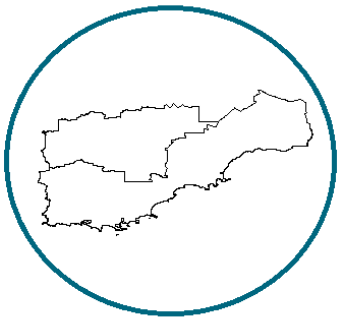
Government of **Western Australia**
WA Country Health Service

Our Vision
To be a global leader in rural and remote healthcare



Great Southern

Health Profile 2022

Our Values: Community | Compassion | Quality | Integrity | Equity | Curiosity

Great Southern Health Profile – Preliminary Version endorsed October 2022

To be used in combination with the local community directories, and WACHS place based care education documents.

Contents

Acknowledgements

WA Country Health Service recognises and acknowledges the Aboriginal people of the many traditional lands and language groups across Western Australia. We also acknowledge the wisdom of Aboriginal Elders both past and present and pay respect to Aboriginal communities of today.

Using the term—Aboriginal

Within Western Australia (WA), the term Aboriginal is used in preference to Aboriginal and Torres Strait Islander, in recognition that Aboriginal people are the original inhabitants of Western Australia. Aboriginal and Torres Strait Islander may be referred to in the national context and Indigenous may be referred to in the international context. No disrespect is intended to our Torres Strait Islander colleagues and community.

WACHS Strategic Priorities

Introduction

Delivering high quality care to our patients is at the center of everything we do at the WA Country Health Service (WACHS). From frontline staff in remote and regional WA to executive support staff working in the metropolitan area, our focus is always

the same.

The mortality rate for people living in remote and very remote communities in Australia is 30 per cent higher than for those living in cities. Life expectancy is also much lower for WA's Aboriginal people and people suffering from chronic and persistent mental health conditions. To be a global leader in rural and remote healthcare, we must address this inequity.

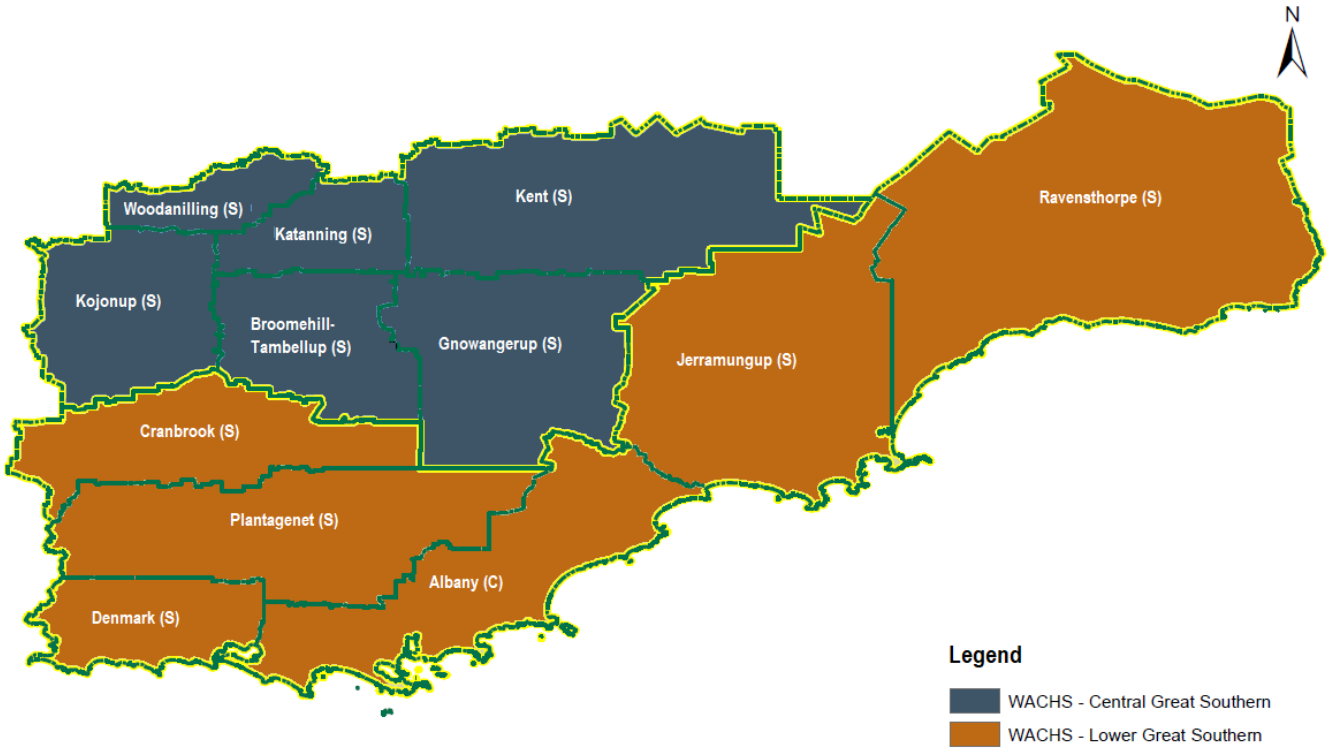
There are many factors that influence a person's health, including genetics, lifestyle and environmental, economic and social factors. The demographics communities are very diverse and even the types of local industry can impact how communities' function. For example a major industry centre, coastal tourism or viticulture community will differ from an inland farming or forest community. The level of remoteness, isolation and impact on health by environmental conditions is often more marked in rural than metropolitan communities.

The purpose of this document is to provide an overview of the population, geography, health risk factors and health activity of the Great Southern region and its Health Districts and identify some of the key health issues and needs of its population. The profile aims to provide a guide to inform health service review, planning and evaluation and help address disadvantage and inequity in rural and remote healthcare.

Geography and services

- The Great Southern health region is made up of two geographic health districts, the Central Great Southern and Lower Great Southern. Its largest city is Albany, which is located 418km from Perth.
- Each district is made up of six Local Government Areas (LGAs). The Central Great Southern includes one District Hospital (Katanning Hospital), two small hospitals (Gnowangerup and Kojonup Hospitals) and one Nursing Post/Health Centre (Tambellup Health Centre). The Lower Great Southern includes one regional hospital (Albany Hospital), three small hospitals (Denmark, Plantagenet and Ravensthorpe Hospitals) and two Nursing Posts/Health Centres (Bremer Bay and Jerramungup Health Centres).
- Denmark, Plantagenet and Ravensthorpe are Multi-Purpose Services which also receive funding for residential aged care by the Commonwealth to provide an integrated health and aged care service.

Great Southern Health Districts



Geographic district	Local Government Area (S) = Shire, (C) = City	Hospitals
Central Great Southern	Broomehill-Tambellup (S)	• Tambellup Health Centre
	Gnowangerup (S)	• Gnowangerup Hospital
	Katanning (S)	• Katanning Hospital
	Kent (S)	
	Kojonup (S)	• Kojonup Hospital
	Woodanilling (S)	
Lower Great Southern	Albany (C)	• Albany Hospital
	Cranbrook (S)	
	Denmark (S)	• Denmark Hospital
	Jerramungup (S)	• Jerramungup Health Centre • Bremer Bay Health Centre
	Plantagenet (S)	• Plantagenet Hospital (Mount Barker)
	Ravensthorpe (S)	• Ravensthorpe Hospital

Overview of regional service activity, by hospital, 2020-21

District	Hospital	Emergency Department presentations	Inpatient separations	Outpatient service events
Central Great Southern	Katanning Hospital	5309	948	10810
	Kojonup Hospital	901	41	1141
	Gnowangerup Hospital	666	26	424
Lower Great Southern	Albany Hospital	31420	18035	99509
	Denmark Hospital	4082	279	2839
	Ravensthorpe Hospital	1419	95	884
	Plantagenet Hospital	2944	289	4401
	Jerramungup Health Centre	285	0	215
	Bremer Bay Health Centre	1158	0	985
Great Southern Total		**48184**	**19713**	**121208**

Sources: WACHS Emergency Department Collection, WACHS Inpatient Collection (excludes boarders and unqualified newborns), WACHS Outpatient Appointment Collection (excludes Did Not Attends and Non-Client events). *Includes activity by both Great Southern and Non-Great Southern residents.

Great Southern Hospital bed Numbers

District	Hospital	Bed Numbers
Central Great Southern	Katanning Hospital	10
	Kojonup Hospital	6
	Gnowangerup Hospital	4
Lower Great Southern	Albany Hospital	81
	Denmark Hospital	7
	Ravensthorpe Hospital	4
	Plantagenet Hospital	11
Great Southern Total		**124**

Includes neonatal cots. Source: WACHS Planning and Evaluation Bed Capacity Audit document, accessed August 2022.

Models of care provided by the region

WACHS delivers emergency, inpatient, outpatient and community-based health services to regional WA. Our network of hospitals and health services enable our country communities to receive integrated health care. A range of these services can be offered through Telehealth and other digitally enabled services to enable patients to receive some of their care at or closer to home.

Population

- At 30 June 2020, the Estimated Resident Population of the Great Southern was 62,917. The majority of the population was in the Lower Great Southern District (85%, 53,682 people), with the other 15% in the Central Great Southern District (9,235 people). The City of Albany within the Lower Great Southern contains 61% of the Great Southern region population.
- Across the Great Southern, 5% of the population identified as Aboriginal, lower than the overall WACHS average of 11% but higher than WA State average of 3%. The proportion was more than double in the Central Great Southern district (9%) compared with Lower Great Southern (4%).
- The percentage of Aboriginal people varied between LGAs, from 15% in Broomehill-Tambellup through to 1% of the population in Kent.
- Updated populations from the 2021 Census, which will aid with rebasing population projections, are expected to be released between mid-2022 and early 2023.

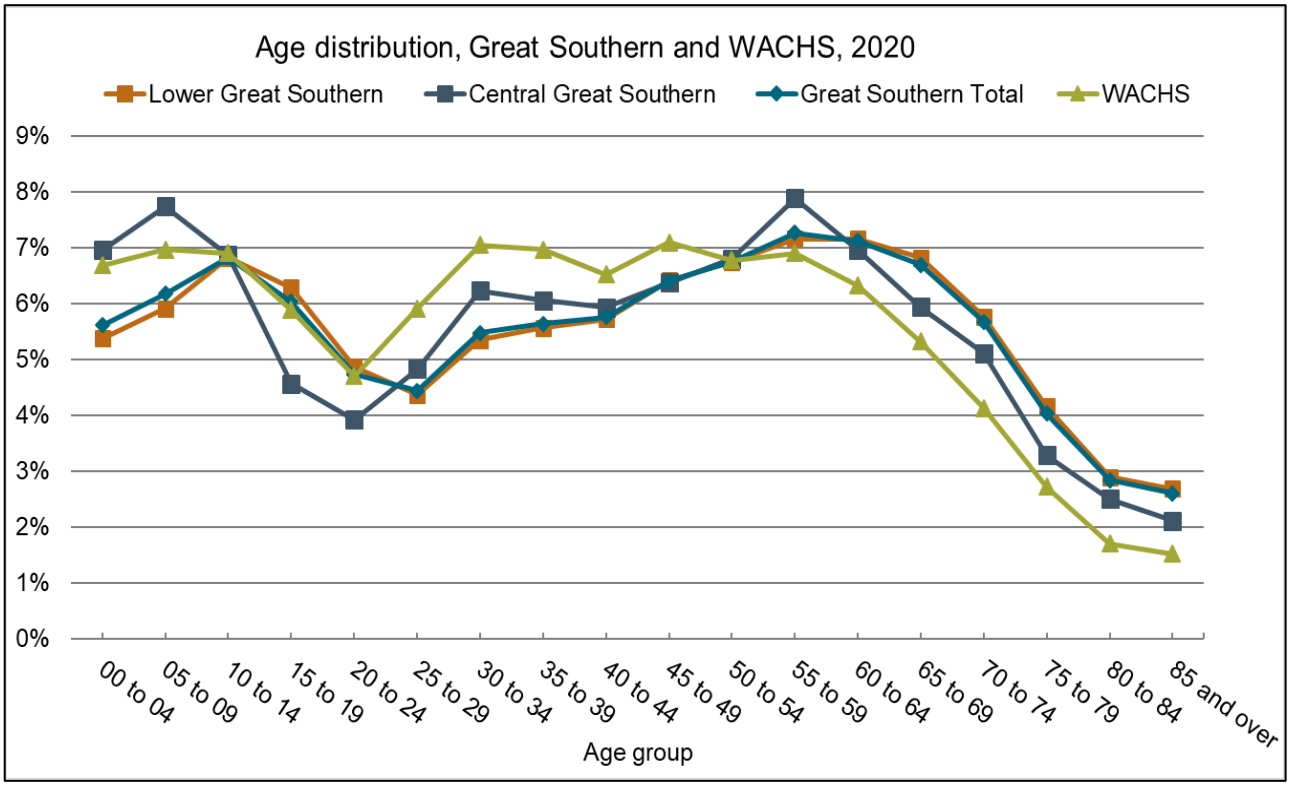
Geographic district	LGA	Aboriginal	Non - Aboriginal	Total	% Aboriginal
Central Great Southern	Broomehill-Tambellup (S)	159	929	1088	15%
	Gnowangerup (S)	126	1074	1200	10%
	Katanning (S)	408	3638	4046	10%
	Kent (S)	8	551	559	1%
	Kojonup (S)	100	1812	1912	5%
	Woodanilling (S)	11	419	430	3%
Central Great Southern Total		**811**	**8424**	**9235**	**9%**
Lower Great Southern	Albany (C)	1618	36678	38296	4%
	Cranbrook (S)	26	1018	1044	2%
	Denmark (S)	112	6258	6370	2%
	Jerramungup (S)	41	1089	1130	4%
	Plantagenet (S)	207	5069	5276	4%
	Ravensthorpe (S)	38	1528	1566	2%
Lower Great Southern Total		**2042**	**51640**	**53682**	**4%**
Great Southern Total		**2853**	**60064**	**62917**	**5%**

Using operational boundaries.

Source: ABS Estimated Resident Population, 2020. Aboriginal proportions from 2016 Census data applied to 2020 populations. Census data will start becoming available July 2022

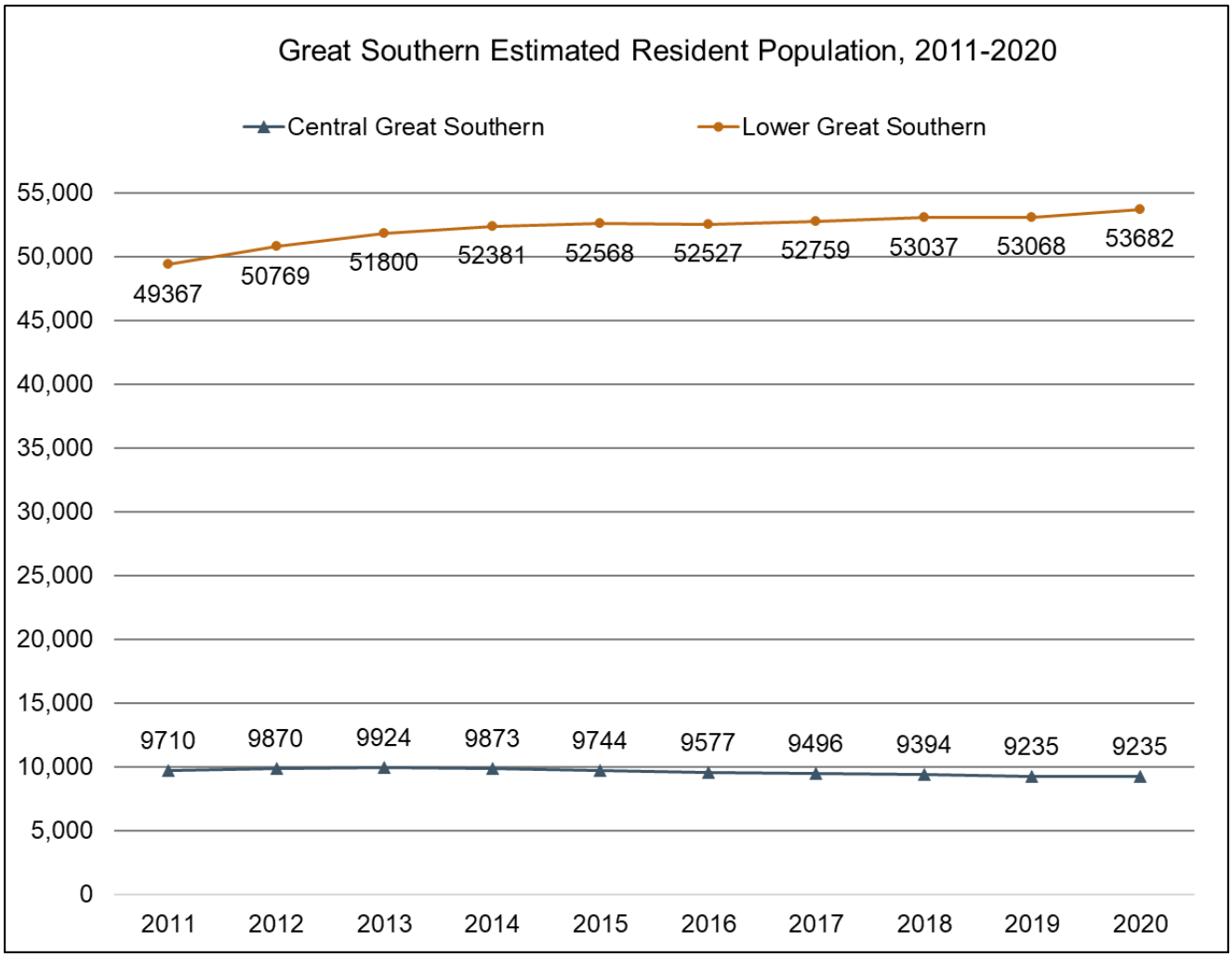
Age distribution

- In 2020, the Great Southern had an older age profile than the WACHS overall with 22% of the region's population aged 65 and over, compared to 16% for WACHS. This proportion was slightly higher for the Lower Great Southern district (22%) than the Central Great Southern (19%).
- The Central Great Southern had a higher proportion of its population aged 0-9 (15%) than the Lower Great Southern (11%), reflecting the higher Aboriginal population in this district and its associated younger age distribution.



Historical population growth

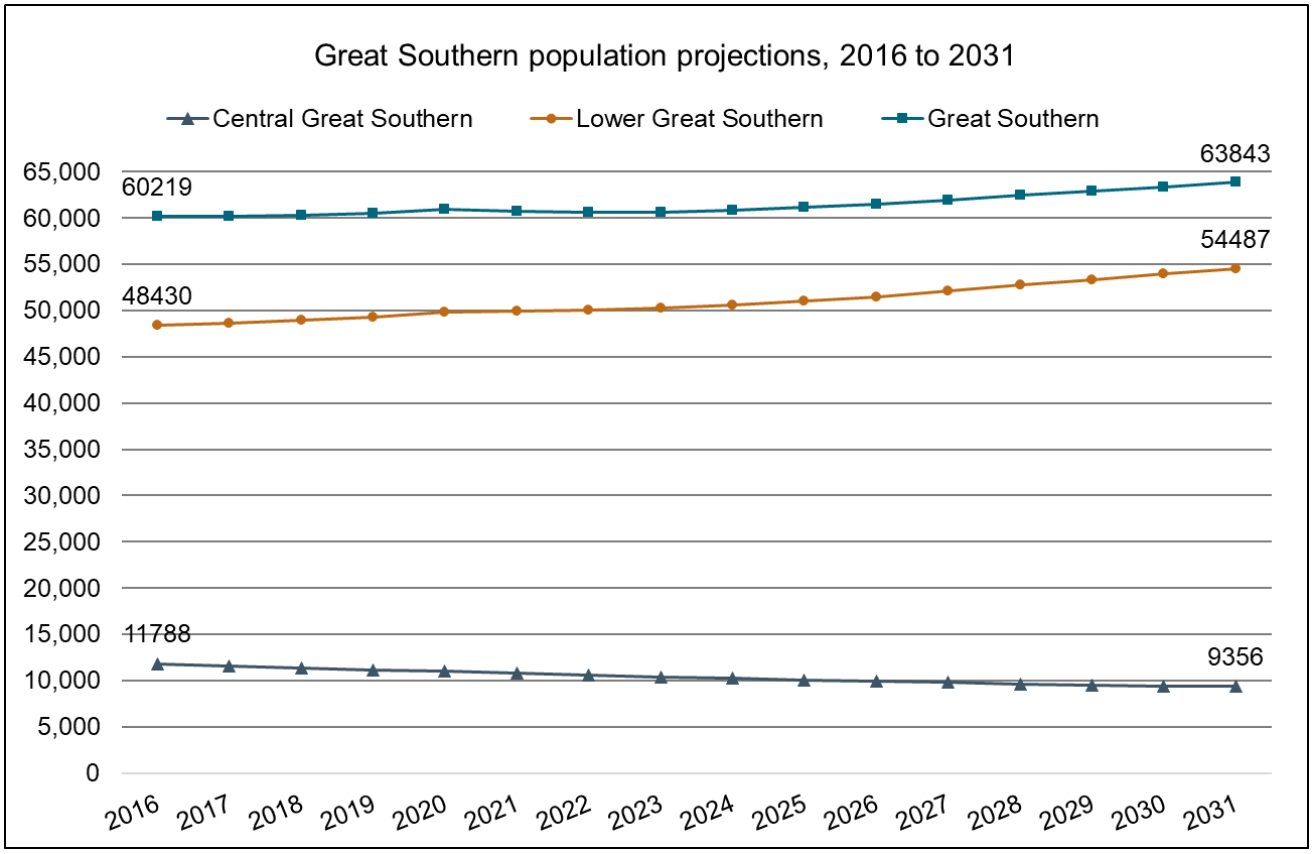
- Between 2011 and 2020, the population of the Great Southern grew by an annual average of 0.7% (from 59,077 to 62,917). This was largely driven by average annual increases of 1.8% in the Shire of Denmark (from 5,417 to 6,370) and 1.1% in the City of Albany (from 34,579 to 38,296). The largest average annual population decrease was in the Shire of Ravensthorpe (from 2,192 to 1,566).



Source: ABS Estimated Resident Population, 2020.

Projected population growth

- Between 2016 and 2031, the population of the Great Southern is estimated to increase by 6%, to 63,843.
- The Lower Great Southern district is estimated to increase by 13% the Central Great Southern is expected to decrease by 21% between 2016 and 2031.
- Updated populations from the 2021 Census, which will aid with rebasing population projections, are expected to be released between mid-2022 and early 2023.



Source: WA Tomorrow projections, Dec 2018 scaled to the Treasury Budget projection, 2021, by Department of Health.

Key Great Southern demographic, social and economic facts

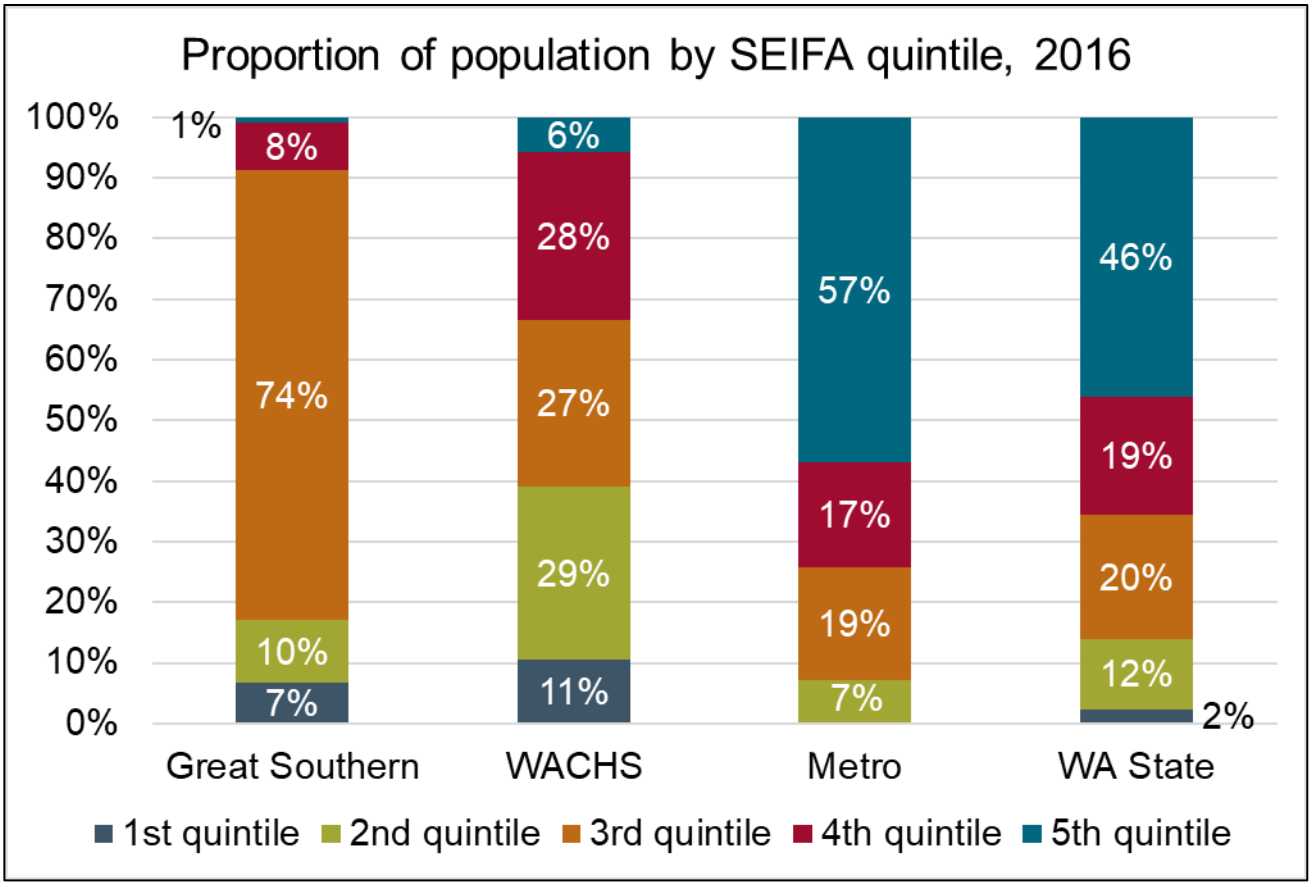
Local Government	Born overseas	People who don't speak English at home	Left school aged less than 15 years old	Persons with tertiary qualification	Families with annual income less than $20,800	Unemployment rate
Central Great Southern	15.6%	10.4%	12.9%	10.1%	3.5%	4.6%
Lower Great Southern	19.1%	5.6%	9.2%	13.2%	3.3%	5.2%
Great Southern	**18.6%**	**6.3%**	**9.7%**	**12.8%**	**3.3%**	**5.1%**
WACHS	**17.9%**	**8.4%**	**8.9%**	**11.7%**	**3.6%**	**6.4%**
WA State	**32.3%**	**17.6%**	**7.2%**	**20.6%**	**3.5%**	**7.8%**

Using geographic boundaries.

Source: Health Tracks, DoH. Data sourced from 2016 Census of Population and Housing

- *Socio-Economic Indexes for Areas (SEIFA) is an ABS product that ranks areas in Australia according to relative socio-economic advantage and disadvantage. The indexes are based on information from the five-yearly Census of Population and Housing.*
- *The Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) summarises information about the economic and social conditions of people and households within an area, including both relative advantage and disadvantage measures. A low score indicates relatively greater disadvantage and a lack of advantage in general. A high score indicates a relative lack of disadvantage and greater advantage in general.*

In 2016, the Great Southern had 17% of its population living in areas with SEIFA scores in the two quintiles with the highest relative disadvantage (1st and 2nd), compared with 40% for WACHS overall and 14% for the WA State average. Almost three quarters of its population was living in areas in the 3rd quintile of relative disadvantage, and only a small proportion (9%) living in areas with scores in the least disadvantaged quintiles.



**the lower the quintile, the higher the relative disadvantage. Source: 2016 Census*

Vulnerable children and families

While the indicators above provide an overview of the social and economic factors in the Great Southern, that there are many other interlinked factors that impact a community and its unique health care needs.

It is recognised that vulnerable children and their families may require more assistance, support and intervention than families with no identified vulnerabilities.

Recognised vulnerable groups in our communities include Aboriginal families, refugee families, 'at risk' families (those experiencing mental illness, affected by drugs and alcohol, those with disabilities, with low incomes and resourcing, and families with young parents), and children in care, who have a higher risk of health and developmental vulnerability.

More data focused on the social, economic, health and wellbeing of children and adolescents can be found in the Telethon Kids Institute's interactive Child Development Atlas (https://childatlas.telethonkids.org.au/).

Burden of disease

The Western Australian Burden of Disease Study (WABODS) 2015 was conducted by the Epidemiology Branch, WA Department of Health in partnership with the Australian Institute of Health and Welfare. The study provides an assessment of the impact of 216 diseases and 29 risk factors on the WA population and allows for disease comparisons due to loss of life and disability in a consistent manner. Findings from this study are useful for policy formulation, research, practice and health service planning.

In the Great Southern, mental health issues are the leading cause of burden of disease (17.8% of total burden) for the community followed by cancer (18.8%), cardiovascular (11.8%) and injury (including suicide, self-inflicted and motor vehicle occupant injuries) (11%).

Depressive disorders (11.9% of disability adjusted life years), anxiety disorders (5.7%) and coronary heart disease (4.8%) are the diseases with the highest burdens for Great Southern women whereas coronary heart disease (9.4%), depressive disorders (8.2%) and COPD (5.5%) are highest for Great Southern men.

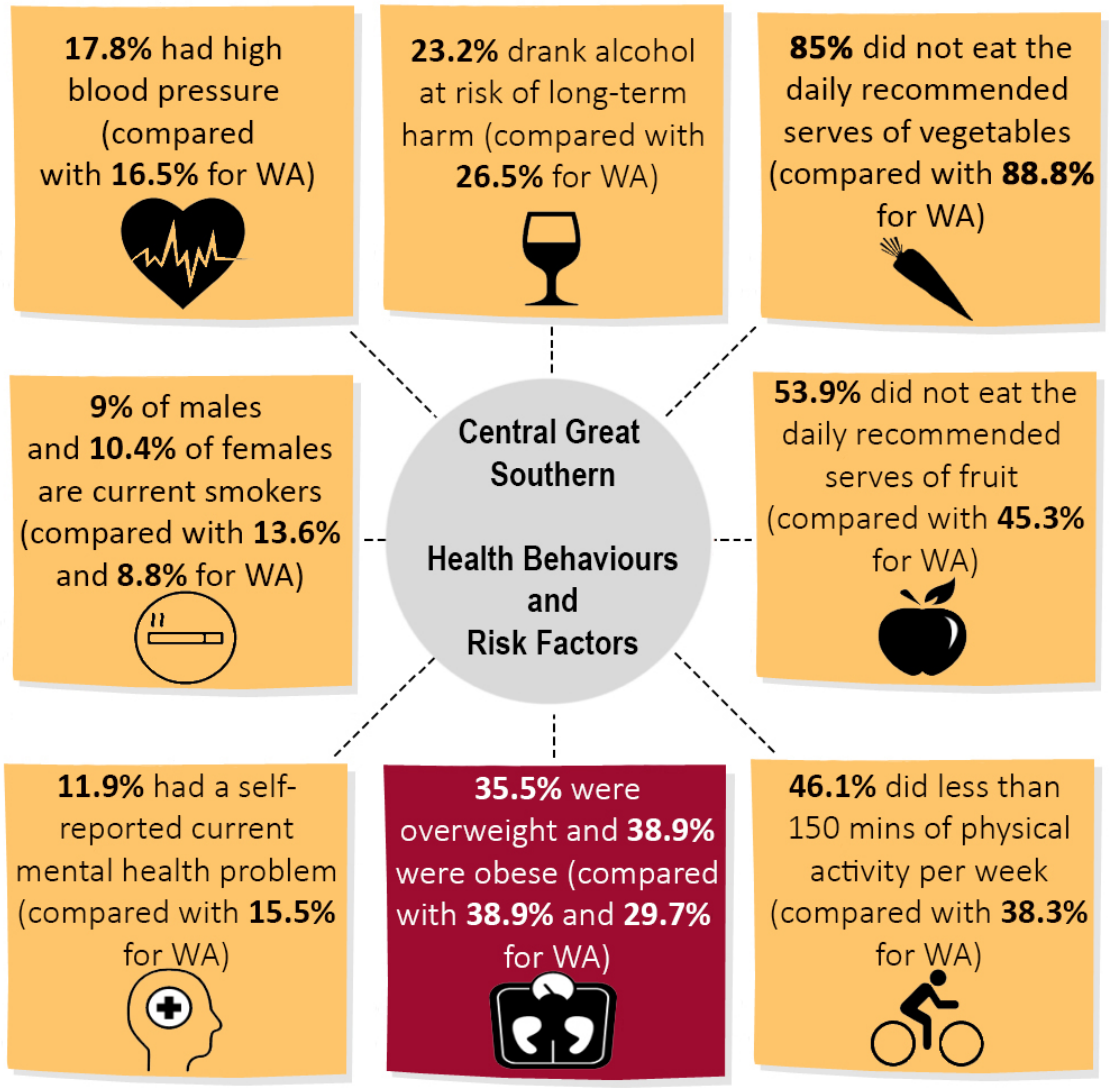
For Great Southern residents aged 15-44, the largest burdens of disease were from depressive disorders and anxiety disorders, while for those aged 45 years and over the largest burden was from depressive disorders, coronary heart disease, and COPD.

The below report provides further details on breakdowns for the Great Southern and provides comparative results against other WACHS and metropolitan regions.

https://ww2.health.wa.gov.au/~/media/Corp/Documents/Reports-and-publications/WA-Burden-of-Disease-Study-2015-Summary-report/WA-Burden-of-Disease-Health-Region-report.pdf

Central Great Southern health risk factors

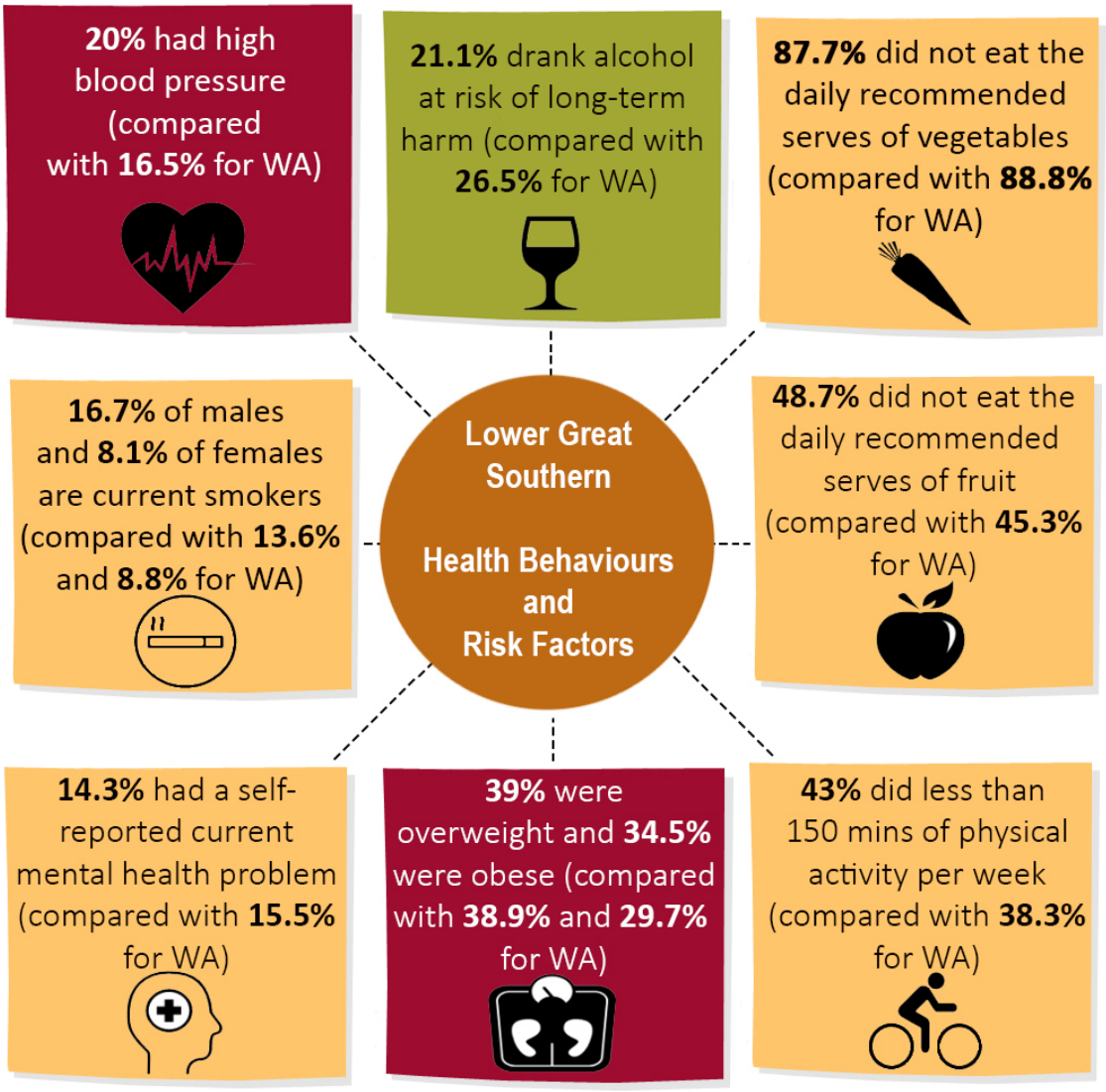
The graphics below highlight the prevalence of key health risk factors for the Central Great Southern district. These are self-reported measures collected through the Department of Health's Health and Wellbeing Surveillance System.



Adults aged 16+, 2015-2019.
Source: Health and Wellbeing Surveillance System, Epidemiology Branch, Department of Health
Note: Colour coding reflects where a District rate is significantly different (red higher, green lower, amber similar) than the State rate. The State rate may still be at a level of concern.

Lower Great Southern health risk factors

The graphics below highlight the prevalence of key health risk factors for the Lower Great Southern district. These are self-reported measures collected through the Department of Health's Health and Wellbeing Surveillance System.

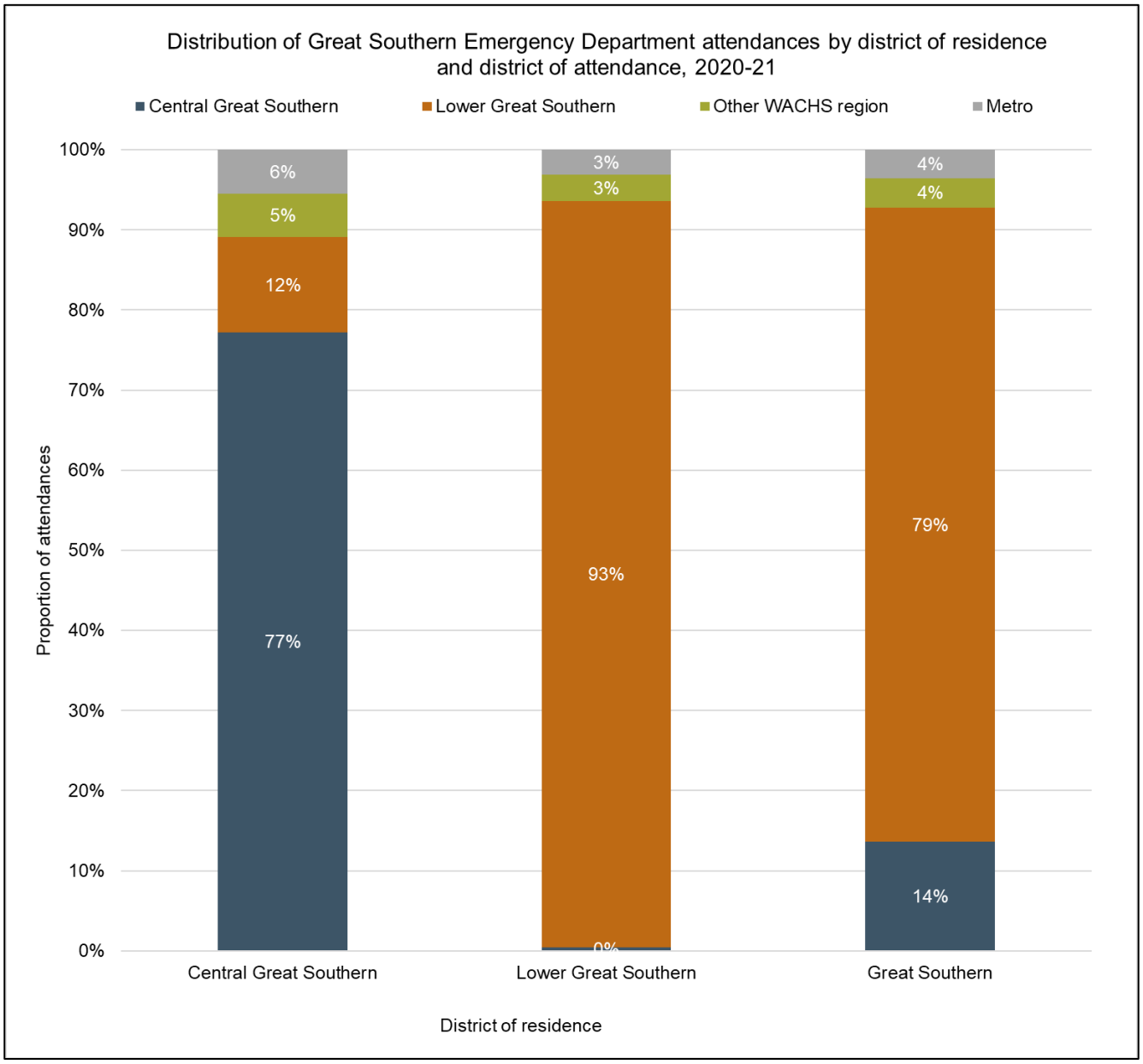


Adults aged 16+, 2015-2019.
Source: Health and Wellbeing Surveillance System, Epidemiology Branch, Department of Health
Note: Colour coding reflects where a District rate is significantly different (red higher, green lower, amber similar) than the State rate. The State rate may still be at a level of concern.

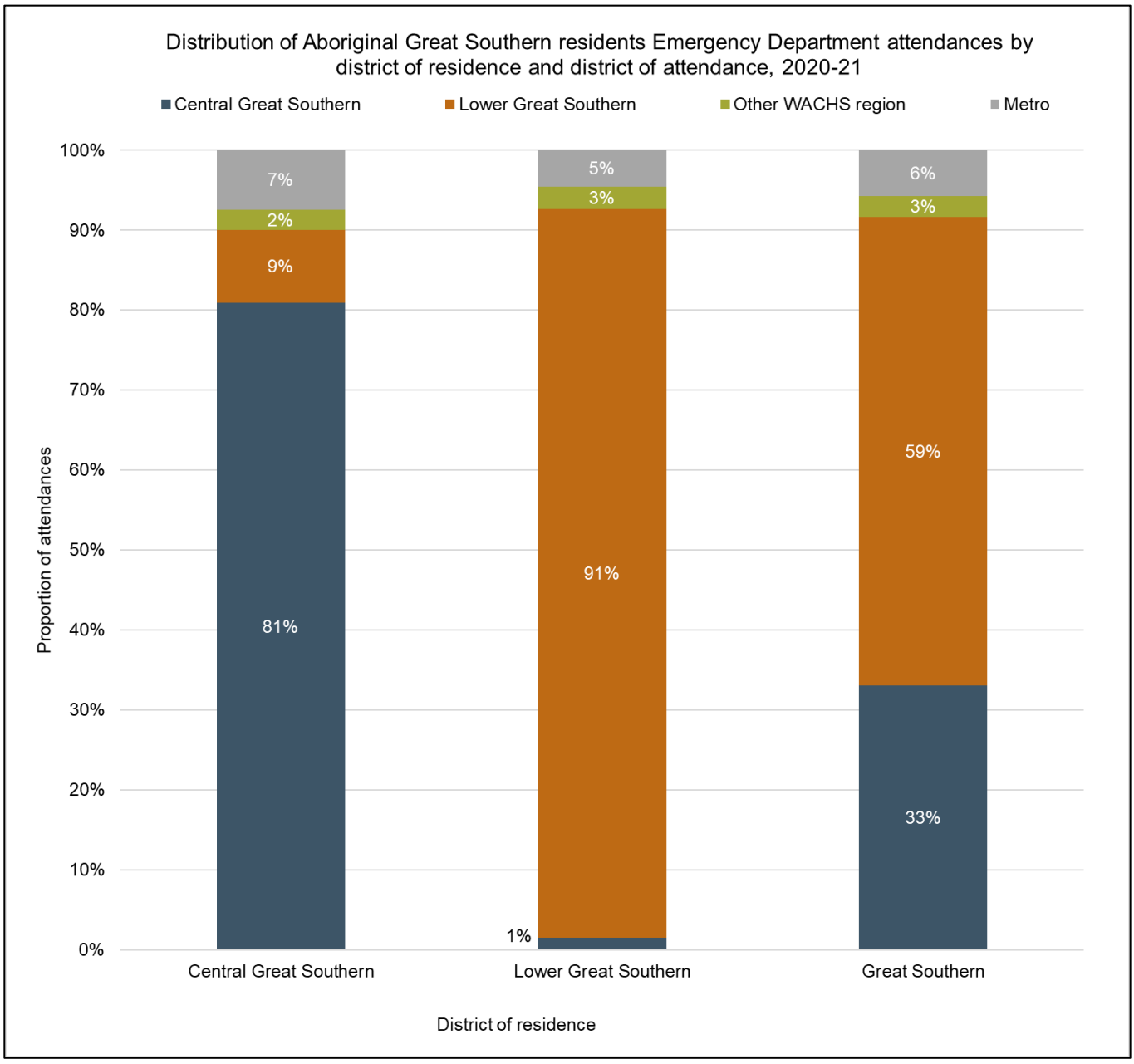
Emergency Department

Great Southern summary

- Of the 44,866 emergency department (ED) attendances by Great Southern residents in 2020-21, 93% occurred at Great Southern hospitals (62% at Albany Hospital, 11% at Katanning Hospital), 4% in other WACHS regions and 4% at Perth metropolitan hospitals.
- Lower Great Southern district residents had a higher proportion of ED attendances at a hospital in their own district (34,629 attendances or 93%), compared with Central Great Southern (5,923 attendances or 77%).



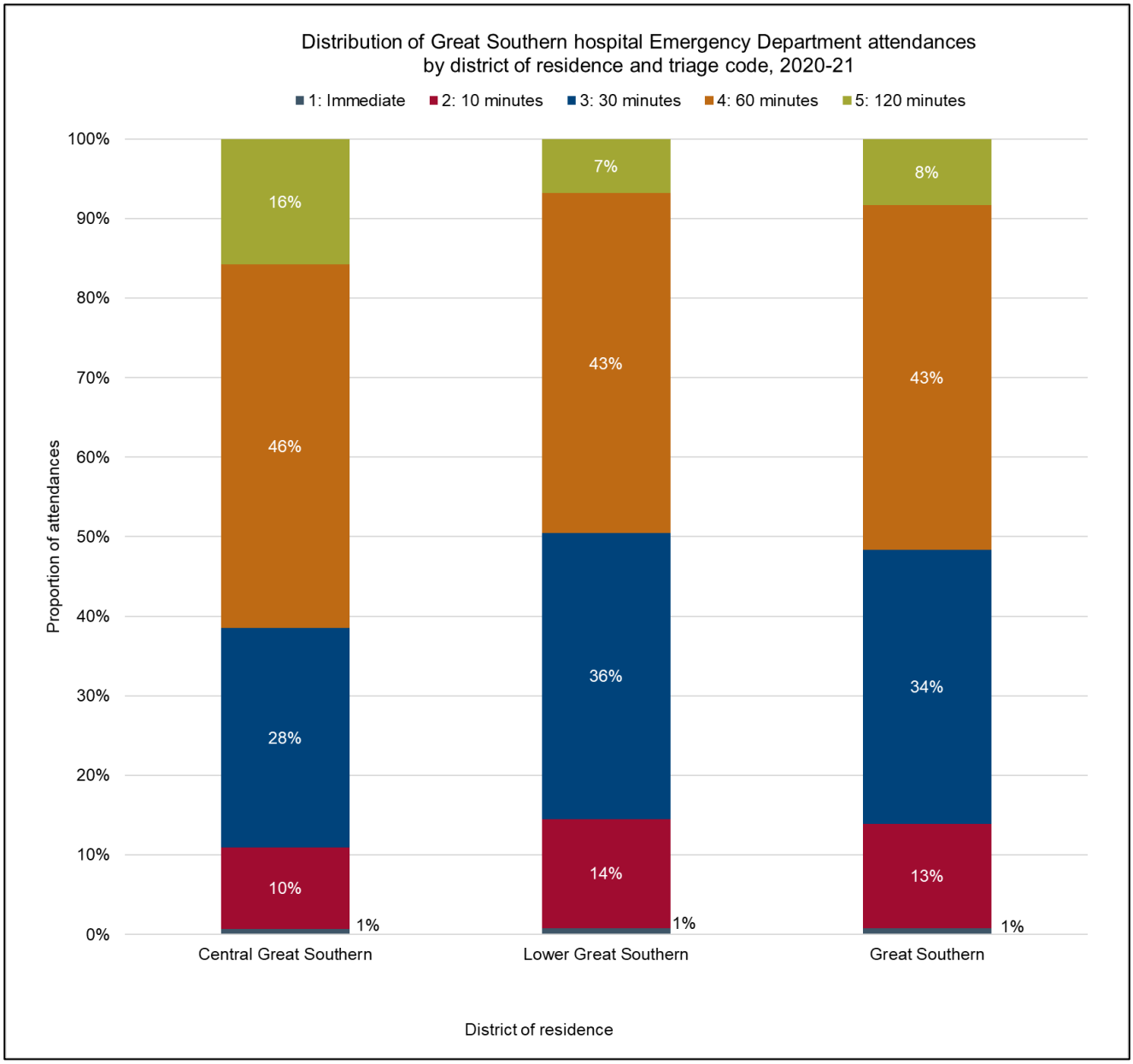
- For Aboriginal Great Southern residents, of their 3,737 attendances in 2020-21, 92% attended a Great Southern hospital, 3% in other WACHS regions and 6% at Perth metropolitan hospitals.
- The Aboriginal population in the Central Great Southern had a higher proportion of attendances in their own district (81%) than the overall district population, while Lower Great Southern Aboriginal residents had a higher proportion that attended a metropolitan hospital (5%) than the overall district population (3%).



Source: Emergency Department Data Collection, DoH

Emergency attendances for Great Southern residents, by triage, 2020-21

- Across Great Southern residents attending an emergency department (all hospitals) in 2020-21, 14% were triaged as level 1 or 2 (highest urgency), which was slightly higher for Lower Great Southern residents (15%) than Central Great Southern residents (11%).
- Almost two thirds (62%) of emergency department attendances by Central Great Southern residents were triaged as level 4 or 5, compared with half (50%) for Lower Great Southern residents.



Source: Emergency Department Data Collection, DoH

Emergency department attendances for Great Southern residents attending Great Southern hospitals, key characteristics, 2020-21

- For Great Southern residents who attended a hospital emergency department in their region in 2020-21 (42,564 attendances), 3% were provided by the Emergency Telehealth Service (ETS).
- Of all Great Southern emergency department attendances by Great Southern residents in 2020-21, 64% occurred between the hours of 8am and 5pm, 20% were between 5pm and 9pm, and 17% were between 9pm and 8am.
- Of the Great Southern residents who attended a Great Southern emergency department in 2020-21, 79% (33,474) were discharged home, 14% (6,168) were admitted to that hospital 4% (1,772) were transferred to another hospital and 2% (872) did not wait.
- The Major Diagnostic Categories (MDCs) that made up the largest proportion of Great Southern emergency department attendances by Great Southern residents in 2020-21 were Diseases and disorders of the musculoskeletal system and connective tissue (14%), Factors influencing health status and other contacts with health services (13%) and Injuries, Poisonings and Toxic Effects of Drugs (10%). The most common MDCs that led to a transfer to a metropolitan hospital were Diseases and disorder of the circulatory system (30% of metro transfers) and Diseases and Disorders of the nervous system (11% of metro transfers).

Top 5 Major Diagnostic Categories for Great Southern residents attending Great Southern hospital EDs, 2020-21

Major Diagnostic Category	Attendances	% of total
Diseases and disorders of the musculoskeletal system and connective tissue	6103	14%
Factors influencing health status and other contacts with health services	5373	13%
Injuries, Poisonings and Toxic Effects of Drugs	4048	10%
Diseases and disorders of the digestive system	3820	9%
Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	3792	9%

Top 5 Major Diagnostic Categories for Great Southern residents transferred from Great Southern EDs to metropolitan hospitals, 2020-21

Major Diagnostic Category	Attendances	% of metro transfers
Diseases and Disorders of the Circulatory System	98	30%
Injuries, Poisonings and Toxic Effects of Drugs	35	11%
Diseases and Disorders of the Nervous System	34	10%
Diseases and disorders of the respiratory system	21	6%
Diseases and disorders of the digestive system	20	6%

**'Factors influencing health status and other contacts with health services included diagnoses such as attention to surgical dressings, follow up examinations after other treatment, issue of repeat prescriptions, laboratory examination.*

Source: Emergency Department Collection, WACHS Business Intelligence

Emergency department attendances for Great Southern residents attending Great Southern hospitals, key characteristics by Aboriginality, 2020-21

- The Major Diagnostic Categories (MDCs) that made up the largest proportion of Aboriginal emergency department attendances by Aboriginal Great Southern residents in 2020-21 were Factors influencing health status and other contacts with health services (16%) and Diseases and disorders of the skin, subcutaneous tissue and breast (13%). For non-Aboriginal residents, the most common MDCs were Factors influencing health status and other contacts with health services (16%) and Diseases and disorders of the skin, subcutaneous tissue and breast (14%).

Top 5 Major Diagnostic Categories for Aboriginal Great Southern residents attending Great Southern hospital EDs, 2020-21

Major Diagnostic Category	Attendances	% of total
Diseases and Disorders of the Ear, Nose, Mouth and Throat	391	12%
Diseases and disorders of the musculoskeletal system and connective tissue	369	12%
Factors influencing health status and other contacts with health services	346	11%
Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	311	10%
Diseases and disorders of the digestive system	283	9%

Top 5 Major Diagnostic Categories for Non-Aboriginal Great Southern residents attending Great Southern hospital EDs, 2020-21

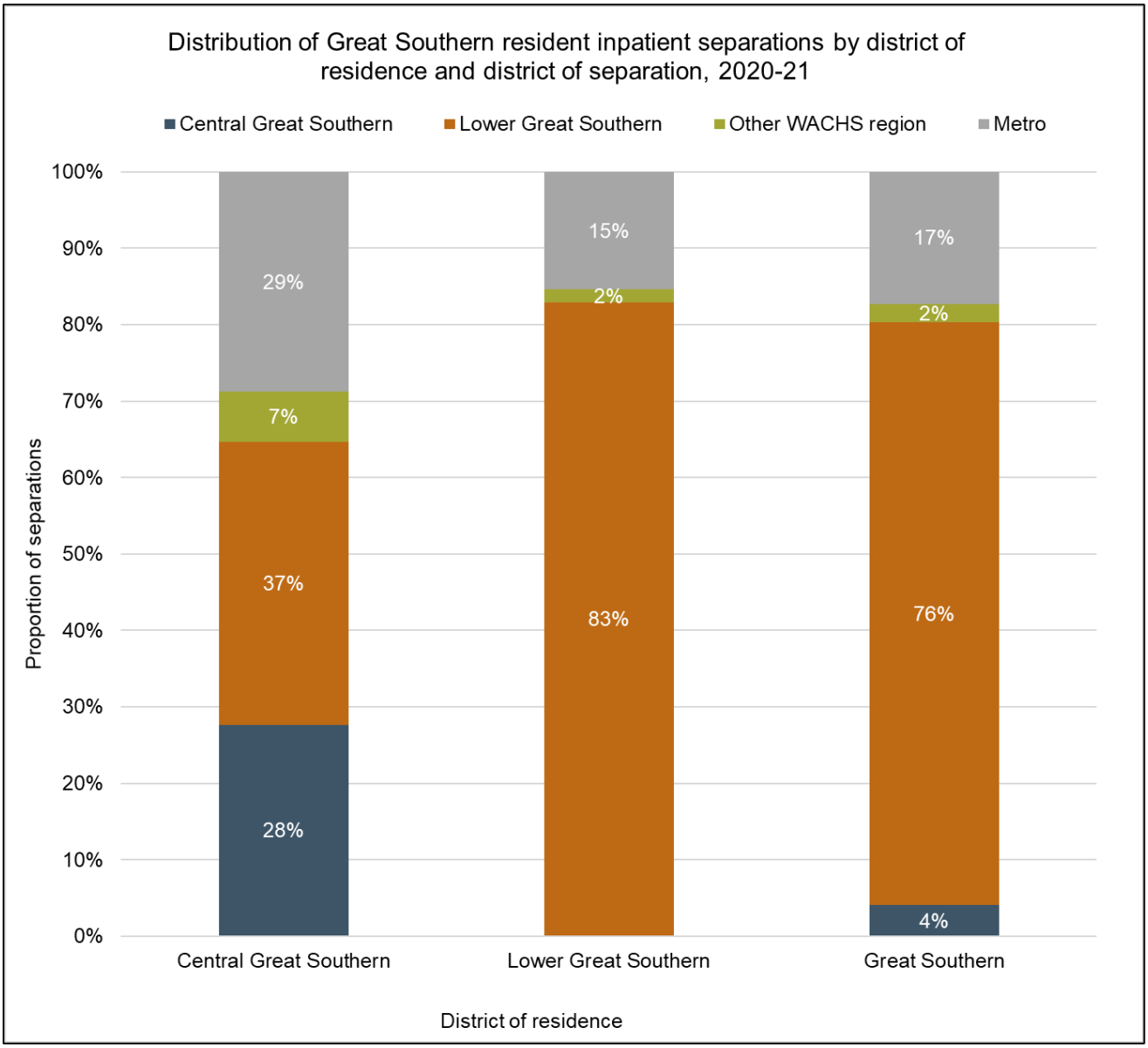
Major Diagnostic Category	Attendances	% of total
Diseases and disorders of the musculoskeletal system and connective tissue	5727	15%
Factors influencing health status and other contacts with health services	5004	13%
Injuries, Poisonings and Toxic Effects of Drugs	3795	10%
Diseases and disorders of the digestive system	3532	9%
Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	3478	9%

Excludes attendances where Aboriginality status was unknown or not stated. Source: Emergency Department Collection, WACHS Business Intelligence

Hospitalisations

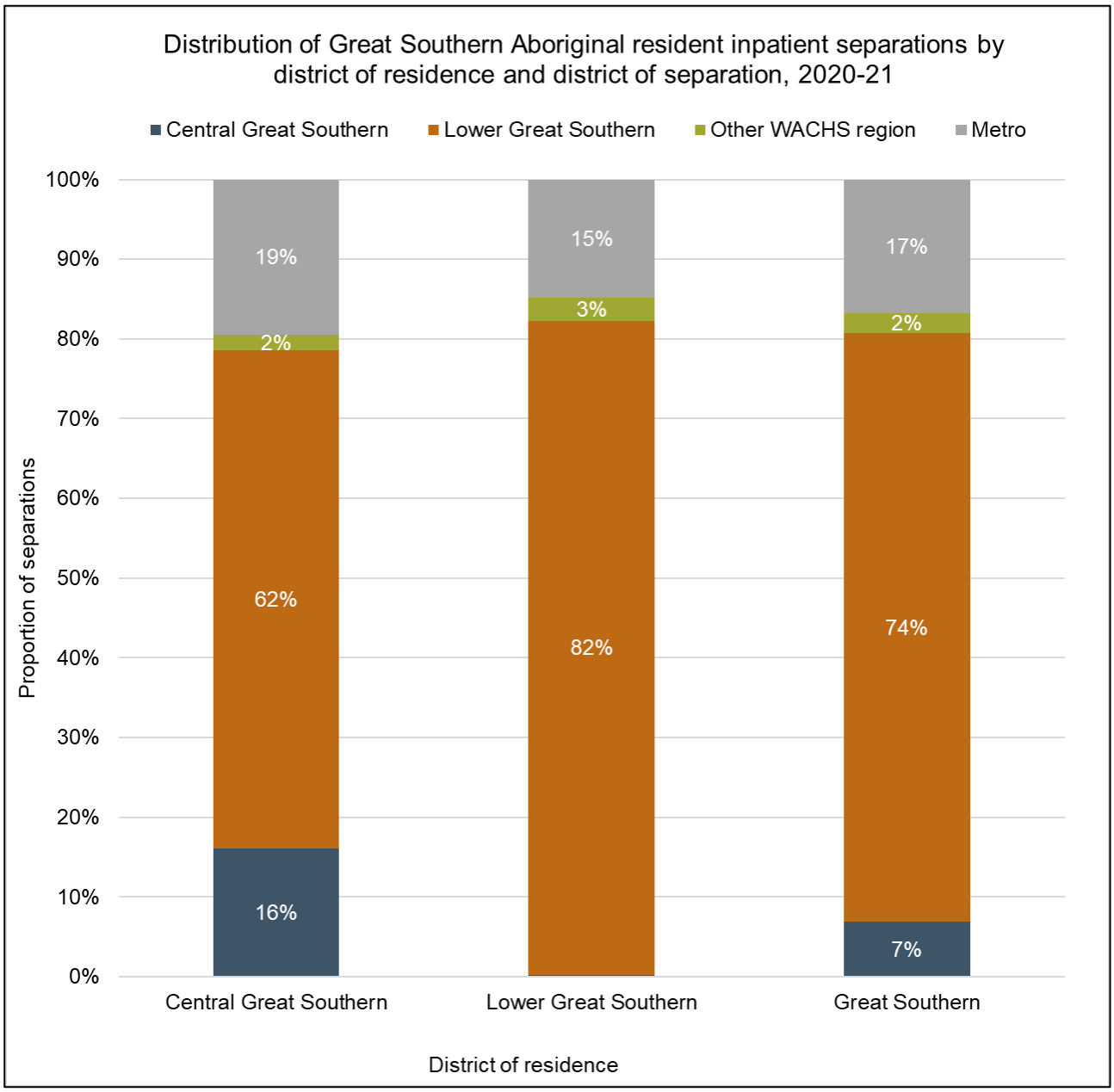
Great Southern summary

- Of the 22,942 inpatient separations by Great Southern residents across WA in 2020-21, 80% occurred in Great Southern hospitals (including 74% at Albany Hospital), while 17% occurred in a Perth metropolitan hospital.
- Residents of Lower Great Southern had the highest proportion of separations occurring at a hospital in their own district (83%, due to having Albany Hospital in their district), while Central Great Southern residents had 28% of activity in their district and had the higher proportion of separations from a Perth metropolitan hospital (29%).



Source: Hospital Morbidity Data Collection, DoH. Excludes boarders and unqualified newborns.

- For Aboriginal residents, of their 1,483 inpatient separations in 2020-21, 81% attended a Great Southern hospital while 17% occurred in a Perth metropolitan hospital (similar to the overall population).
- For Aboriginal residents in the lower Great Southern, the distribution of separations followed the pattern for the overall population, however for Central Great Southern Aboriginal residents, a larger proportion of their separations occurred at Lower Great Southern hospitals (62%), with a lower proportion in their own district (16%) and in Perth metropolitan hospitals (19%).



Source: Hospital Morbidity Data Collection, DoH. Excludes boarders and unqualified newborns.

Inpatient separations, Great Southern residents, key characteristics, 2020-21

- The most common Enhanced Service Related Group (ESRG) for hospital separations (across all hospitals) by Great Southern residents in 2020-21 was Renal Dialysis (11% of separations), followed by Chemotherapy (9%).
- For Aboriginal residents, renal dialysis made up 41% of their inpatient separations in 2020-21.

Great Southern	Separations	% of all separations
042, Renal Dialysis	2452	11%
031, Chemotherapy	2150	9%
022, Colonoscopy	886	4%
083, Other Eye Procedures	798	3%
020, Other Gastroscopy	627	3%
039, Other Neurology	439	2%
019, Complex Gastroscopy	412	2%
101, Digestive System Diagnoses incl GI Obstruction	401	2%
114, Vaginal Delivery	398	2%
125, Other Psychiatry	392	2%
082, Cataract Procedures	379	2%
053, Other Non Subspecialty Medicine	373	2%

Inpatient separations, Aboriginal Great Southern residents, by top ESRGs, 2020-21

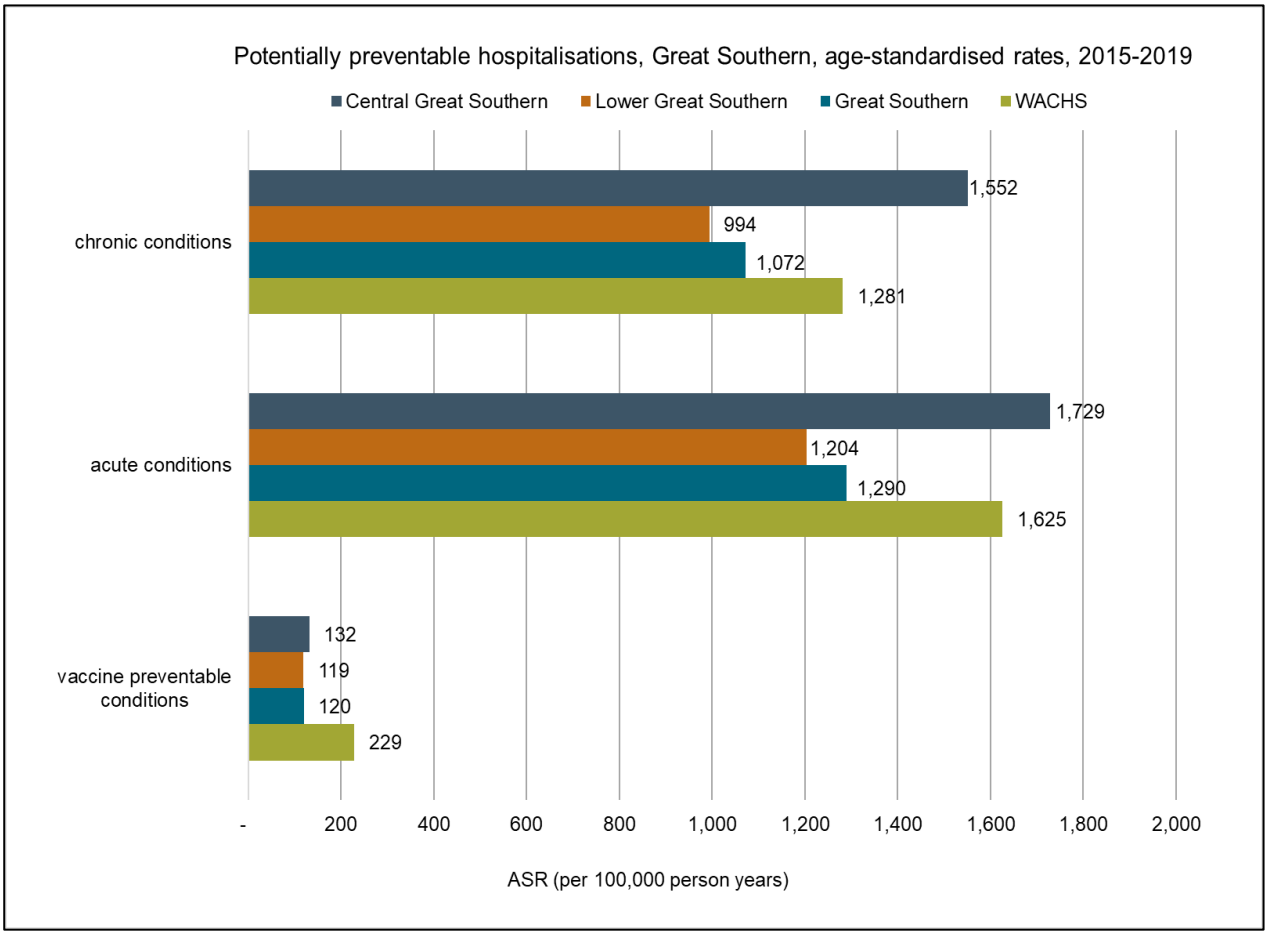
Great Southern	Separations	% of all separations
042, Renal Dialysis	610	41%
031, Chemotherapy	49	3%
122, Drug & Alcohol	33	2%
083, Other Eye Procedures	28	2%
028, Cellulitis	26	2%
053, Other Non Subspecialty Medicine	25	2%
114, Vaginal Delivery	25	2%
003, Heart Failure and Shock	22	1%
067, Dental Extractions and Restorations	22	1%
022, Colonoscopy	20	1%
020, Other Gastroscopy	19	1%
079, Other Orthopaedics - Surgical	17	1%

Source: Hospital Morbidity Data Collection, Department of Health.

**Separations are a count of activity, not of unique client counts. Some ESRGs such as chemotherapy and renal dialysis are more likely than others to include clients who have had multiple separations over the reference period.*

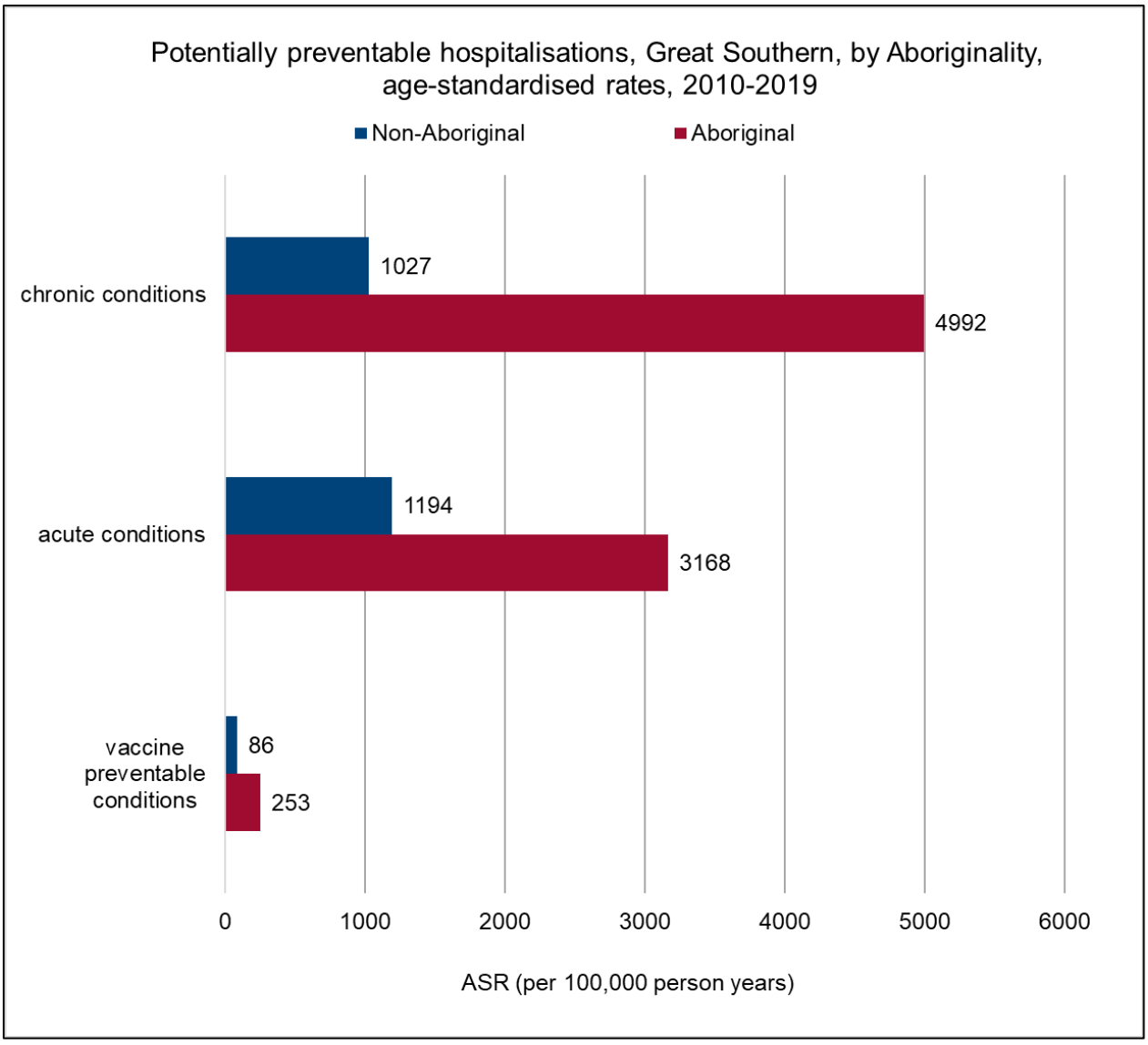
Potentially Preventable Hospitalisations

- A potentially preventable hospitalisation (PPH) is an admission to hospital which could have been prevented through the provision of appropriate preventative health interventions and early disease management[1].
- For the period 2015-2019, the rate of PPHs for Great Southern residents were lower than the WACHS average across all three conditions (vaccine-preventable, acute and chronic).
- However, between the districts, Central Great Southern residents had significantly higher rates of PPHs due to chronic conditions and acute conditions than Lower Great Southern residents.



Source: Health Tracks, DoH

- For the period 2010-2019, the rate of PPHs for Aboriginal people was significantly higher than the non-Aboriginal rate across the three condition types. For chronic conditions, the rate was 4.9 times higher, for acute conditions the rate was 2.7 times higher and for vaccine-preventable conditions the rate was 2.9 times higher.



Source: Health Tracks, DoH

Great Southern leading conditions for potentially preventable hospitalisations, 2015-2019

- The leading causes of PPHs for Great Southern residents for 2015-2019 were dental conditions (12.5% of cases), chronic obstructive pulmonary disease (11.8%) and urinary tract infections (10.1%).
- Almost all PPH conditions among Great Southern residents occurred at a rate lower than or comparable with the State average.

Condition	Type	Number	% of all cases	SRR (comparison with State average)
Dental conditions	acute	1,145	12.5%	0.96
Chronic obstructive pulmonary disease	chronic	1,087	11.8%	1.07
Urinary tract infections	acute	927	10.1%	0.86
Congestive cardiac failure	chronic	884	9.6%	0.87
Cellulitis	acute	879	9.6%	1.09
Diabetes complications	chronic	662	7.2%	0.91
Iron deficiency anaemia	chronic	639	7.0%	0.92
ENT infections	acute	588	6.4%	1.3
Angina	chronic	514	5.6%	0.94
Convulsions and epilepsy	acute	443	4.8%	1.09

Source: HealthTracks, DoH.

Top 5 PPHs by Great Southern district, 2015-2019

		1st	2nd	3rd	4th	5th	Total*
Central Great Southern	*Condition*	Chronic obstructive pulmonary disease	Dental conditions	Cellulitis	Urinary tract infections	Iron deficiency anaemia	
	No.	228	226	187	154	153	**1,806**
	SRR	1.68	1.18	1.6	1.01	1.57	
Lower Great Southern	*Condition*	Dental conditions	Chronic obstructive pulmonary disease	Urinary tract infections	Congestive cardiac failure	Cellulitis	
	No.	919	859	773	746	692	**7,383**
	SRR	0.91	0.97	0.83	0.84	1.01	

**including other PPH conditions*

Top 5 PPHs for non-Aboriginal Great Southern residents, 2015-2019

- For non-Aboriginal residents between 2015-2019, Dental conditions were the highest occurring PPH condition (1 020 PPHs, 12.5% of total PPHs for non-Aboriginal people) followed by Chronic obstructive pulmonary disease (938, PPHs, 11.5%).
- Most of the top PPHs occurred at rates similar to, or lower than, the State non-Aboriginal rates.

		1st	2nd	3rd	4th	5th	Total
Non-Aboriginal	*Condition*	Dental conditions	Chronic obstructive pulmonary disease	Urinary tract infections	Congestive cardiac failure	Cellulitis	
	No.	1,020	938	857	825	794	**8,152**
	SRR	0.93	1.04	0.88	0.89	1.18	**0.96**

Top 5 PPHs for Aboriginal Great Southern residents, 2010-2019

- For the period 2010-2019, the highest occurring PPH condition for Aboriginal Great Southern residents was Dental conditions (206 PPHs, 12.8% of total PPHs for Aboriginal people) followed by Chronic obstructive pulmonary disease (178, PPHs, 11%).
- Most of the top PPHs for Aboriginal residents occurred at rates lower than or similar to the state Aboriginal rate, except for Asthma, which occurred at 1.7 times the State Aboriginal rate.

		1st	2nd	3rd	4th	5th	Total
Aboriginal	*Condition*	Dental conditions	Chronic obstructive pulmonary disease	ENT infections	Convulsions and epilepsy	Asthma	
	No.	206	178	162	155	147	**1,613**
	SRR	1.36	1.08	1.02	0.87	1.71	**0.82**

Source: HealthTracks, DoH.

Communicable disease notifications

Please note COVID-19 data and information is in development and will be included in the later version of this profile available in early 2023.

- For the period 2014-2018, there were 3,410 communicable disease notifications for Great Southern residents. The rates of communicable disease notifications for Great Southern residents were comparable with the State rate (SRR = 0.99).
- The rates for blood-borne diseases was the highest above the State rate (SRR = 1.38) while Sexually transmitted infections were the lowest in comparison with the State rate (SRR = 0.68).

Condition	Notifications	SRR
Blood-borne diseases	214	1.38
Enteric infections	589	0.97
Sexually transmitted infections	829	0.69
Vector-borne diseases	178	1.23
Vaccine-preventable diseases	1,568	1.21
Zoonotic diseases	N/A	N/A
Other notifiable diseases	27	0.99
All notifications	**3,410**	**0.99**

SRR = The standardised rate ratio is the ratio between a health region (or district) and the State. A ration of 1 means the regional rate is the same as the State, a value of 2 indicates that the rate is twice that of the State, and an 0.5 indicates the rate in a region is half that of the State population.
Source: HealthTracks, DoH

Great Southern leading communicable disease notifications, 2014-2018

- The leading cause of communicable disease notifications for 2014-2018 for Great Southern residents was chlamydia (genital) (23% of cases), influenza (19%) and campylobacteriosis (12% of cases). Chlamydia was the leading cause across all districts.
- Vaccine-preventable diseases made up five of the top ten communicable disease notification disease groupings for Great Southern residents. The rates of Pertussis/whooping cough notifications occurred at 2.1 times the State rate, and Hepatitis C rates occurred at 1.8 times the State rate.

Condition	Type	Notifications	SRR
Chlamydia (genital)	Sexually transmitted infections	891	0.81
Influenza	Vaccine-preventable diseases	732	0.93
Campylobacteriosis	Enteric infections	450	1.15
Pertussis/Whooping cough	Vaccine-preventable diseases	430	2.12
Varicella (shingles)	Vaccine-preventable diseases	355	1.51
Hepatitis C	Blood-borne diseases	219	1.79
Salmonellosis	Enteric infections	162	0.73
Ross-River virus	Vector-borne diseases	153	1.36
Varicella (chickenpox)	Vaccine-preventable diseases	103	1.54
Varicella (unspecified)	Vaccine-preventable diseases	83	0.44

Source: HealthTracks, DoH

Top 5 communicable disease notifications by Great Southern district, 2014-2018

		1st	2nd	3rd	4th	5th	Total
Central Great Southern	*Condition*	Chlamydia (genital)	Influenza	Campylo bacteriosis	Salmonellosis	Varicella (shingles)	
	No.	114	99	50	31	27	**451**
	SRR	0.68	0.82	0.83	0.85	0.78	**0.72**
Lower Great Southern	*Condition*	Chlamydia (genital)	Influenza	Campylo-bacteriosis	Salmonellosis	Varicella (shingles)	
	No.	777	633	422	400	328	**3,410**
	SRR	0.83	0.95	2.46	1.21	1.64	**0.99**

Top 5 Communicable disease notifications for non-Aboriginal Great Southern residents, 2014-2018

- For the period 2014-2018, the highest number of communicable disease notifications for non-Aboriginal Great Southern residents was for Chlamydia (genital) (22% of total notification for non-Aboriginal residents) followed by Influenza (19%). Most of the top communicable disease conditions occurred at rates similar to the State non-Aboriginal rate, with the exception of Pertussis/Whooping cough, which occurred at more than twice the State non-Aboriginal rate (SRR = 2.27).

		1st	2nd	3rd	4th	5th	Total
Non-Aboriginal	Condition	Chlamydia (genital)	Influenza	Campylo-bacteriosis	Pertussis/ Whooping cough	Varicella (shingles)	
	No.	746	642	417	409	335	**3,357**
	SRR	0.89	0.96	1.22	2.27	1.55	**1.02**

Top 5 Communicable disease notifications for Aboriginal Great Southern residents, 2009-2018

- For the period 2009-2018, the highest number of communicable disease notifications for Aboriginal Great Southern residents was for Chlamydia (genital) (36% of notifications for Aboriginal residents) however this occurred at half the Aboriginal State rate (SRR = 0.48), followed by Hepatitis C (27%), which occurred at 2.55 times the Aboriginal State rate.

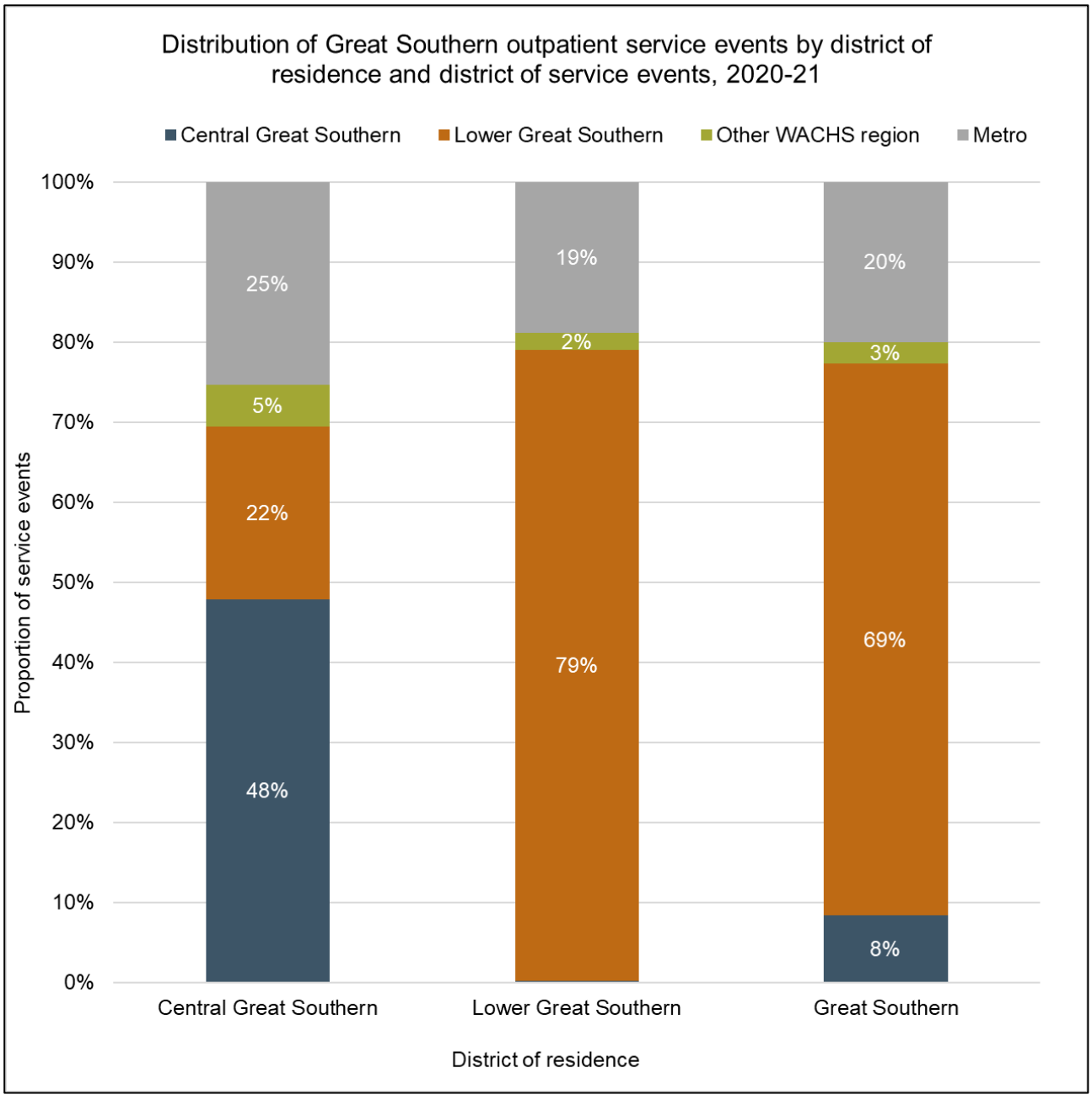
		1st	2nd	3rd	4th	5th	Total
Aboriginal	Condition	Chlamydia (genital)	Hepatitis C	Influenza	Gonorrhoea	Pertussis/ Whooping cough	
	No.	195	148	68	35	21	**547**
	SRR	0.48	2.55	0.72	0.13	1.32	**0.53**

Source: HealthTracks, DoH. SRR in the table above is a rate ratio comparison against respective Aboriginal/non-Aboriginal populations for Western Australia.

Outpatient

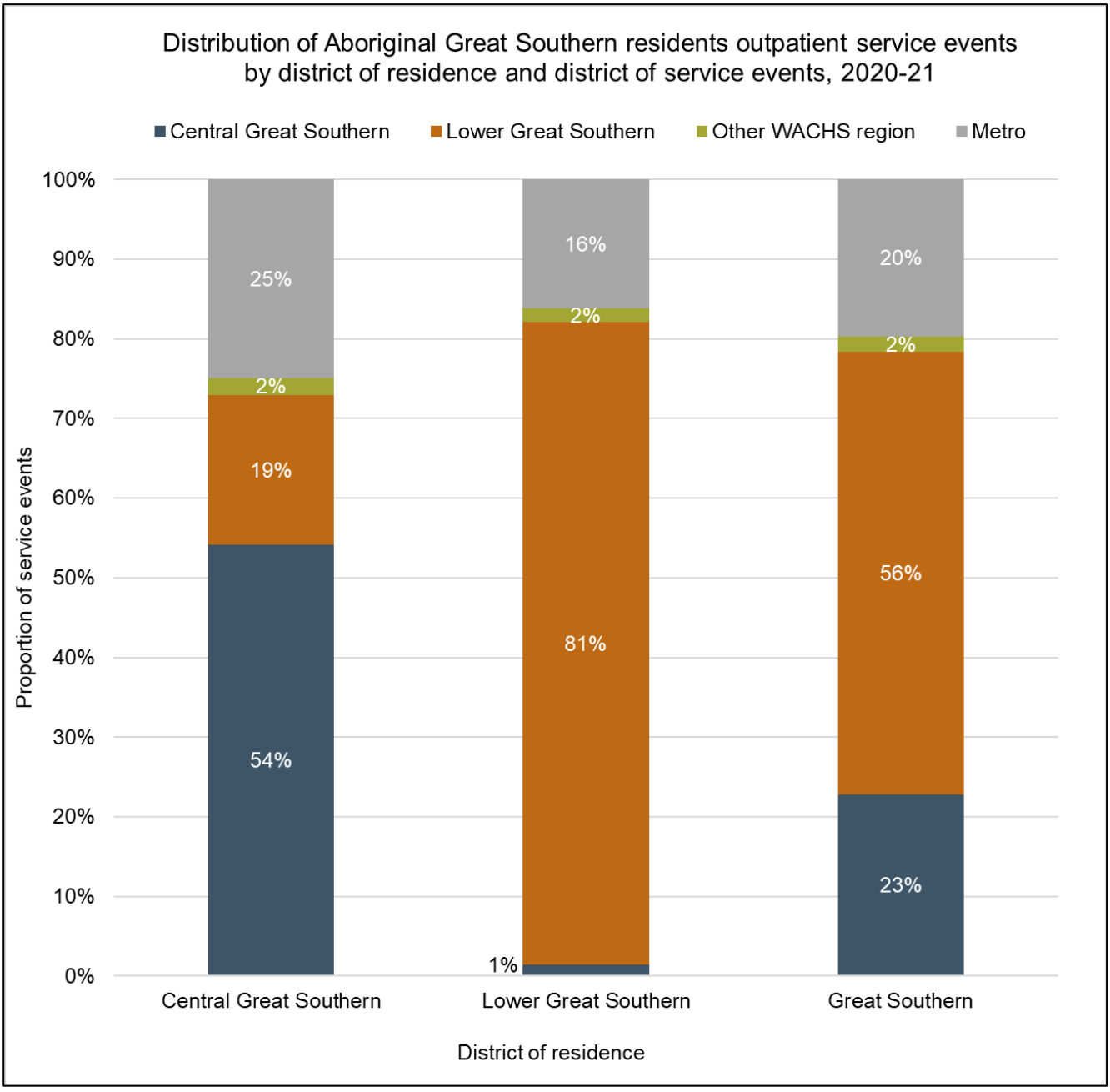
Great Southern summary

- Of the 124,747 outpatient service events for Great Southern residents across WA in 2020-21, 77% occurred at Great Southern Hospitals, with 20% occurring at a Perth metropolitan hospital.
- Lower Great Southern residents had a higher proportion of outpatient service events at a hospital in their own region (79%) compared with Central Great Southern residents (48%), due to the proximity of Albany hospital.
- In 2020-21 the overall proportion of appointments for Great Southern residents that were delivered by telephone/telehealth was 25% (31,225) (22% for Great Southern hospitals and 38% for metro hospitals). This overall proportion of telephone/telehealth appointments ranged from 20% for Central Great Southern residents to 26% for Lower Great Southern residents.



Source: Non-admitted Data Collection, DoH

- For Aboriginal residents, of their 5,171 outpatient service events in 2020-21, similar to the overall population, 78% attended a Great Southern hospital with 20% occurring in a Perth metropolitan hospital.
- Aboriginal lower Great Southern residents had 48% of their outpatient activity at a hospital within their own district, compared with 54% of Aboriginal Central Great Southern residents.



Source: Non-admitted Data Collection, DoH

Outpatient activity for Great Southern residents, key characteristics

- For Great Southern residents in 2020-21 attending an outpatient appointment, the most common Tier 2 Medical code was 20.29 Orthopaedics (4% of total service events) and 20.07 General Surgery (3%), while the top Nursing codes (including allied health) were 40.07 Pre-Admission and Pre-Anaesthesia (7%) and 40.28 Midwifery (6%).

Outpatient activity, Great Southern residents, by top Tier 2 codes, 2020-21

Top 10 Nursing (40) codes	Service events	% of total	Top 10 Medical (20) codes	Service events	% of total
40.07 Pre-Admission and Pre-Anaesthesia	9031	7%	20.29 Orthopaedics	5084	4%
40.28 Midwifery	7296	6%	20.07 General Surgery	4192	3%
40.53 General Medicine	6921	6%	20.42 Medical Oncology (Consultation)	3378	3%
40.39 Neurology	4413	4%	20.38 Gynaecology	1968	2%
40.13 Wound Management	4286	3%	20.43 Radiation Oncology (Consultation)	1708	1%
40.52 Oncology	4222	3%	20.10 Haematology	1658	1%
40.44 Orthopaedics	3365	3%	20.02 Anaesthetics	1297	1%
40.36 Geriatric Evaluation and Management (GEM)	3178	3%	20.11 Paediatric Medicine	1065	1%
40.06 Occupational Therapy	3029	2%	20.05 General Medicine	948	1%
40.56 Falls Prevention	2808	2%	20.45 Psychiatry	882	1%

Source: Non-admitted Data Collection, DoH

Mental health

Psychological distress

Psychological distress is commonly measured using the Kessler Psychological Distress Scale—10 items (K10). The K10 questionnaire was developed to yield a global measure of psychosocial distress, based on questions about people's level of nervousness, agitation, psychological fatigue and depression in the past four weeks. There is a correlation between high levels of psychological distress and common mental health disorders and therefore can be used as a proxy estimate of the mental wellbeing of a population or community.

- For the period 2015-2019, the proportion of people with reported high or very high levels of psychological distress for Great Southern residents (7.6%) was comparable with the WACHS average (7.8%) and lower than the State average (8.8%).
- While across WACHS and the State, females had higher average rates of high or very high psychological distress than males, for Great Southern residents it was males that had higher rates (8.7%) than females (6.5%).

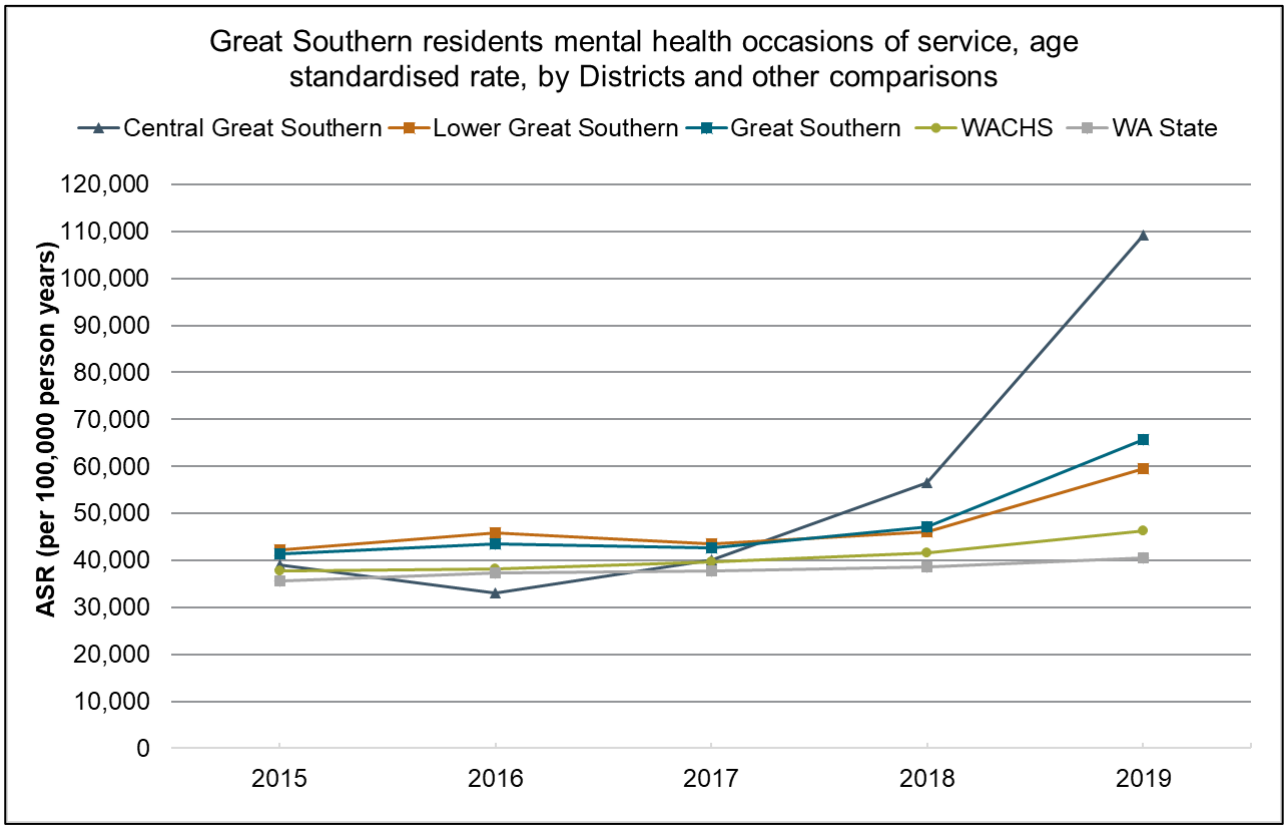
Prevalence of high or very high psychological distress, 2015-2019

Area	Females	Males	Persons
Central Great Southern	6.5%	8.7%	7.6%
Lower Great Southern	6.8%	9.2%	8%
Great Southern	6.5%	8.7%	7.6%
WACHS average	8.1%	7.5%	7.8%
WA State	9.8%	7.8%	8.8%

Source: HealthTracks, DoH

Mental health community hospital activity, Great Southern residents

- Between 2015 and 2019, the rate of community mental health occasions of service across the Great Southern remained stable until 2019, when it increased significantly across both Districts, particularly the Central Great Southern.
- The rate increased by an annual average of 29% between 2015 and 2019 for the Central Great Southern district and 9% for Lower Great Southern district, largely impacted by the increase in 2019. This compared with average annual increases of 5% for WACHS and 3% for the State.
- Across the Great Southern, between 2015 and 2019, the male rate of mental health occasions of service increased significantly, by an annual average of 11.4% (38.8% for Central Great Southern, 6.2% for Lower Great Southern). Similarly, the female rate also increased significantly over the same period, by an annual average of 10% (21% for Central Great Southern, 8.1% for Lower Great Southern).
- For the period 2010-2019, the rate of mental health service contacts for Aboriginal people was 2.9 times higher than the non-Aboriginal rate.



Source: Department of Health, Health Tracks

Number of community mental health occasions of service by gender, Great Southern residents 2015–2019

District	Gender	2015	2016	2017	2018	2019
Central Great Southern	Males	1,274	1,500	1,916	2,554	4,208
	Females	2,183	1,475	1,585	2,086	3,856
	Persons	**3,457**	**2,975**	**3,501**	**4,640**	**8,064**
Lower Great Southern	Males	9,224	9,163	8,604	9,322	12,054
	Females	11,197	11,940	11,530	12,209	15,752
	Persons	**20,421**	**21,103**	**20,134**	**21,531**	**27,806**
Great Southern Total	Males	10,498	10,663	10,520	11,876	16,262
	Females	13,380	13,415	13,115	14,295	19,608
	Persons	**23,878**	**24,078**	**23,635**	**26,171**	**35,870**

- In 2020-21, there were 593 mental-health related inpatient separations for Great Southern residents (across designated mental health wards and general wards), with an average length of stay of 6.8 days. Almost all (91%) of these separations occurred in a Great Southern hospital, including 86% at Albany Hospital (which has a designated mental health ward).

Number of mental health inpatient separations (designated Mental health and general wards), Great Southern residents, 2020-21

	Within Great Southern		To Metro		Other WACHS region		Total	
	separations	ALOS	separations	ALOS	separations	ALOS	separations	ALOS
Central Great Southern	45	6.4	6	30.7	8	6.0	59	8.8
Lower Great Southern	496	6.4	18	9.4	20	6.6	534	6.5
Great Southern Total	541	6.4	24	14.7	28	6.4	593	6.8

Source: Hospital Morbidity Data Collection, DoH. Includes activity under the ESRGs 123, Schizophrenia, 124, Major Affective Disorders, 125 – Other Psychiatry, 142 – Drug & Alcohol in Mental Health Ward.

Causes of death

- Between 2014-2018 there were 2,451 deaths of Great Southern residents, with 31% of these deaths being due to Neoplasms (Cancer tumours) and 27% due to Circulatory diseases. These were the leading two causes of death across both Districts.
- Most causes of death across Great Southern residents occurred at similar rates to the State rate, with the highest being deaths due External causes of mortality (which includes transport accidents and intentional self-harm), occurring at 1.3 times the State rate.

Top five causes of death, Great Southern residents, 2014–2018

		1st	2nd	3rd	4th	5th	Total
Central Great Southern	*Condition*	Neoplasms	Circulatory diseases	External causes of mortality	Respiratory diseases	Nervous system diseases	
	No.	110	102	43	29	29	**362**
	SRR	1.17	1.24	1.8	0.91	0.89	**1.14**
Lower Great Southern	*Condition*	Neoplasms	Circulatory diseases	Respiratory diseases	Nervous system diseases	External causes of mortality	
	No.	642	570	210	182	169	**2,089**
	SRR	1.08	1.09	1.02	0.86	1.2	**1.04**
Great Southern	*Condition*	Neoplasms	Circulatory diseases	Respiratory diseases	External causes of mortality	Nervous system diseases	
	No.	752	672	239	212	211	**2,451**
	SRR	1.09	1.11	1.01	1.29	0.87	**1.05**

SRR = Standardised rate ratio between a health region (or district) and the state. A ratio of 1 means that the regional rate is the same as the state, and a value of 2 indicates the regional rate is twice that of the state. A ratio of 0.5 indicates that the number of cases in a region is half that of the State population.

Using geographic boundaries.

Source: Department of Health, Health Tracks

Maternal and child health status

Births

- For 2019, residents from the Central Great Southern district had a higher age-specific birth rate (88.6 births per 1,000 women aged 15–44 years) than Lower Great Southern residents (62.8 births per 1,000 women). Overall the Great Southern age-specific birth rate (66.5) was lower than WACHS average (72.2) but higher than the WA State average (62.4).
- Residents of the Central Great Southern also a higher proportion of teenage births (4%) than Lower Great Southern residents (2.9%). The overall Great Southern proportion of teenage births (3.1%) was lower than that WACHS average (5.1%) but higher than the WA State average (2.1%).
- In contrast, Lower Great Southern residents had a higher proportion of births to women aged 35 years and over (20.3%), than Central Great Southern residents (16.9%), reflecting the differences in the population age distributions. Overall the Great Southern average of births to women aged 35 years and over (19.7%) was higher than the WACHS average (15.2%) but lower than the WA State average (24.3%).

Maternity key indicators, Great Southern, 2019

LGA	Age-specific birth rate*	Teenage births (%)	Births in women aged 35 years+ (%)
Central Great Southern	88.6	4	16.9
Lower Great Southern	62.8	2.9	20.3
Great Southern	**66.5**	**3.1**	**19.7**
WACHS	**72.2**	**5.1**	**15.2**
WA average	**62.4**	**2.1**	**24.3**

**per 1,000 women aged 15-44 years.*

Source: Department of Health, Health Tracks

Numbers of births in Great Southern hospitals

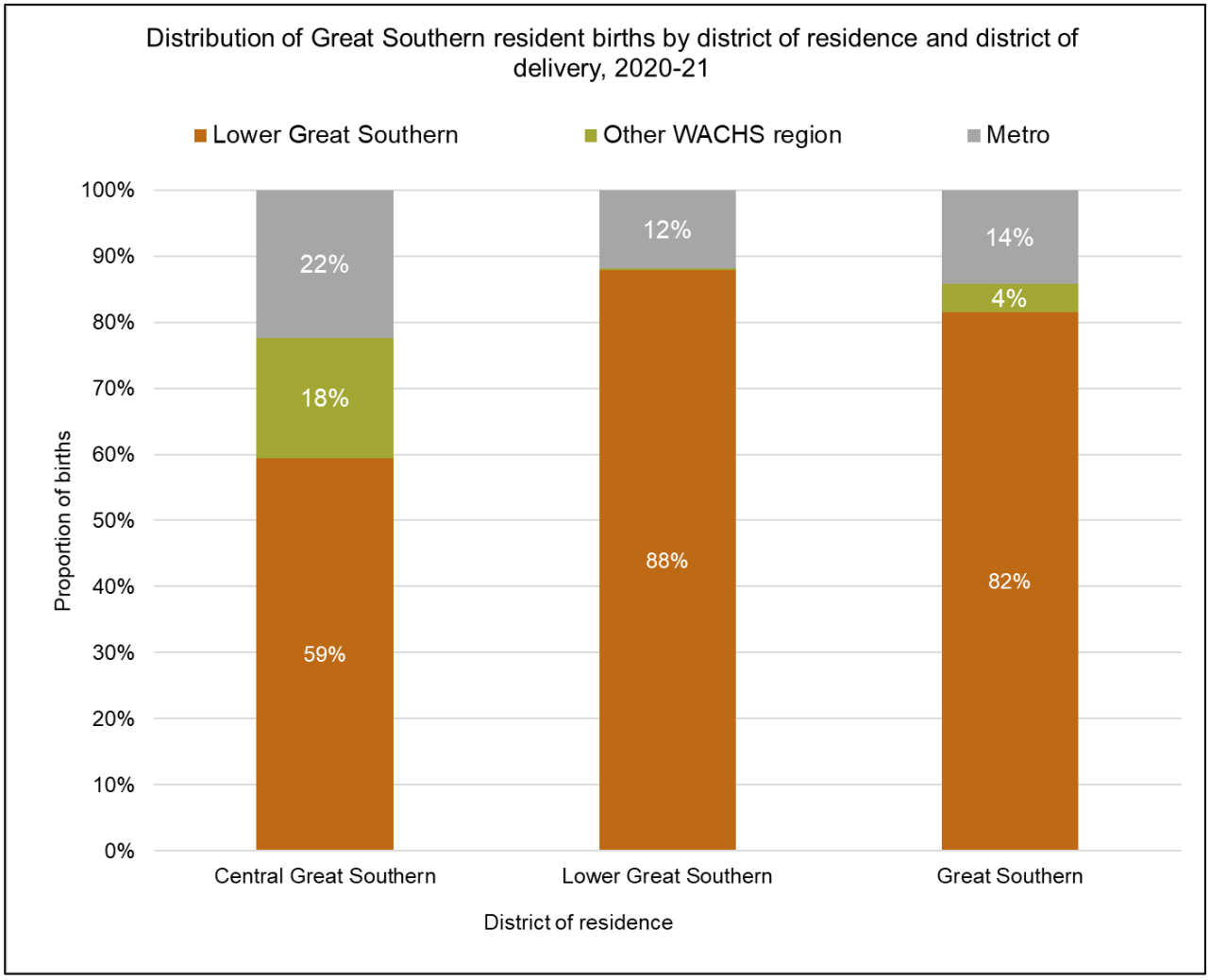
Numbers of Births in Great Southern by Hospital, 2020-21.	
Hospital	**Number**
Albany Hospital	546
Great Southern	**546**

Includes births by non-residents

Source: Midwives Notification System, DoH

Births by Great Southern residents by area of delivery

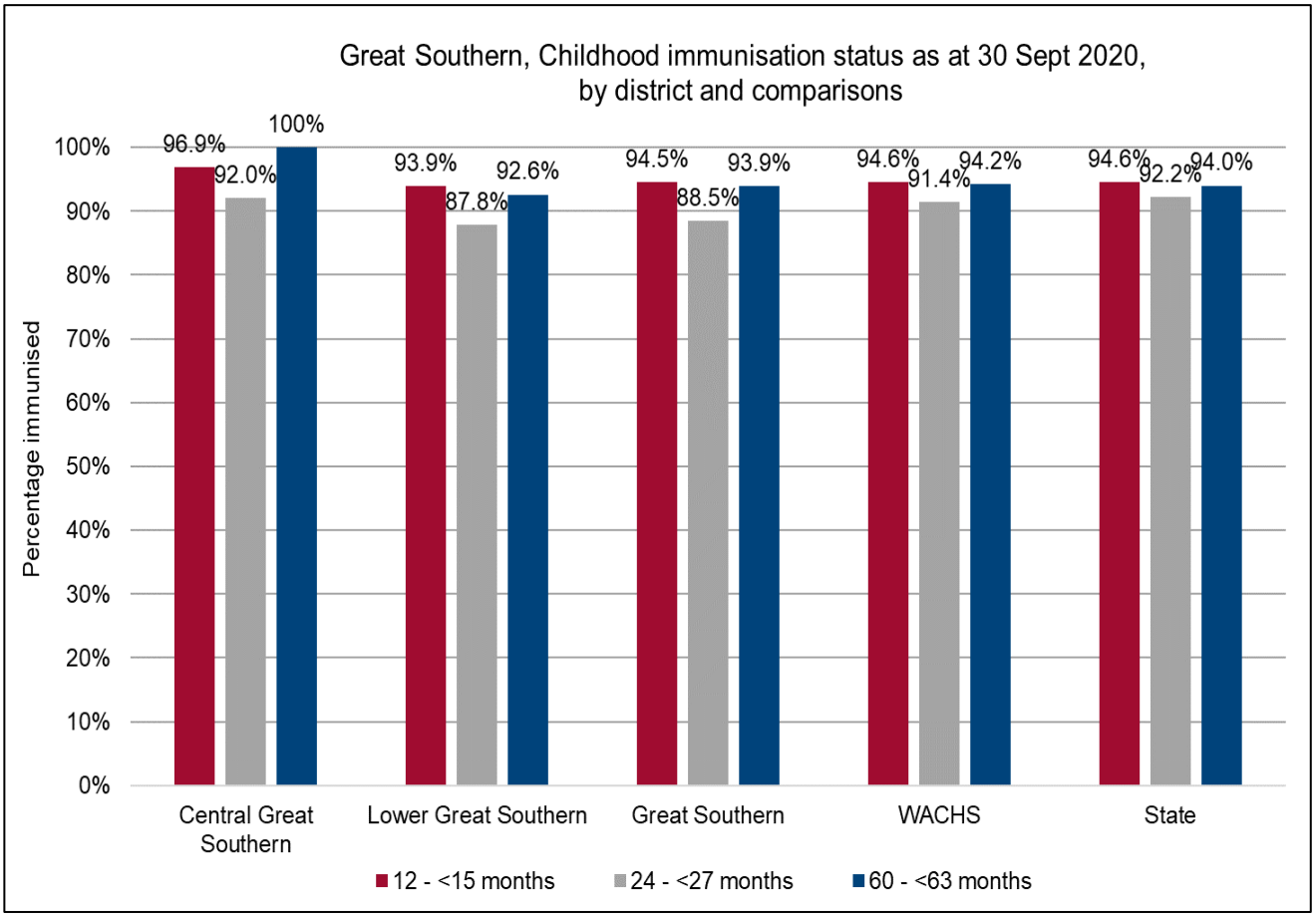
- Of the 640 public births by Great Southern residents in 2020-21, 82% occurred at Albany Hospital, with 14% occurring at a Perth metropolitan hospital and 4% in another WACHS region (South West and Wheatbelt)l.
- Lower Great Southern residents had the highest proportion of births at a hospital in their own district (88% at Albany Hospital), with 12% at a Perth hospital. Central Great Southern residents had 59% of births at Albany Hospital, 18% in other WACHS regions (13% at Narrogin Hospital in Wheatbelt, 6% in South West Hospitals (Bunbury and Busselton) and 22% at a Perth hospital.



Source: Midwives Notification System, Department of Health

Childhood Immunisation

- In 2020, the Great Southern had 93.9% of children immunised at five years of age in 2020, which was in line with the WACHS and State averages (94%).
- The highest rate was in the Central Great Southern district (100%) while the Lower Great Southern district had a slightly lower than average rate of 92.6% .



Source: HealthTracks,DoH

Please note additional school aged and adult immunisation data is in development and will be included in the later version of this profile available in early 2023.

Australian Early Childhood Development Census (AEDC)

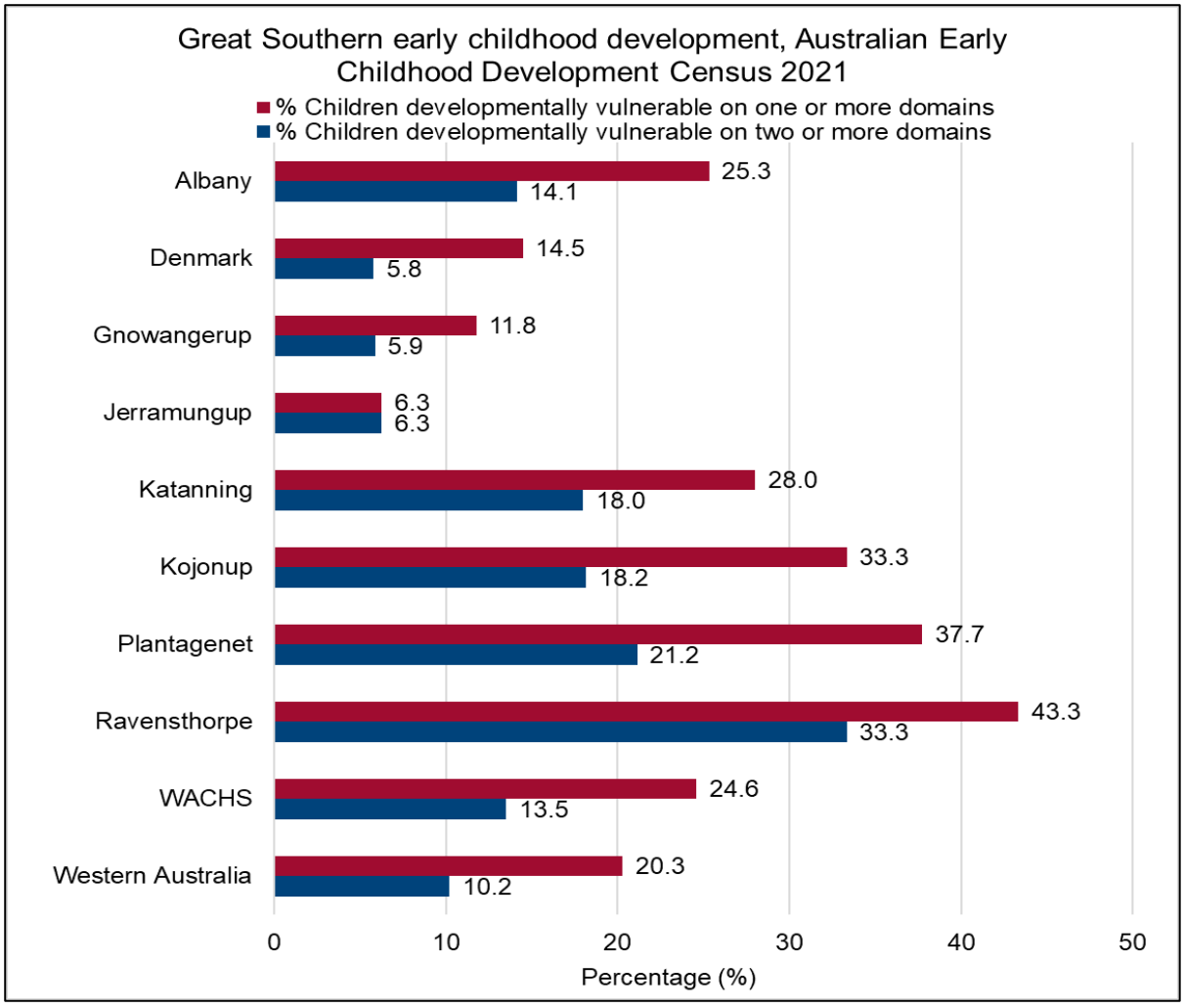
The AEDC uses the early development instrument tool to measure how young children have developed as they start their first year of full-time school.

A teacher completes a checklist for each child across each of the five domains of early childhood development: physical health and wellbeing, social competence, emotional maturity, language and cognitive skills, communication skills and general knowledge.

The scores of all Australian children are ranked and children ranked in the bottom 10% are classed as "developmentally vulnerable" whereas those in the top 75% are classed as "on track" while those in between are classed as "at risk".

Results are reported by a child's community of residence.

- The proportion of children rated as developmentally vulnerable on one or more domains of the AEDC across the Great Southern varies considerably depending on location, however some areas demonstrate higher levels of developmental vulnerability compared to the WACHS and State averages, with children in the Ravensthorpe and Plantagenet LGAs having the highest proportion of developmental vulnerable children in 2021.



Source: Australian Early Development Census.

Sources for further information

WACHS Publications (https://www.wacountry.health.wa.gov.au/About-us/Publications/Health-profiles-and-service-plans)
Australian Bureau of Statistics (https://www.abs.gov.au/)
Australian Institute of Health and Welfare (https://www.aihw.gov.au)
MAPPA (https://mappa.com.au/)
Public Health Information Development Unit, Torrens University Australia, Social Health Atlases of Australia (https://phidu.torrens.edu.au/social-health-atlases/data)
Australian Early Development Census (https://www.aedc.gov.au/)

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For further information regarding this profile please contact the WACHS Planning and Evaluation Team (Planning.WACHS@health.wa.gov.au)

Please note a later version of this profile including additional data will be available in early 2023.