	Rate	Hospitalisations
Brisbane Inner - West	Qld	52	28
Manly	NSW	52	26
Blue Mountains	NSW	58	53
Baulkham Hills	NSW	65	97
Eastern Suburbs - North	NSW	66	107
North Sydney - Mosman	NSW	69	72
Dural - Wisemans Ferry	NSW	69	22
Pennant Hills - Epping	NSW	72	38
Macedon Ranges	Vic	72	23
Ku-ring-gai	NSW	73	105
Stonnington - East	Vic	74	36
Mitcham	SA	78	75

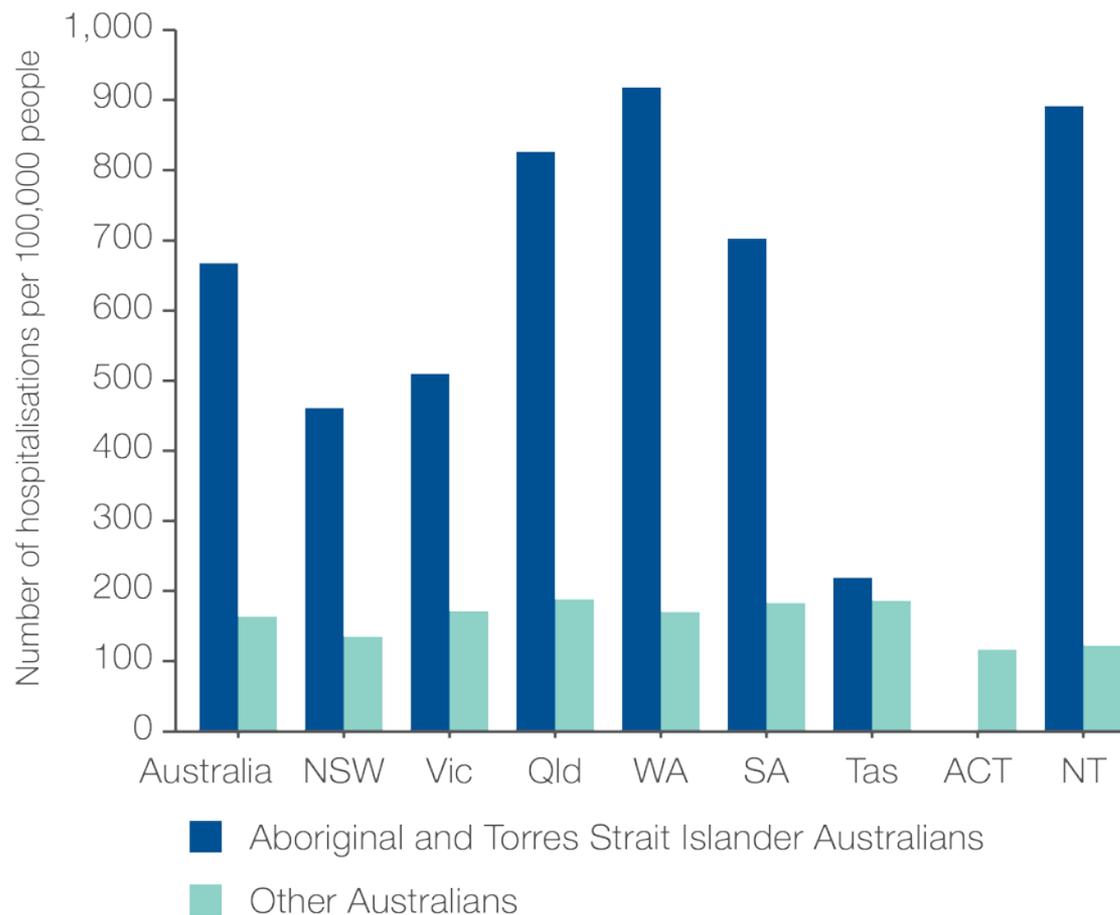
National Hospital Morbidity Database, 2014–15





1.5 Diabetes complications hospitalisations

Aboriginal and Torres Strait Islander status



National Hospital Morbidity Database, 2014–15

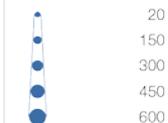


1.5 Diabetes complications hospitalisations

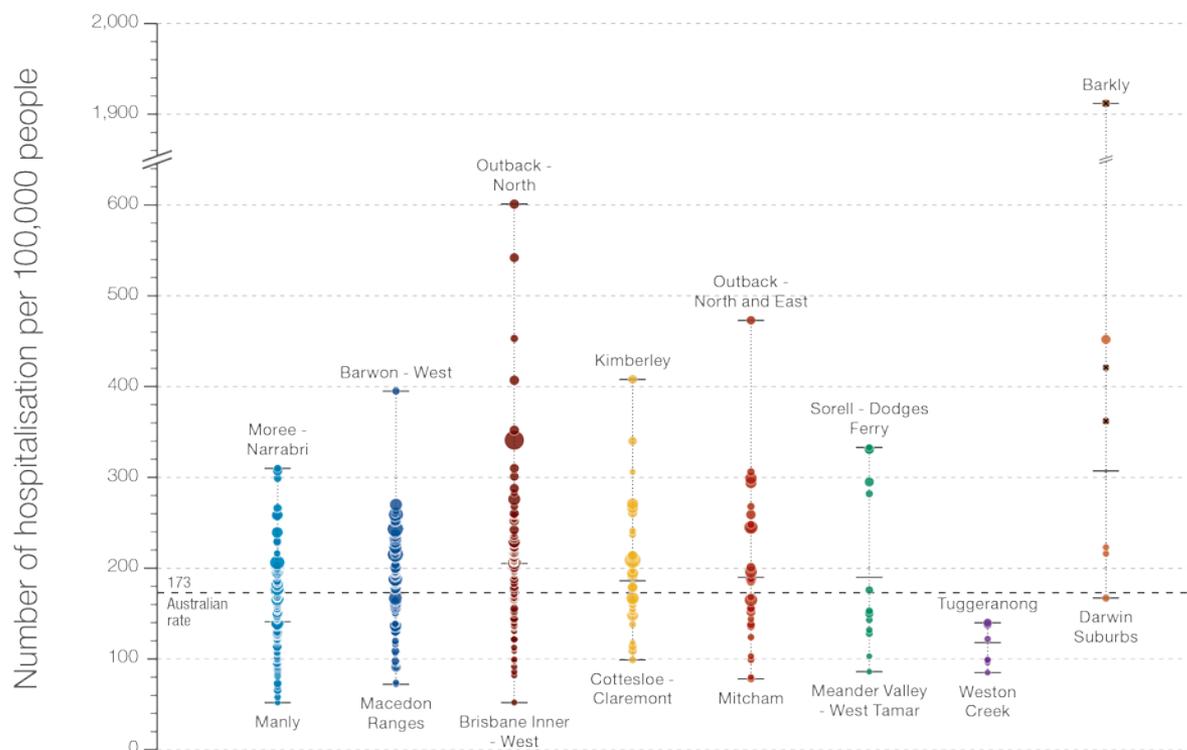
State and territory

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Highest rate	310	395	601	408	473	333	140	1,912*
State/territory	141	173	205	186	190	190	118	307
Lowest rate	52	72	52	99	78	86	85	167
No. hospitalisations	11,660	10,968	10,120	4,892	3,714	1,119	443	643

Each circle represents a single SA3. The size indicates the number of potentially preventable hospitalisations.



interpret with caution



National Hospital Morbidity Database, 2014–15



1.5 Diabetes complications hospitalisations

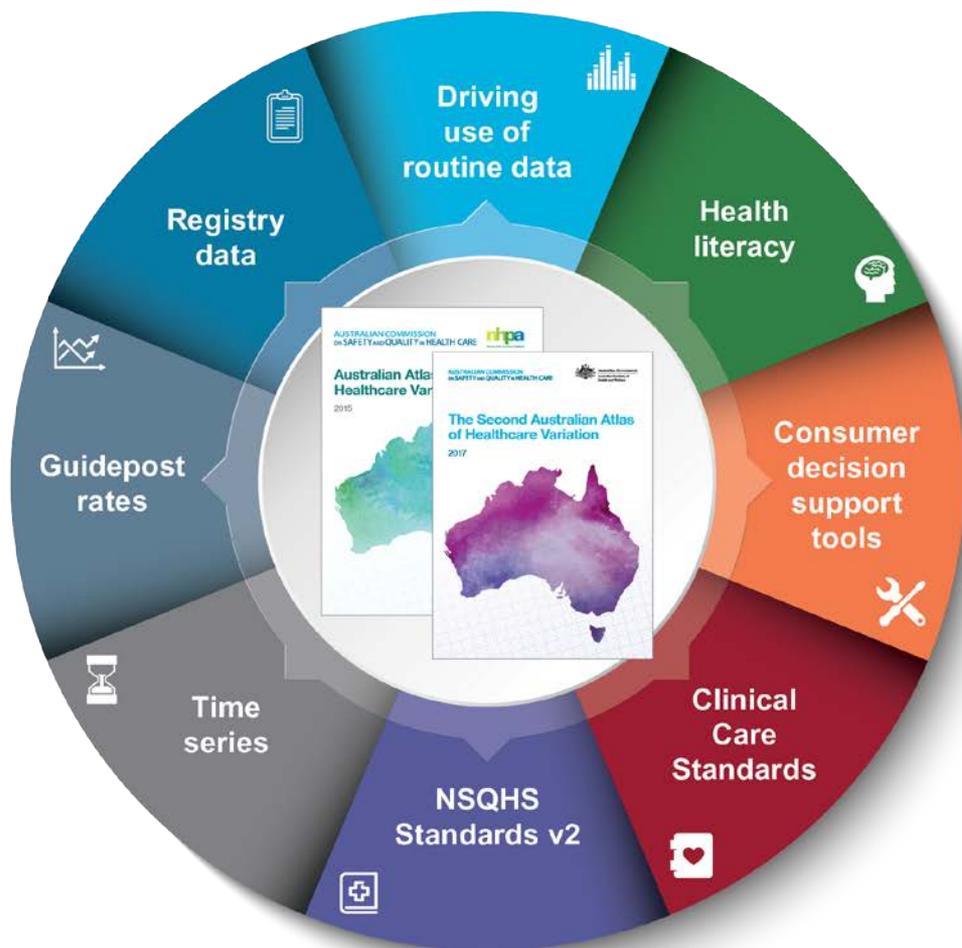
Remoteness and socioeconomic status



National Hospital Morbidity Database, 2014–15



Promoting appropriate care



Explore variation

Identify unwarranted variation

Address unwarranted variation





Further resources

- Explore the data further using the interactive Atlas at www.safetyandquality.gov.au/atlas/
- Please send any queries to atlas@safetyandquality.gov.au



**AUSTRALIAN COMMISSION
ON SAFETY AND QUALITY IN HEALTH CARE**

The Second Australian Atlas of Healthcare Variation

2017

