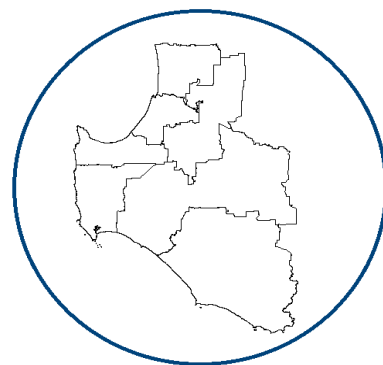




Government of **Western Australia**
WA Country Health Service

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



South West

Health Profile 2022



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

South West Health Profile – Preliminary Version endorsed October 2022

South West Health Profile 2022

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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 within the South West 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 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 South West 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.



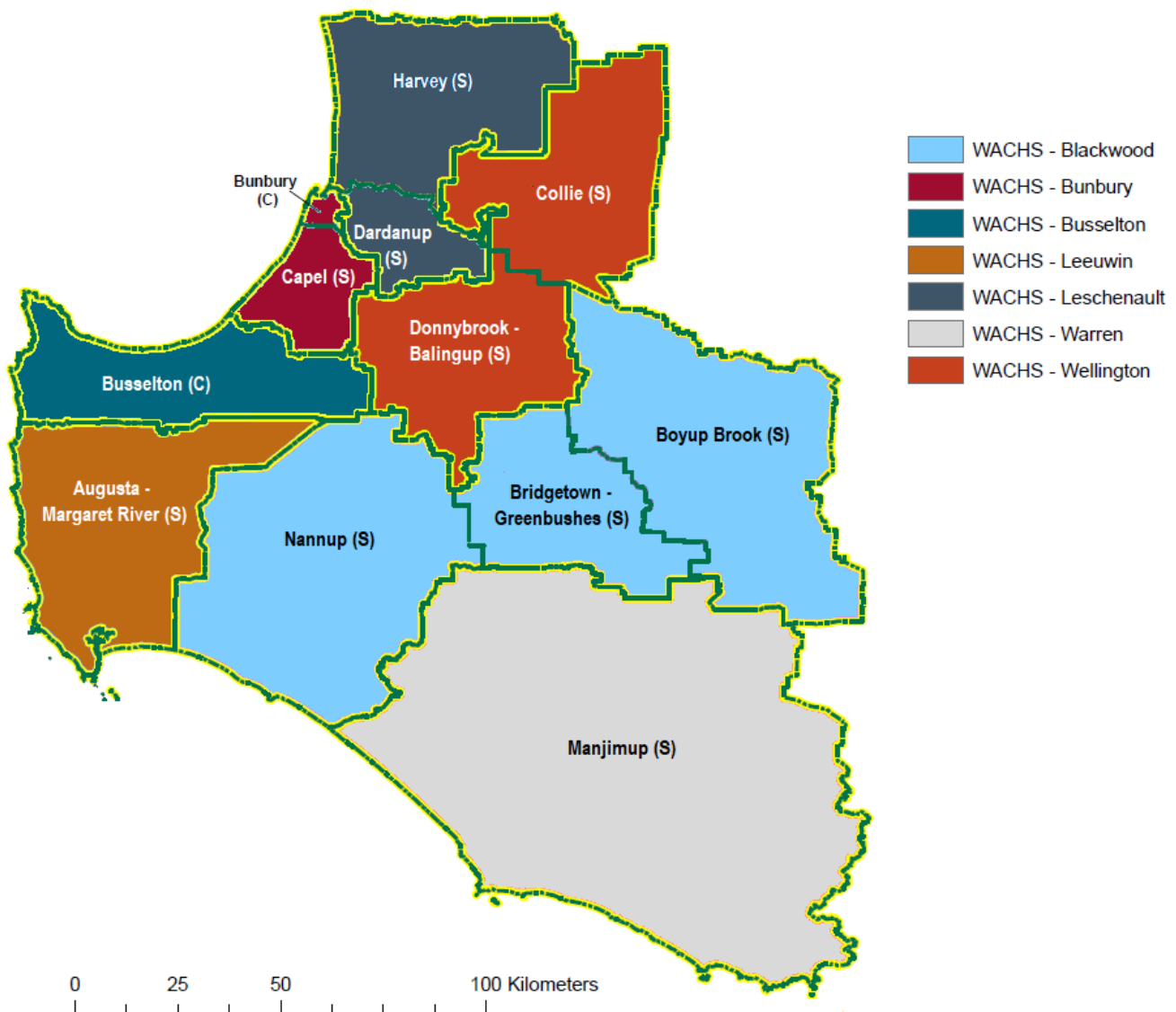
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Geography and services

- The South West is made up of seven geographic districts which are built from 12 Local Government Areas (LGAs).
- The seven geographic districts are combined into three operational districts – Greater Bunbury (Bunbury and Leschenault), Coastal (Busselton and Leeuwin) and Inland (Blackwood, Warren and Wellington).

South West Districts



Operational district	Geographic district	Local Government Area (S) = Shire, (C) = City	Hospitals
Greater Bunbury	Bunbury	Bunbury (C)	<ul style="list-style-type: none"> Bunbury Hospital St John of God Bunbury (public contracted activity only)
		Capel (S)	
	Leschenault*	Dardanup (S)	
		Harvey (S)*	Harvey Hospital
Coastal	Busselton	Busselton (C)	<ul style="list-style-type: none"> Busselton Hospital St John of God Busselton (public contracted activity only)
	Leeuwin	Augusta-Margaret River (S)	<ul style="list-style-type: none"> Augusta Hospital Margaret River Hospital
Inland	Blackwood	Boyup Brook (S)	<ul style="list-style-type: none"> Boyup Brook Soldiers Memorial Hospital (Multi-Purpose Service)
		Bridgetown-Greenbushes (S)	<ul style="list-style-type: none"> Bridgetown Hospital
		Nannup (S)	<ul style="list-style-type: none"> Nannup Hospital (Multi-Purpose Service)
	Warren	Manjimup (S)	<ul style="list-style-type: none"> Pemberton Hospital (Multi-Purpose Service) Warren Hospital Northcliffe Nursing Post
	Wellington	Donnybrook-Balingup (S)	<ul style="list-style-type: none"> Donnybrook Hospital
		Collie (S)	<ul style="list-style-type: none"> Collie Hospital

*Harvey Hospital is managed operationally under the Inland district, however some residents of the Shire of Harvey, such as those in Australind, and residents in the Shire of Dardanup generally flow to the Greater Bunbury operational district. Due to data limitations, patient activity within an LGA cannot be split so for this profile, data for the Leschenault district includes all activity for the shires of Dardanup and Harvey residents.

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

Operational district	Geographic district	Hospitals	Emergency Department presentations	Inpatient separations	Outpatient service events
Greater Bunbury	Bunbury	Bunbury Hospital	43,024	32,383	115,925
	Leschenault	Harvey Hospital	3,057	461	2,677
Coastal	Busselton	Busselton Hospital	25,770	10,681	38,870
	Leeuwin	Augusta Hospital	1,542	231	1,470
		Margaret River Hospital	9,677	851	4,718
Inland	Blackwood	Boyup Brook Soldiers Memorial Hospital	914	191	1,409
		Bridgetown Hospital	3,993	966	6,837
		Nannup Hospital	571	42	938
	Warren	Pemberton Hospital	947	194	1,453
		Warren Hospital	5,890	888	10,050
	Wellington	Donnybrook Hospital	1,363	132	1,124
		Collie Hospital	6,316	1,491	10,899
South West Total			10,3445	48,511	197,660

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 South West and non-South West residents.

South West Hospital bed numbers

Operational district	Geographic district	Hospitals	Inpatient bed numbers	Residential Aged Care beds
Greater Bunbury	Bunbury	Bunbury Hospital	190	0
	Leschenault	Harvey Hospital	22	0
Coastal	Busselton	Busselton Hospital	58	0
	Leeuwin	Augusta Hospital	9	10 +14*
		Margaret River Hospital	16	0
Inland	Blackwood	Boyup Brook Soldiers Memorial Hospital	5	7 +16*
		Bridgetown Hospital	25	0
		Nannup Hospital	2	9
	Warren	Pemberton Hospital	9	5
		Warren Hospital	18	0
	Wellington	Donnybrook Hospital	14	0
		Collie Hospital	25	0
South West Total			393	61

Source: WACHS Bed Availability and Occupancy Dashboard accessed 11 November 2022, WACHS Planning and Evaluation Bed Capacity Audit document accessed September 2022 and South West regional input November 2022. Includes maternity beds and neonatal cots, excludes day procedures

* Indicates two separate facilities

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 Services to enable patients to receive their care at or closer to home.



In

response to the specific demands for services in rural and remote regions of WA, through Commonwealth Multi-Purpose Services (MPS) funding, WACHS is also able to offer a range of flexible services that incorporate hospital, aged care and primary health care for small towns and isolated communities. This model enables MPS sites to develop innovative and flexible strategies based on the needs of the community. Services are managed and adapted to address local need and circumstance with input from a wide range of community representatives and key stakeholders.

The MPS sites in the South West are Augusta, Boyup Brook, Bridgetown and Nannup.

Population

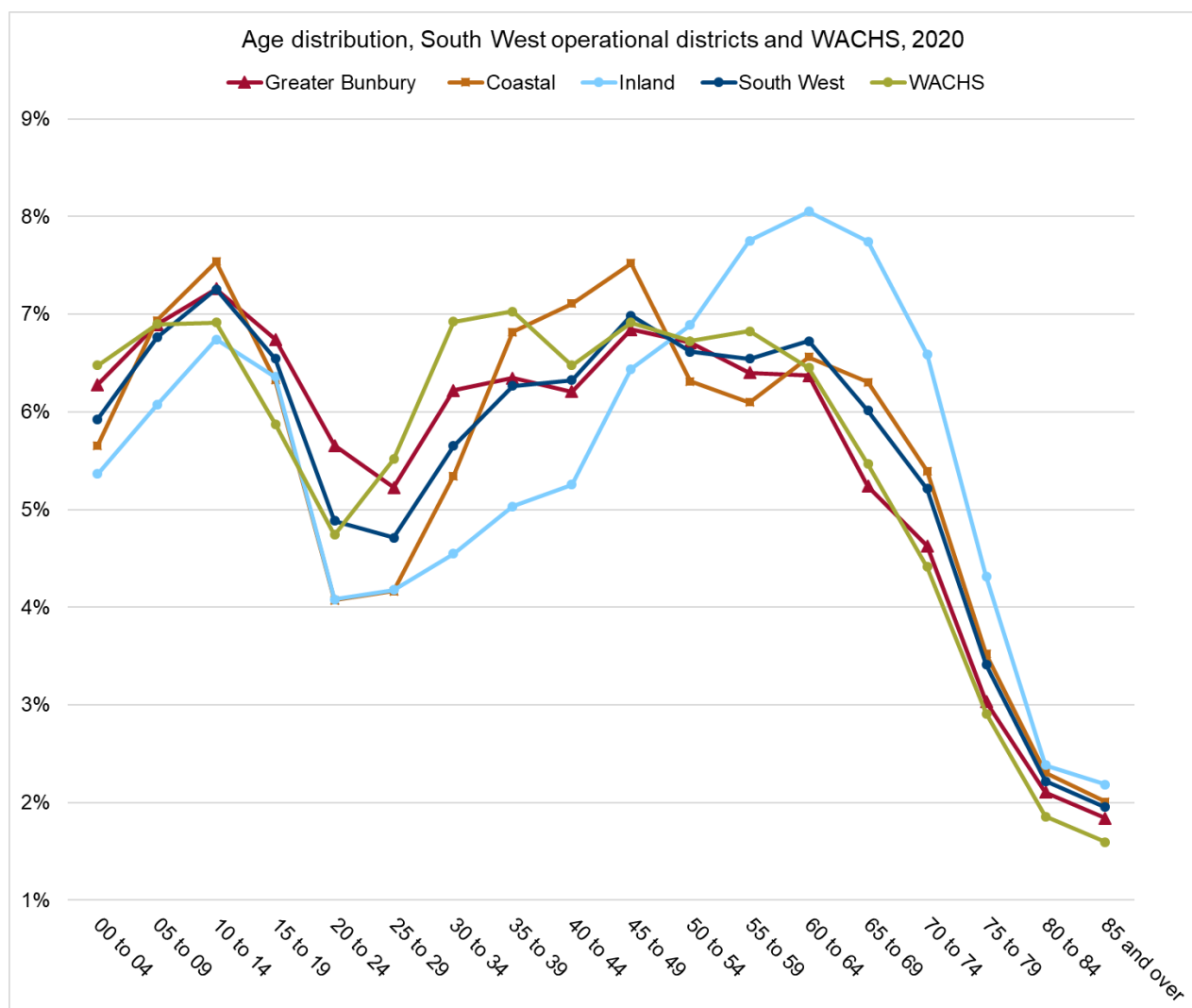
- At 30 June 2020, the Estimated Resident Population of the South West was 181,801. The Bunbury district had the largest population 50,090) comprising 28% of the total South West population, followed by Leschenault (42,852 or 24% of total) and Busselton (40,333 or 22% of total). The Blackwood district had the smallest population (7,949 or 4% of total).
- The largest Local Government Area in the South West according to 2020 population is the City of Busselton (40,333 people) while the smallest is the Shire of Nannup (1,422 people).
- Across the South West, 3% of the population identified as Aboriginal, lower than the overall WACHS average of 11%, but in line with the WA State average of 3%.

Operational district	Geographic district	LGA	Aboriginal	Non - Aboriginal	Total	% Aboriginal
Greater Bunbury	Bunbury	Bunbury (C)	1421	30262	31683	4%
		Capel (S)	531	17876	18407	3%
	Bunbury Total		1952	48138	50090	4%
	Leschenault	Dardanup (S)	333	14220	14553	2%
		Harvey (S)	823	27476	28299	3%
	Leschenault Total		1156	41696	42852	3%
Greater Bunbury Total			3108	89834	92942	3%
Coastal	Busselton	Busselton (C)	873	39460	40333	2%
	Busselton Total		873	39460	40333	2%
	Leeuwin	Augusta-Margaret River (S)	287	16414	16701	2%
	Leeuwin Total		287	16414	16701	2%
Coastal Total			1160	55874	57034	2%
Inland	Blackwood	Boyup Brook (S)	18	1753	1771	1%
		Bridgetown-Greenbushes (S)	90	4666	4756	2%
		Nannup (S)	28	1394	1422	2%
	Blackwood Total		135	7814	7949	2%
	Warren	Manjimup (S)	392	8726	9118	4%
	Warren Total		392	8726	9118	4%
	Wellington	Collie (S)	431	8170	8601	5%
		Donnybrook-Balingup (S)	139	6018	6157	2%
	Wellington Total		579	14189	14758	4%
Inland Total			1106	30729	31825	3%
South West Total			5374	176437	181801	3%

Source: ABS Estimated Resident Population, 2020. Aboriginal proportions from 2016 Census data applied to 2020 populations.

Age distribution

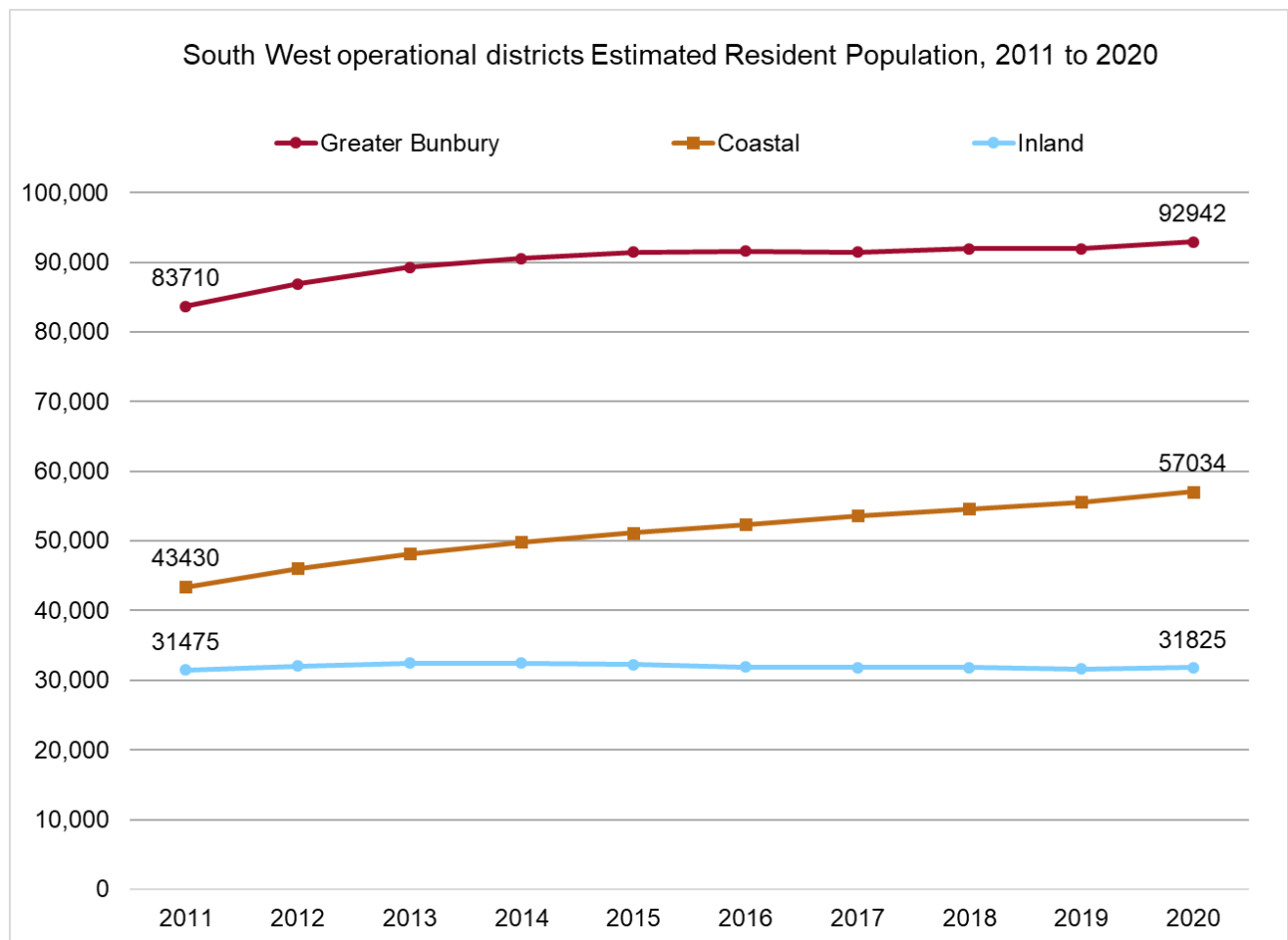
- In 2020, the Blackwood, Warren and Wellington districts (comprising the Inland operational district) had an older age distribution than the rest of the South West and the State average. Over one-third (37%) of residents in the Blackwood district are aged 60 years and over, compared with 30% for Wellington district, 29% for Warren, 26% for the South West and 23% for WACHS overall.
- The Leeuwin (Coastal) and Leschenault (Greater Bunbury) districts had the highest proportion of its population aged under 15 (both 22%) and compared with South West and WACHS averages of 20%. Leeuwin also had almost one-quarter (24%) of its residents aged between 35 and 49, compared with a South West average of 20%.



Source: ABS Estimated Resident Population, 2020.

Historical population growth

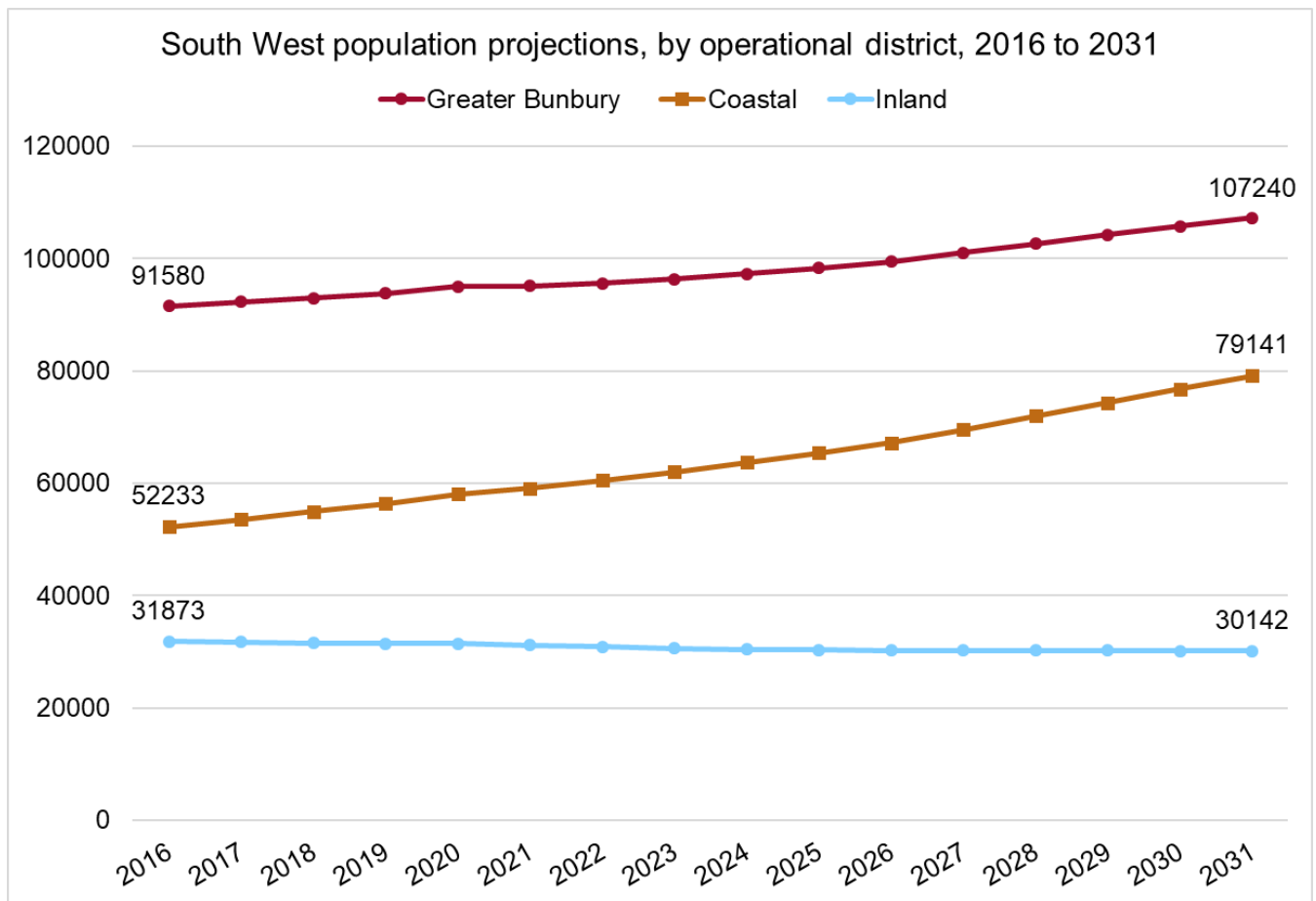
- Between 2011 and 2020, the population of the South West grew by an annual average of 2% (from 158,615 to 181,801). This was largely influenced by annual average growth of 3.1% in the Coastal operational district and 1.2% in the Greater Bunbury district. The Inland operational district had an average annual increase of just 0.1%.



Source: ABS Estimated Resident Population, 2020.

Projected population growth

- Between 2016 and 2031, the population of the South West is estimated to grow by 23%. This is largely driven by estimated increases of 52% in the Coastal district and 17% in the Greater Bunbury district, offset by a 5.4% decrease in the Inland operational district.
- The only districts projected to have population decreases between 2016 and 2031 are Warren (-12%) and Wellington (-4%). Feedback from the community planning workshops in Manjimup and Collie during 2021 have indicated there have been recent increases in population as families and older populations have moved to these areas.
- 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.

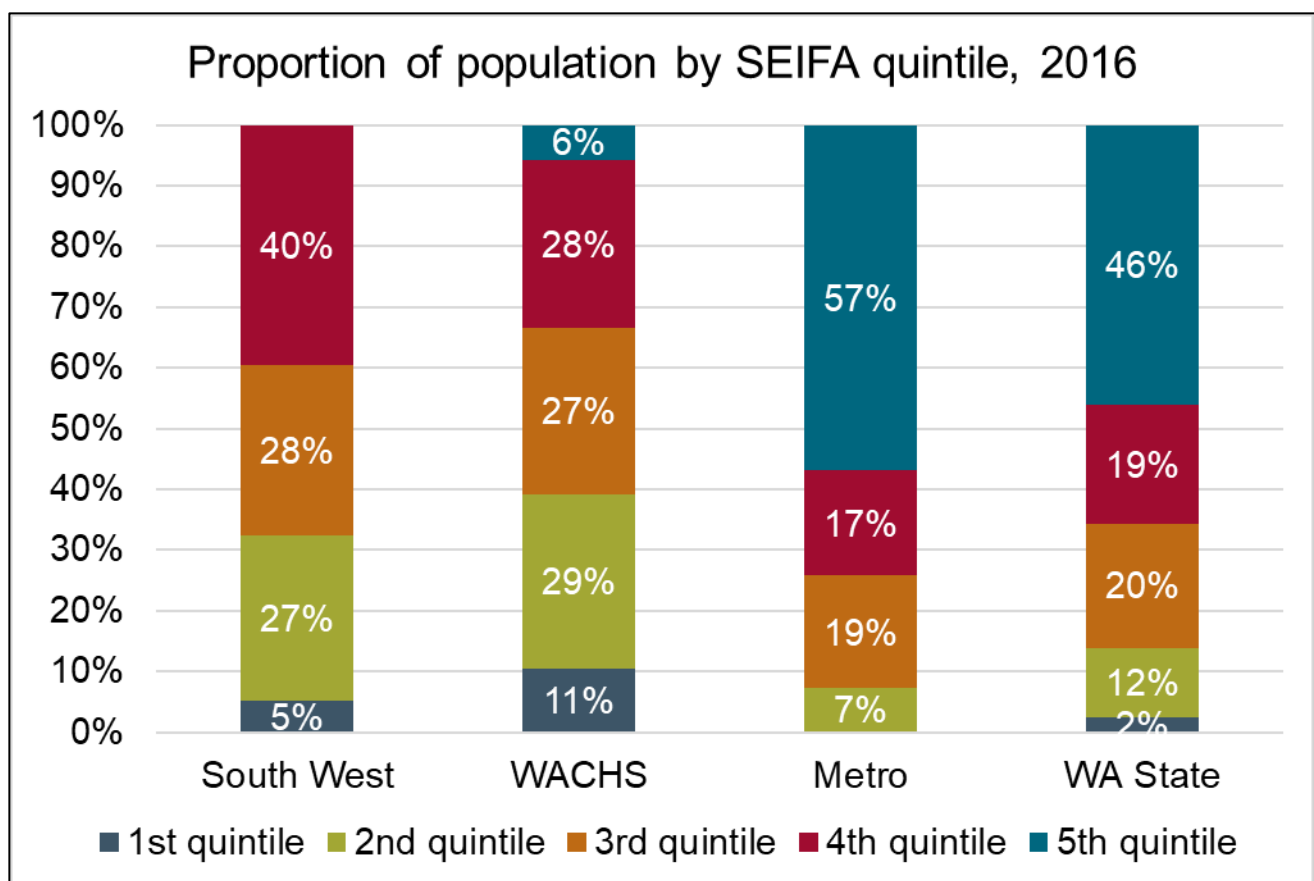
Key South West demographic, social and economic facts

- As at the 2016 Census, the South West had 18.8% of its residents who were born overseas, with 6.2% speaking a language other than English at home. These proportions were similar to WACHS averages but much lower than the WA State proportions.
- In 2016, the South West had 12.9% of its population with a tertiary qualification, slightly higher than the WACHS average (11.7%) but significantly lower than the WA State average (20.6%).

Health District	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
Bunbury	21%	8.8%	8.7%	13.9%	3.2%	8.1%
Leschenault	18.3%	6.2%	8.3%	10.5%	3.3%	7.4%
Busselton	18.2%	4.7%	7.6%	14.4%	3.4%	5.7%
Leeuwin	21.1%	6.7%	5.2%	20.0%	3.4%	4.6%
Blackwood	20.4%	3%	9.1%	12.2%	5%	5.8%
Warren	15%	5.4%	11.5%	9.8%	4.3%	5.2%
Wellington	13.7%	3.6%	10.7%	8.1%	4.1%	9%
South West	18.8%	6.2%	8.4%	12.9%	3.5%	7%
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%

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 South West had almost one third (32%) of its population living in areas with SEIFA scores in the two quintiles with the highest relative disadvantage, compared with 40% for WACHS overall and 14% for the WA State average.



**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 South West, 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 South West in 2015 over 18,000 years of life were lost due to premature deaths (deaths before the average life expectancy) and over 19,000 years were lived with a disability, much of this being potentially preventable. This has a significant impact to the community, families and individuals.

In the region cancer is the leading cause of burden of disease (18.6% of total burden) for the community followed by musculoskeletal (16.6%), cardiovascular (12.4%), mental health issues (11.9%) and injury (including suicide, self-inflicted and motor vehicle occupant injuries) (10.3%).

Osteoarthritis (7% of disability adjusted life years), back pain/problems (6.1%) and coronary heart disease (5.8%) are the highest disability burdens for South West women whereas coronary heart disease (7.6%), Chronic obstructive pulmonary disease (COPD) (5.6%) and back pain/problems (4.9%) are highest for South West men.

For South West residents aged 15-44 years, the largest burdens of disease were from anxiety disorders, back pain/problems, alcohol use disorders and suicide/self-inflicted injuries, while for those aged 45 years and over the largest burden was from osteoarthritis, coronary heart disease, COPD, lung cancer and dementia.

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

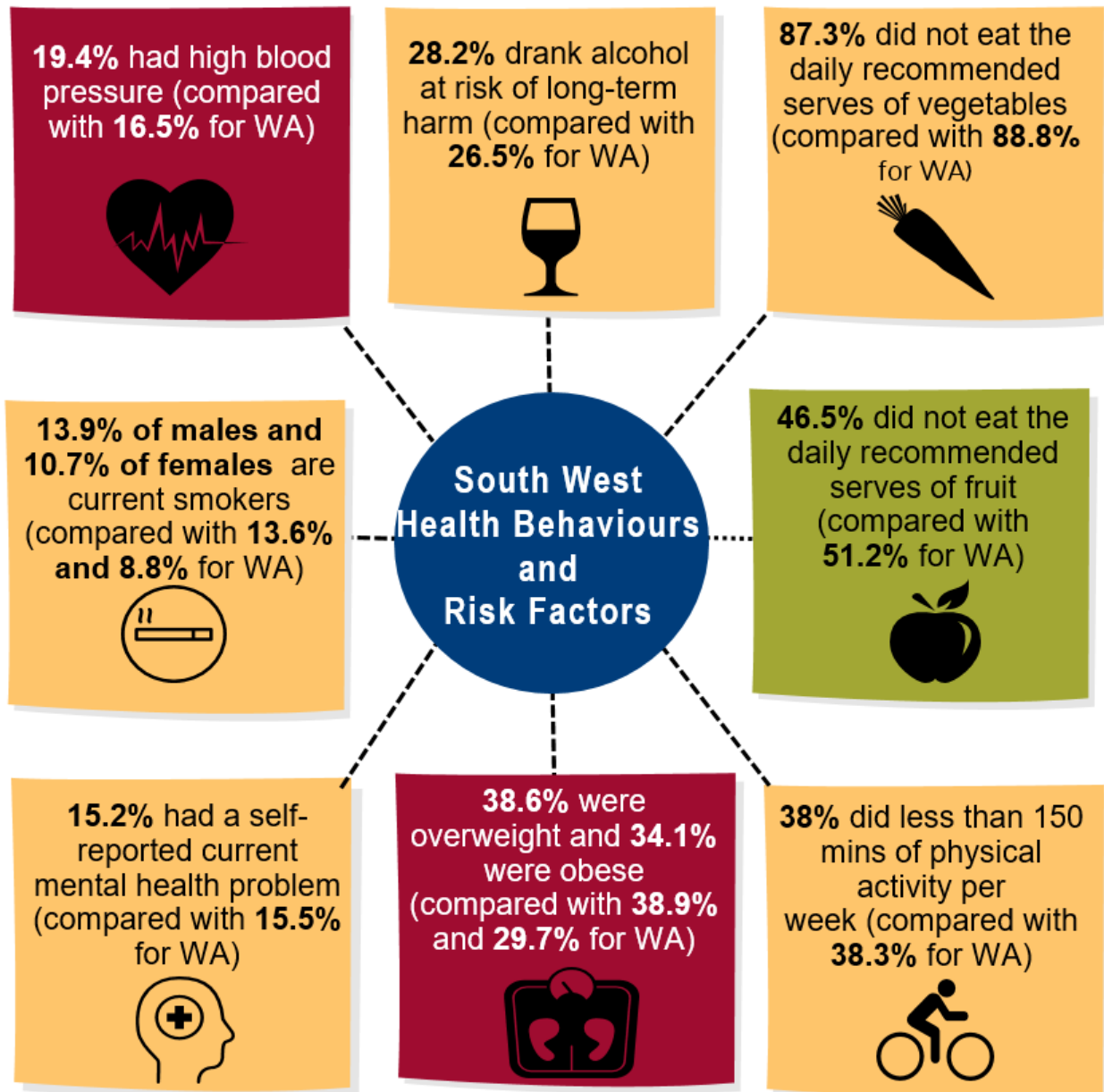
<https://ww2.health.wa.gov.au/~media/Corp/Documents/Reports-and-publications/WA-Burden-of-Disease-Study-2015-Summary-report/WA-Burden-of-Disease-Health-Region-report.pdf>

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South west health risk factors

The graphics below highlight the prevalence of key health risk factors in the South West region. These are self-reported measures collected through the Department of Health's Health and Wellbeing Surveillance System



Adults aged 16+, 2015-2019.

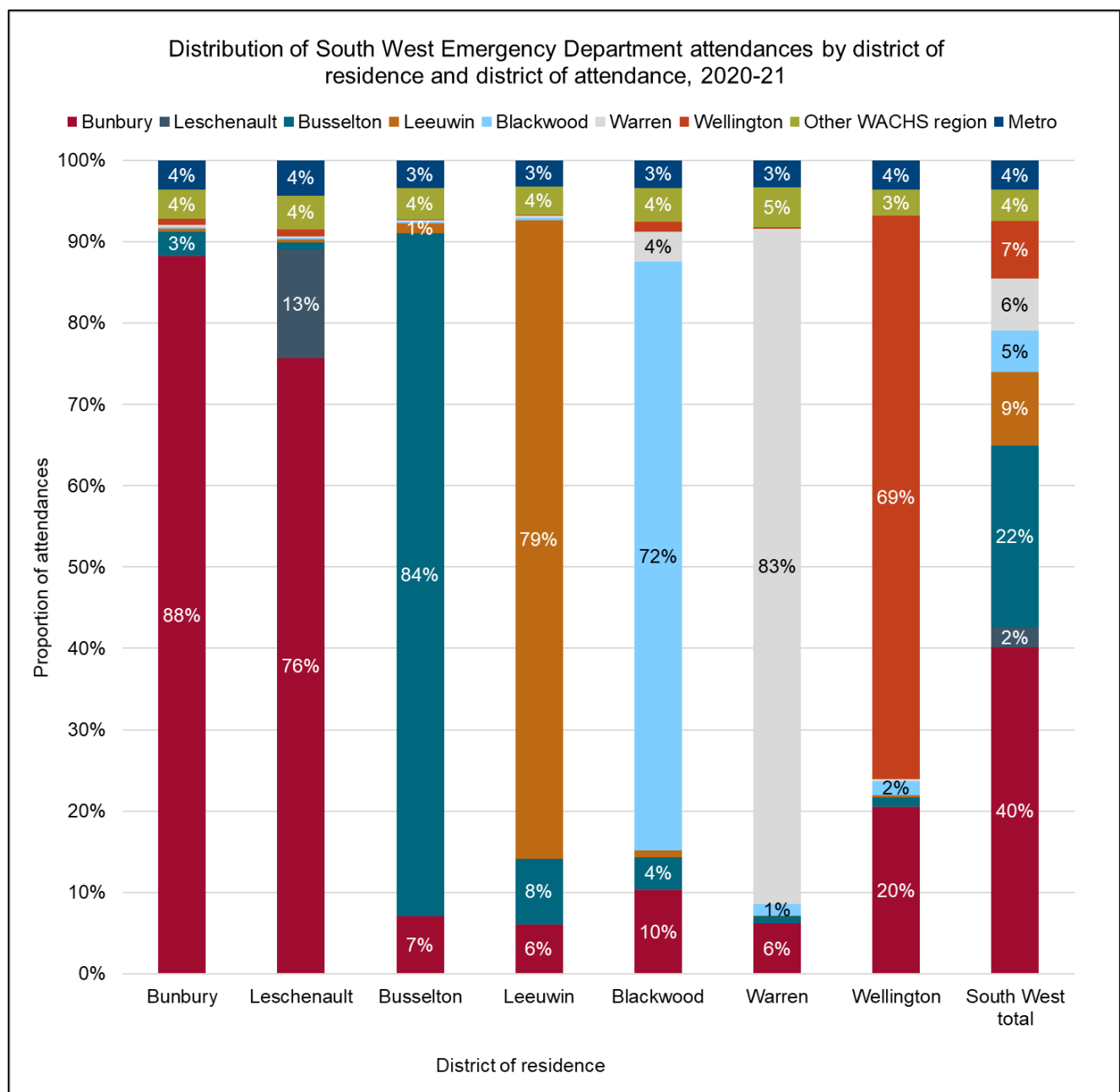
Source: Health and Wellbeing Surveillance System, Epidemiology Branch, Department of Health.

Note: Colour coding reflects where a rate is significantly different than the State rate. The State rate may still be at a level of concern.

Emergency Department

South West summary

- Of the 96,306 emergency department attendances to by South West residents across in 2020-21, 40% occurred at Bunbury Hospital, followed by 22% at Busselton Hospital. Overall, 93% of attendances were to a South West hospital, with 4% to another WACHS region and 4% to a Perth metropolitan hospital.
- Bunbury district residents had the highest proportion of emergency department attendances at a hospital in their own district (88%), followed by Busselton (84%) and Warren (83%). Leschenault district residents had the lowest proportion attending a hospital in their own district (13%), due its proximity to Bunbury.
- For Aboriginal South West residents, 90% attended a South West hospital, 4% another WACHS region and 6% a Perth metropolitan hospital.



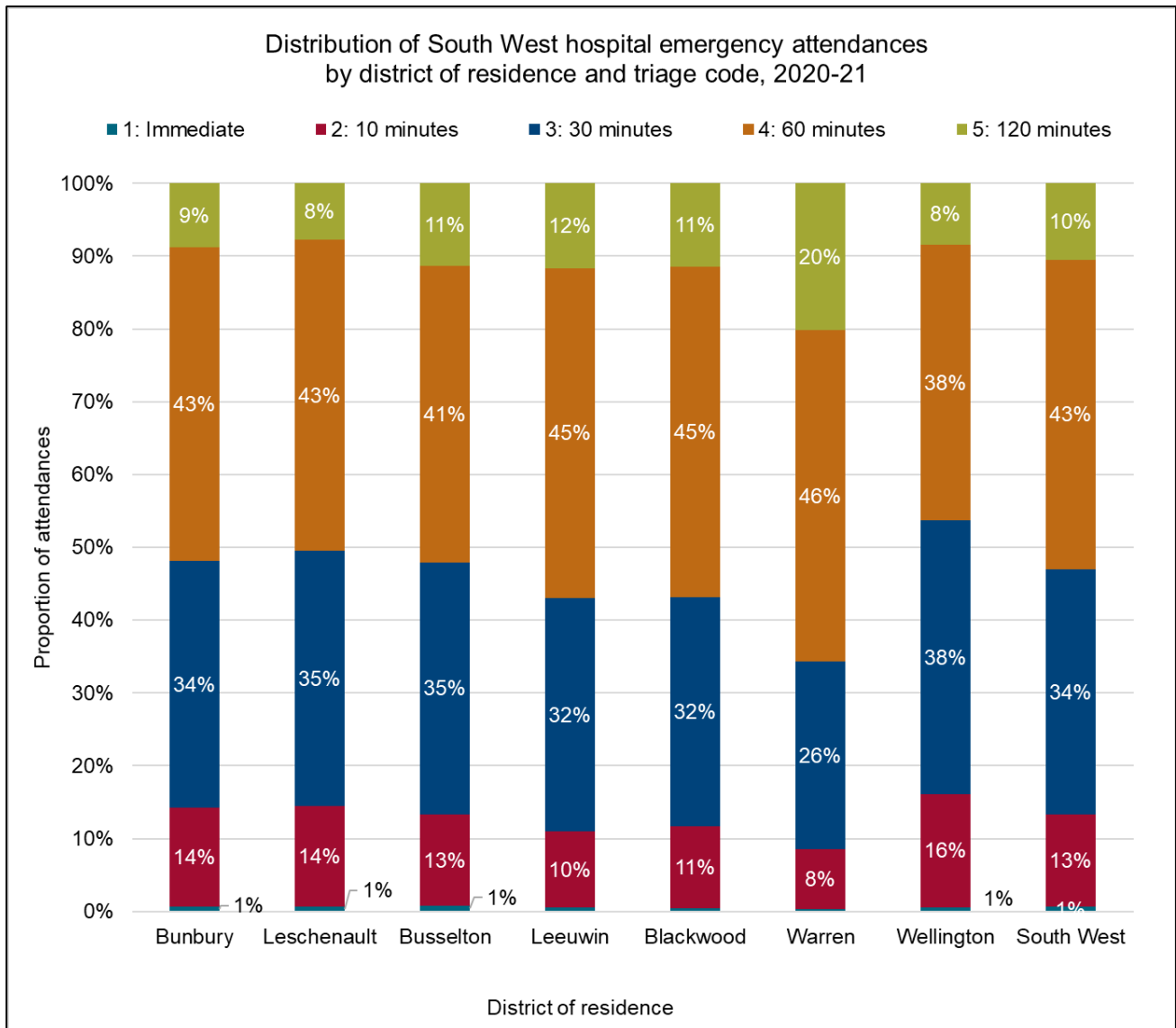
Source: Emergency Department Data Collection, DoH

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Emergency attendances for South West residents, by triage, 2020-21

- The triage profile of emergency department attendances across the South West in 2020-21 was similar across the districts, with over half (53%) presenting as triage level 4 or 5, ranging from 46% for Wellington district residents to 66% for Warren district. Residents of the Warren district had the lowest proportion of attendances with a triage level of 1 or 2 (9%), while Wellington district residents had the highest (16%).



Source: Emergency Department Data Collection, DoH

Emergency department attendances for South West residents, key characteristics, 2019–20

- For South West residents who attended an emergency department in their region (87,435) in 2020-21, 2% were delivered via the Emergency Telehealth Service.
- Of all South West emergency department attendances by South West residents in 2020-21, 60% occurred between the hours of 8am and 5pm, 21% were between 5pm and 9pm, and 19% were between 9pm and 8am.
- Of the South West emergency attendances by South West residents in 2020-21, 73% (64,008) were discharged home, 18% (15,702) were admitted to that hospital, 6% were transferred to another hospital (4,939) and 3% (2,614) did not wait or left at own risk.
- The Major Diagnostic Categories (MDCs) that made up the largest proportion of South West emergency attendances by South West residents in 2020-21 were Diseases and disorders of the musculoskeletal system and connective tissue (16%) and Diseases and disorders of the digestive system (11%). The most common MDCs that led to a transfer to a metropolitan hospital were Injuries, Poisonings and Toxic Effect of Drugs (16% of metro transfers) and Diseases and disorders of the circulatory system (15% of metro transfers).

Top 5 Major Diagnostic Categories for South West residents attending South West hospital emergency presentations, 2020-21

Major Diagnostic Category	Attendances	% of total
Diseases and disorders of the musculoskeletal system and connective tissue	14,034	16%
Diseases and disorders of the digestive system	9,609	11%
Injuries, Poisonings and Toxic Effects of Drugs	8,990	10%
Factors influencing health status and other contacts with health services*	8,149	9%
Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	8,081	9%

*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.

Top 5 Major Diagnostic Categories for South West residents transferred from South West emergency presentations to metropolitan hospitals, 2020-21

Major Diagnostic Category	Attendances	% of metro transfers
Injuries, Poisonings and Toxic Effects of Drugs	51	16%
Diseases and Disorders of the Circulatory System	48	15%
Diseases and Disorders of the Nervous System	39	12%
Diseases and disorders of the musculoskeletal system and connective tissue	35	11%
Diseases and disorders of the digestive system	22	7%

Emergency Department Collection, WACHS Business Intelligence

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Emergency attendances for South West residents attending South West hospitals, key characteristics by Aboriginality, 2020-21

- The Major Diagnostic Categories (MDCs) that made up the largest proportion of Aboriginal emergency attendances by Aboriginal South West residents in 2020-21 were Factors influencing health status and other contacts with health services (13% of Aboriginal attendances) and Diseases and disorders of the musculoskeletal system and connective tissues (12%). For non-Aboriginal residents, the most common MDCs were Diseases and disorders of the musculoskeletal system and connective tissue (16% of non-Aboriginal attendances) and Diseases and disorders of the digestive system (11%).

Top 5 Major Diagnostic Categories for Aboriginal South West residents attending South West hospital emergency presentations, 2020-21

Major Diagnostic Category	Attendances	% of total
Factors influencing health status and other contacts with health services	463	13%
Diseases and disorders of the musculoskeletal system and connective tissue	409	12%
Diseases and disorders of the digestive system	358	10%
Injuries, Poisonings and Toxic Effects of Drugs	356	10%
Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	352	10%

Top 5 Major Diagnostic Categories for Non-Aboriginal South West residents attending South West hospital emergency presentations, 2020-21

Major Diagnostic Category	Attendances	% of total
Diseases and disorders of the musculoskeletal system and connective tissue	13,559	16%
Diseases and disorders of the digestive system	9,212	11%
Injuries, Poisonings and Toxic Effects of Drugs	8,581	10%
Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	7,704	9%
Factors influencing health status and other contacts with health services	7,640	9%

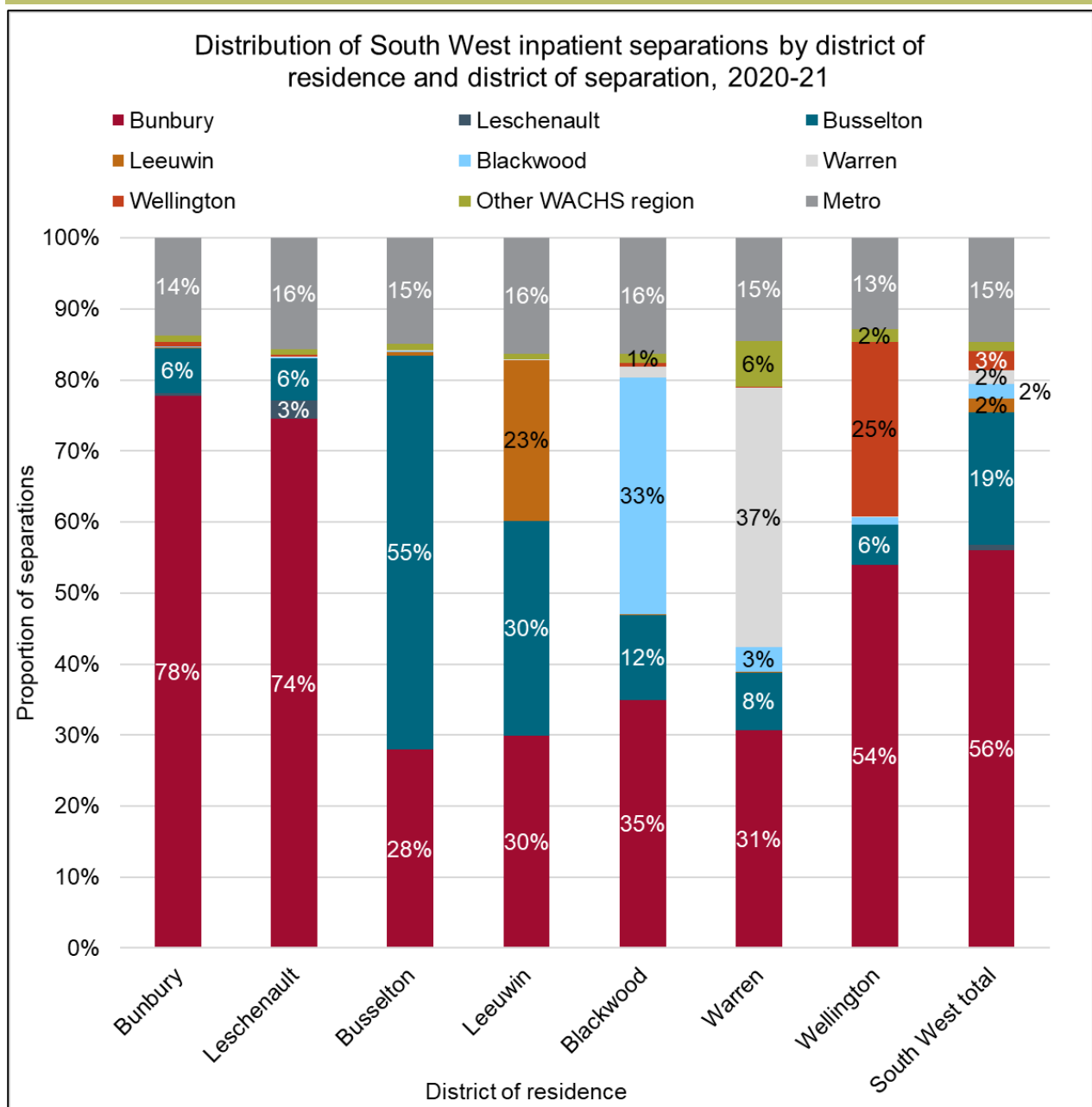
Excludes attendances where Aboriginality status was unknown or not stated.

Source: Emergency Department Collection, WACHS Business Intelligence

Hospitalisations

South West summary

- Of the 54,489 public inpatient separations by South West residents across WA in 2020-21, 56% occurred at Bunbury Hospital, followed by 19% at Busselton Hospital. A further 15% of separations by South West residents occurred at a Perth metropolitan hospital.
- Bunbury district residents had the highest proportion of inpatient separations at a hospital in their own district (78%), followed by Busselton (55%) and Warren (37%). Leschenault district residents had the lowest proportion attending a hospital in their own district (3%), due to its proximity to and activity flow to Bunbury.



Source: Hospital Morbidity Data Collection, Department of Health.

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Inpatient separations, key characteristics

- Of the 2,124 inpatient separations by Aboriginal South West residents in 2020-21, 95% occurred in a South West hospital, 2% in another WACHS region and 13% in a Perth metropolitan hospital.
- The most common Enhanced Service Related Groups (ESRG) for hospital separations (across all hospitals) by South West residents in 2020-21 was Renal Dialysis (14% of separations) followed by Chemotherapy (7%). For Aboriginal residents, the most common ESRGs were Renal Dialysis (36% of separations for Aboriginal residents) followed by Other Psychiatry (3%).

Inpatient separations, South West residents, by top ESRGs, 2020-21

Enhanced Service Related Group	Separations	% of all separations
042, Renal Dialysis	7,863	14%
031, Chemotherapy	3,894	7%
022, Colonoscopy	1,848	3%
082, Cataract Procedures	1,371	3%
039, Other Neurology	1,246	2%
020, Other Gastroscopy	1,228	2%
101, Digestive System Diagnoses incl GI Obstruction	1,114	2%
053, Other Non Subspecialty Medicine	1,109	2%
019, Complex Gastroscopy	1,072	2%
114, Vaginal Delivery	1,032	2%
023, Follow Up After Completed Tx W Endoscopy	860	2%
079, Other Orthopaedics - Surgical	808	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.

Inpatient separations, Aboriginal South West residents, by top ESRGs, 2020-21

Enhanced Service Related Group	Separations	% of all separations
042, Renal Dialysis	756	36%
125, Other Psychiatry	54	3%
114, Vaginal Delivery	48	2%
053, Other Non Subspecialty Medicine	44	2%
122, Drug & Alcohol	43	2%
029, Septicaemia, HIV, Viral and Other Infectious Diseases	39	2%
001, Chest Pain	38	2%
022, Colonoscopy	34	2%
028, Cellulitis	34	2%
113, Ante-natal Admission	31	1%
020, Other Gastroscopy	30	1%
058, Disorders of Biliary Tract and Pancreas	30	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.

Inpatient separations, non-Aboriginal South West residents, by top ESRGs, 2020-21

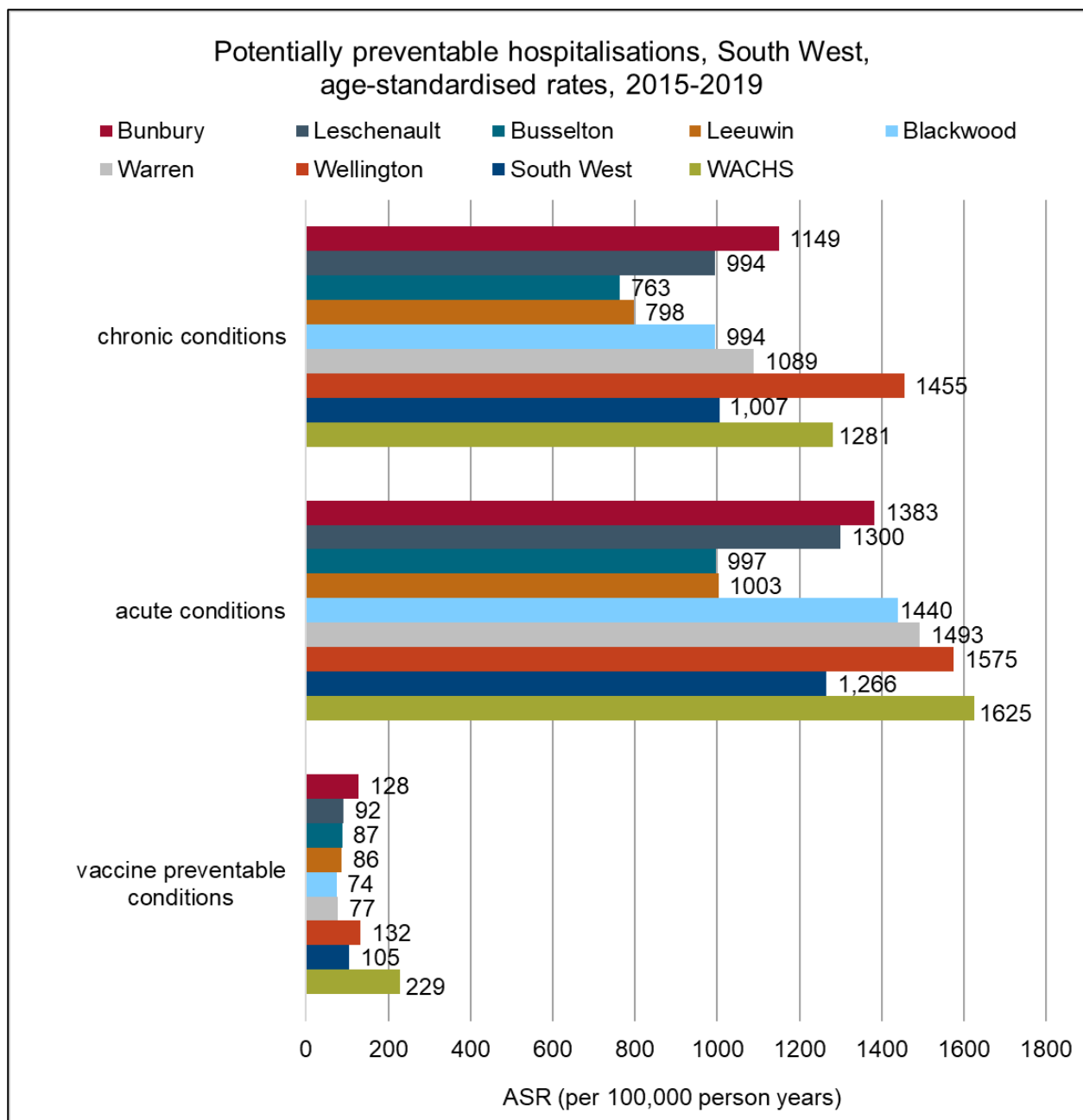
Enhanced Service Related Group	Separations	% of all separations
042, Renal Dialysis	7,107	14%
031, Chemotherapy	3,868	7%
022, Colonoscopy	1,811	3%
082, Cataract Procedures	1,343	3%
039, Other Neurology	1,229	2%
020, Other Gastroscopy	1,198	2%
101, Digestive System Diagnoses incl GI Obstruction	1,093	2%
053, Other Non Subspecialty Medicine	1,065	2%
019, Complex Gastroscopy	1,047	2%
114, Vaginal Delivery	983	2%
023, Follow Up After Completed Tx W Endoscopy	847	2%
079, Other Orthopaedics - Surgical	792	2%

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, South West

- 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 management¹.
- For the period 2015-2019, the rate of PPHs for South West residents were lower than the WACHS average across all three conditions (vaccine-preventable, acute and chronic).
- For chronic and acute conditions, Wellington residents had the highest rates of PPHs (1,455 and 1,575 per 100,000 person years respectively) and Busselton residents had the lowest (763 and 997 per 100,000 person years). For vaccine-preventable conditions, Wellington residents had the highest rates of PPHs (132 per 100,000 person years) while Blackwood residents had the lowest (74 per 100,000 person years).



Source: Health Tracks, DoH

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South West leading conditions for potentially preventable hospitalisations, 2015-2019

- The leading cause of PPHs for South West residents for 2015-2019 was dental conditions (15% of cases), chronic obstructive pulmonary disease (COPD) (11% of cases) and cellulitis (10% of cases). Dental conditions were the leading PPH for all South West district except for Wellington, which has COPD as its leading PPH condition.
- The incidence of most leading PPHs in the South West was in line with the State average. PPHs for convulsions and epilepsy was the highest condition above the State average (SRR = 1.28) while PPHs for Iron deficiency anaemia were the lowest below the State average (SRR = 0.74).

Condition	Type	N	% of all cases	SRR (comparison with State average)
Dental conditions	acute	3,408	15%	1
Chronic obstructive pulmonary disease	chronic	2,590	11%	1.05
Cellulitis	acute	2,349	10%	1.1
Urinary tract infections	acute	2,312	10%	0.83
Congestive cardiac failure	chronic	2,253	10%	0.95
Diabetes complications	chronic	1,611	7%	0.85
Convulsions and epilepsy	acute	1,466	6%	1.28
Angina	chronic	1,455	6%	1.06
Iron deficiency anaemia	chronic	1,326	6%	0.74
ENT infections	acute	1,133	5%	0.84

Source: HealthTracks, DoH

Top 5 PPHs by South West district, 2015-2019

		1st	2nd	3rd	4th	5th	Total
Bunbury	Condition	Dental conditions	Chronic obstructive pulmonary disease	Cellulitis	Urinary tract infections	Congestive cardiac failure	
	No.	991	832	756	753	730	7,207
	SRR	1.05	1.25	1.27	0.97	1.1	1.04
Leschenault	Condition	Dental conditions	Urinary tract infections	Cellulitis	Chronic obstructive pulmonary disease	Congestive cardiac failure	
	No.	852	550	512	476	456	5,099
	SRR	1.05	0.92	1.09	0.95	0.98	0.93
Busselton	Condition	Dental conditions	Chronic obstructive pulmonary disease	Congestive cardiac failure	Urinary tract infections	Cellulitis	
	No.	642	499	473	435	427	4,211
	SRR	0.86	0.84	0.8	0.68	0.88	0.73
Leeuwin	Condition	Dental conditions	Cellulitis	Urinary tract infections	Congestive cardiac failure	Chronic obstructive pulmonary disease	
	No.	225	170	163	123	112	1,514
	SRR	0.75	0.96	0.74	0.69	0.6	0.74
Blackwood	Condition	Dental conditions	Iron deficiency anaemia	Chronic obstructive pulmonary disease	Cellulitis	Congestive cardiac failure	
	No.	152	119	115	112	107	1,199
	SRR	0.98	1.26	0.79	1.07	0.83	0.94
Warren	Condition	Dental conditions	Chronic obstructive pulmonary disease	Cellulitis	Congestive cardiac failure	Convulsions and epilepsy	
	No.	230	217	150	148	126	1,474
	SRR	1.31	1.45	1.27	1.01	2.1	1.04
Wellington	Condition	Chronic obstructive pulmonary disease	Dental conditions	Iron deficiency anaemia	Diabetes complications	Cellulitis	
	No.	339	316	276	223	222	2,670
	SRR	1.5	1.1	1.75	1.31	1.21	1.22

Source: HealthTracks, DoH

Top 5 PPHs for non-Aboriginal South West residents, 2015-2019

- For the period 2015-2019, the highest occurring PPH condition for non-Aboriginal residents was Dental conditions (14.7% of total PPHs for non-Aboriginal people), followed by Chronic obstructive pulmonary disease (11.1%).
- The top PPHs for non-Aboriginal South West residents occurred at rates similar to the State non-Aboriginal rates.

		1st	2nd	3rd	4th	5th	Total
Non-Aboriginal	Condition	Dental conditions	Chronic obstructive pulmonary disease	Urinary tract infections	Cellulitis	Congestive cardiac failure	
	No.	3,275	2,465	2,237	2,235	2,175	22,205
	SRR	1	1.1	0.87	1.23	0.98	0.98

Source: HealthTracks, DoH.

Top 5 PPHs for Aboriginal South West residents, 2010-2019

- For the period 2010-2019, the highest occurring PPH condition for Aboriginal South West residents was Convulsions and epilepsy (15.8% of total PPHs for Aboriginal people) followed by Dental conditions (11.5%).
- For Aboriginal South West residents most PPH conditions occurred at rates lower than the State Aboriginal rate (with the exception of Convulsions and epilepsy).

		1st	2nd	3rd	4th	5th	Total
Aboriginal	Condition	Convulsions and epilepsy	Dental conditions	Diabetes complications	Cellulitis	Chronic obstructive pulmonary disease	
	No.	355	259	248	206	197	2,245
	SRR	1.12	0.89	0.92	0.44	0.75	0.65

Source: HealthTracks, DoH.

South West communicable disease notifications, 2015-2019

- For the period 2015-2019, the communicable disease notifications for South West residents was comparable with the State rate (SRR = 0.94). The rates for most categories was comparable or lower than the State rate except for Zoonotic diseases (1.84 times State rate, however there were very low notifications) and Vector-borne diseases (1.57 times the State rate).

Condition	Notifications	SRR
Blood-borne diseases	438	0.81
Enteric infections	2,124	1.04
Sexually transmitted infections	3,196	0.76
Vector-borne diseases	760	1.57
Vaccine-preventable diseases	4,341	1.02
Zoonotic diseases	10	1.84
Other notifiable diseases	57	0.65
All notifications	10,926	0.94

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.

South West leading communicable disease notifications, 2015-2019

- The leading cause of communicable disease notifications for 2015-2019 in South West was chlamydia (genital) (25.5% of cases), influenza (16.6% of cases) and campylobacteriosis (11.8% of cases). Chlamydia (genital) was the leading communicable disease for all South West district except for Leeuwin (Influenza).
- The incidence of most leading communicable disease notifications in the South West was comparable with or lower than the State average, except for pertussis/whooping cough, which occurred at twice the state rate (SRR = 2.11).

Condition	Type	N	% of all cases	SRR (comparison with State average)
Chlamydia (genital)	Sexually-transmitted	2,791	25.5%	0.86
Influenza	Vaccine-preventable	1,810	16.6%	0.83
Campylobacteriosis	Enteric	1,293	11.8%	1.18
Pertussis/Whooping cough	Vaccine-preventable	1,206	11.0%	2.11
Varicella (shingles)	Vaccine-preventable	739	6.8%	1.17
Salmonellosis	Enteric	590	5.4%	0.92
Ross River virus	Vector-borne	552	5.1%	1.74
Gonorrhoea	Sexually-transmitted	365	3.3%	0.43
Hepatitis C	Blood-borne	357	3.3%	1
Varicella (unspecified)	Vaccine-preventable	287	2.6%	0.56

Source: HealthTracks, DoH.

Top 5 communicable disease notifications by South West district, 2014-2018

		1st	2nd	3rd	4th	5th	Total
Bunbury	Condition	Chlamydia (genital)	Influenza	Pertussis/ Whooping cough	Campylo-bacteriosis	Varicella (shingles)	
	No.	995	519	435	432	224	3,683
	SRR	0.99	0.85	2.72	1.39	1.27	1.08
Leschenault	Condition	Chlamydia (genital)	Influenza	Campylo-bacteriosis	Pertussis/ Whooping cough	Salmonellosis	
	No.	695	363	337	306	164	2,589
	SRR	0.85	0.72	1.32	2.28	1.07	0.93
Busselton	Condition	Chlamydia (genital)	Influenza	Pertussis/ Whooping cough	Campylo-bacteriosis	Varicella (shingles)	
	No.	471	407	272	216	152	2,102
	SRR	0.73	0.86	2.2	0.92	1.1	0.86
Leeuwin	Condition	Influenza	Chlamydia (genital)	Campylo-bacteriosis	Pertussis/ Whooping cough	Varicella (shingles)	
	No.	257	220	115	78	78	1,044
	SRR	1.4	0.88	1.26	1.61	1.52	1.09
Blackwood	Condition	Chlamydia (genital)	Influenza	Campylo-bacteriosis	Pertussis/ Whooping cough	Varicella (shingles)	
	No.	75	58	42	37	28	335
	SRR	0.76	0.58	0.85	1.4	0.89	0.72
Warren	Condition	Chlamydia (genital)	Influenza	Campylo-bacteriosis	Varicella (shingles)	Salmonellosis	
	No.	128	68	61	54	27	445
	SRR	0.79	0.58	1.05	1.53	0.82	0.74
Wellington	Condition	Chlamydia (genital)	Influenza	Campylo-bacteriosis	Pertussis/ Whooping cough	Varicella (shingles)	
	No.	207	138	90	69	44	728
	SRR	0.77	0.74	0.96	1.41	0.78	0.74

ource: HealthTracks, DoH

Top 5 Communicable disease notifications for non-Aboriginal South West residents, 2014-2018

- For the period 2014-2018, the highest number of communicable disease notifications for non-Aboriginal South West residents was for Chlamydia (genital) (25.2% of total notifications for non-Aboriginal people) followed by Influenza (17%).
- Most communicable disease conditions occurred at similar or lower than the State non-Aboriginal rate, with the exception of Pertussis/Whooping cough, which occurred at more than double the rate (SRR = 2.04).

		1st	2nd	3rd	4th	5th	Total
Non-Aboriginal	Condition	Chlamydia (genital)	Influenza	Pertussis/Whooping cough	Campylobacteriosis	Varicella (shingles)	
	No.	2,166	1,460	1,087	836	676	8,603
	SRR	0.82	0.75	2.04	0.84	1.12	0.88

Source: HealthTracks, DoH.

Top 5 Communicable disease notifications for Aboriginal South West residents, 2009-2018

- For the period 2009-2018, the highest number of communicable disease notifications for Aboriginal South West residents was for Chlamydia (genital) (40% of total notifications for Aboriginal people) followed by Hepatitis C (17.7%).
- Overall, communicable disease notifications for Aboriginal South West residents occurred at less than half the State Aboriginal rate (SRR = 0.37).

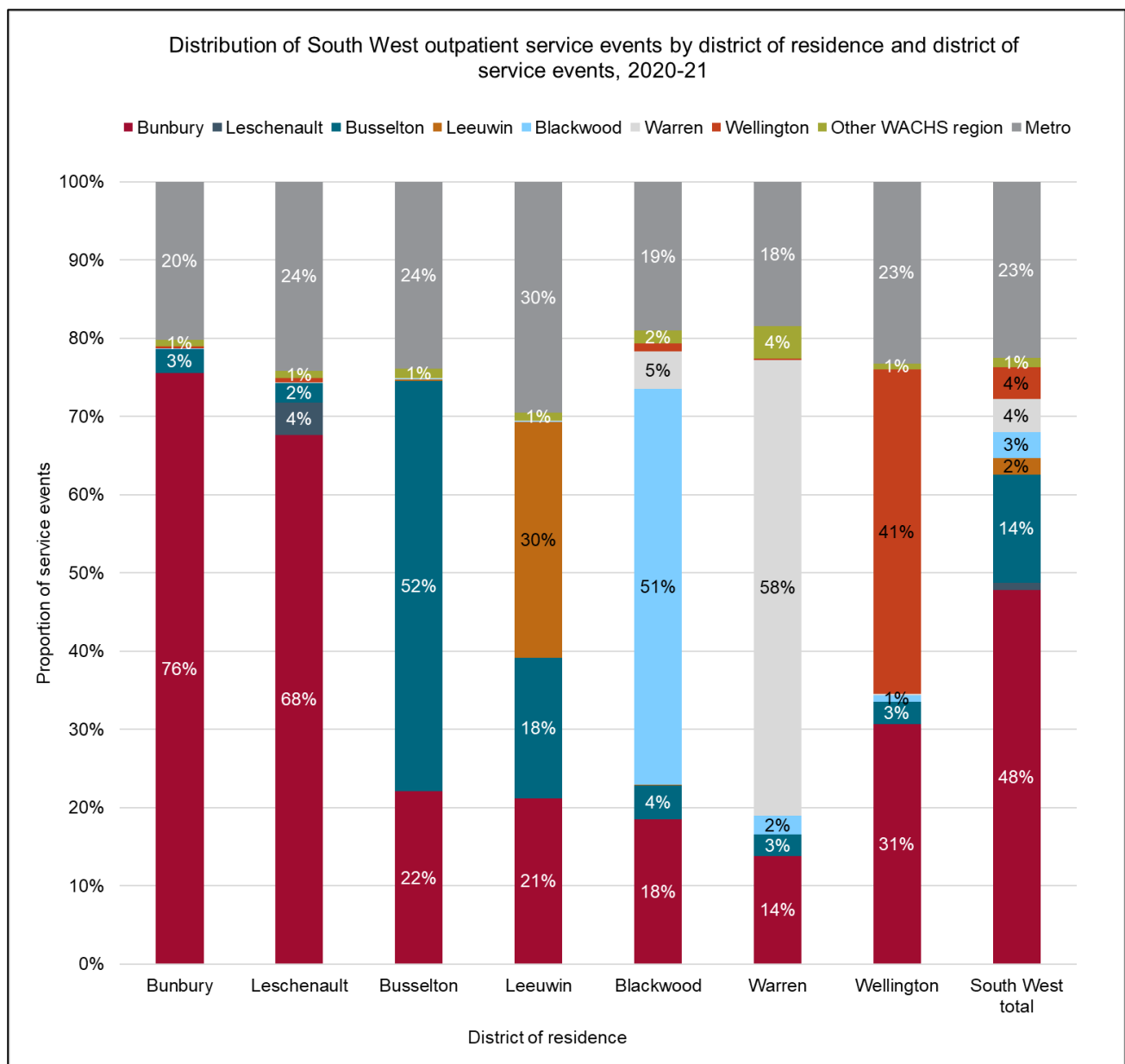
		1st	2nd	3rd	4th	5th	Total
Aboriginal	Condition	Chlamydia (genital)	Hepatitis C	Influenza	Gonorrhoea	Pertussis/Whooping cough	
	No.	281	123	76	56	49	696
	SRR	0.37	1.24	0.44	0.11	1.58	0.37

Source: HealthTracks, DoH.

Outpatient

South West summary

- Of the 222,575 outpatient service events by South West residents across WA in 2020-21, 48% occurred at Bunbury Hospital (including public contracted activity at St John of God Bunbury), followed by 14% at Busselton Hospital. A further 23% of separations by South West residents occurred at a Perth metropolitan hospital.
- Bunbury district residents had the highest proportion of outpatient service events at a hospital in their own district (76%, 49,473 service events), followed by Warren (58%, 8497) and Blackwood (51%, 6,903). Leschenault district residents had the lowest proportion attending a hospital in their own district (4%, 2,036), its proximity to and flow of activity to Bunbury.

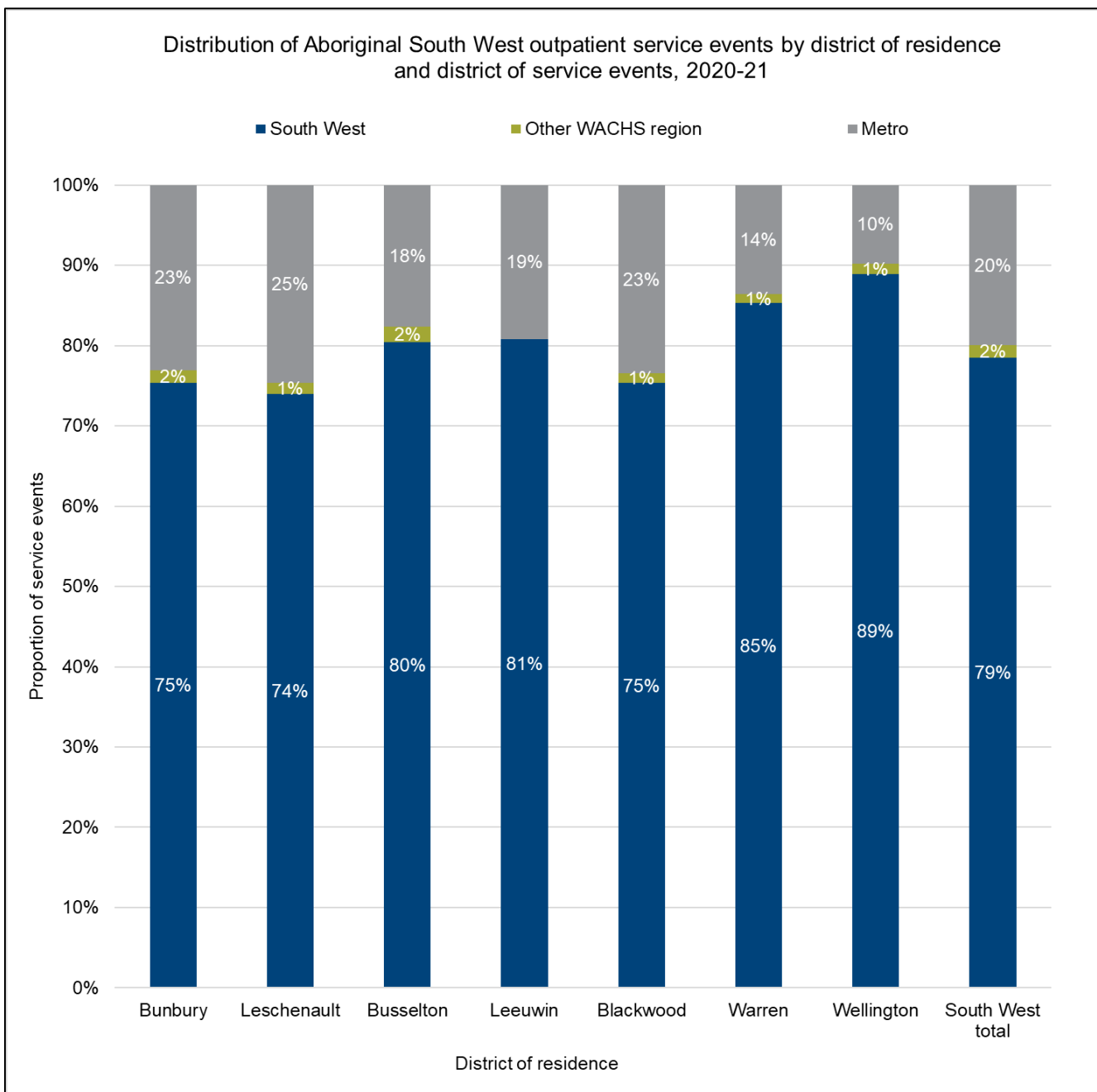


Source: Non-Admitted Data Collection, DoH

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- For Aboriginal residents, of their 6,660 outpatient service events in 2020-21, 79% attended a South West hospital (including 49% at Bunbury Hospital (including public contracted activity at St John of God Bunbury), followed by 14% at Busselton Hospital), while 20% occurred in a Perth metropolitan hospital.
- Aboriginal residents of the Wellington district had the highest proportion of their outpatient activity at a South West hospital (89%, 718 service events), followed by Warren residents (365 service events, 85%).
- Aboriginal residents of the Leschenault district had the highest proportion of service events at a metropolitan hospital (235 service events, 25%).



Source: Non-Admitted Data Collection, DoH

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Outpatient activity for South West residents, key characteristics

- In 2020-21 the overall proportion of appointments for South West residents that were delivered by telephone/telehealth was 30% (28% for South West hospitals and 40% for metro hospitals). This proportion of telephone/telehealth appointments ranged from 26% for Blackwood district residents to 33% for Leeuwin district residents.
- For South West residents who had an outpatient service event in 2020-21, the most common Tier 2 Medical clinical code was 20.29 Orthopaedics (3% of total events) while the top Nursing code (including allied health) was 40.28 – Midwifery (10% of total service events).
- For Aboriginal South West residents, the most common Tier 2 medical code was 20.53 Obstetrics – management of complex pregnancy (4% of total service events for Aboriginal residents) while the top Tier 2 Nursing code was 40.58 Hospital Avoidance Programs (29% of total Aboriginal service events).

Outpatient activity, South West residents, by top Tier 2 codes, 2020-21

Top 10 Medical (20) codes	Service events	% of total	Top 10 Nursing (40) codes	Service events	% of total
20.29 Orthopaedics	7538	3%	40.28 Midwifery	21533	10%
20.07 General Surgery	3920	2%	40.07 Pre-Admission and Pre-Anaesthesia	15926	7%
20.43 Radiation Oncology (Consultation)	3782	2%	40.35 Palliative Care	12898	6%
20.53 Obstetrics – management of complex pregnancy	3238	1%	40.53 General Medicine	12521	6%
20.10 Haematology	2339	1%	40.06 Occupational Therapy	7287	3%
20.46 Plastic and Reconstructive Surgery	2315	1%	40.58 Hospital Avoidance Programs	6518	3%
20.02 Anaesthetics	1889	1%	40.09 Physiotherapy	5960	3%
20.49 Geriatric Evaluation and Management (GEM)	1569	1%	40.52 Oncology	5192	2%
20.15 Neurology	1384	1%	40.12 Rehabilitation	4970	2%
20.34 Endocrinology	1380	1%	40.59 Post Acute Care	3613	2%

Source: Non-admitted Data Collection, DoH

Outpatient activity, Aboriginal South West residents, by top Tier 2 codes, 2020-21

Top 10 Medical (20) codes	Service events	% of total	Top 10 Nursing (40) codes	Service events	% of total
20.53 Obstetrics – management of complex pregnancy	298	4%	40.58 Hospital Avoidance Programs	1907	29%
20.29 Orthopaedics	166	2%	40.28 Midwifery	795	12%
20.46 Plastic and Reconstructive Surgery	84	1%	40.07 Pre-Admission and Pre-Anaesthesia	302	5%
20.07 General Surgery	70	1%	40.53 General Medicine	271	4%
20.11 Paediatric Medicine	64	1%	40.06 Occupational Therapy	145	2%
20.10 Haematology	48	1%	40.52 Oncology	111	2%
20.17 Ophthalmology	45	1%	40.35 Palliative Care	99	1%
20.34 Endocrinology	41	1%	40.11 Social Work	96	1%
20.45 Psychiatry	40	1%	40.09 Physiotherapy	91	1%
20.02 Anaesthetics	38	1%	40.46 Endocrinology	89	1%

Source: Non-admitted Data Collection, DoH

Outpatient activity, non-Aboriginal South West residents, by top Tier 2 codes, 2020-21

Top 10 Medical (20) codes	Service events	% of total	Top 10 Nursing (40) codes	Service events	% of total
20.29 Orthopaedics	7360	4%	40.28 Midwifery	20717	11%
20.07 General Surgery	3849	2%	40.07 Pre-Admission and Pre-Anaesthesia	15545	8%
20.53 Obstetrics – management of complex pregnancy	2940	1%	40.35 Palliative Care	12796	6%
20.10 Haematology	2287	1%	40.53 General Medicine	12154	6%
20.46 Plastic and Reconstructive Surgery	2228	1%	40.06 Occupational Therapy	7127	4%
20.02 Anaesthetics	1847	1%	40.09 Physiotherapy	5853	3%
20.49 Geriatric Evaluation and Management (GEM)	1559	1%	40.12 Rehabilitation	4900	2%
20.34 Endocrinology	1338	1%	40.52 Oncology	4819	2%
20.15 Neurology	1332	1%	40.58 Hospital Avoidance Programs	4577	2%
20.42 Medical Oncology (Consultation)	1261	1%	40.59 Post Acute Care	3533	2%

Excludes service events where Aboriginality was not stated or unknown.

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 was highest for Wellington district residents (12%) followed by Busselton (8.8%) and Warren (8.3%). The lowest proportions were for Leschenault (5.6%) and Blackwood (5.8%) residents. This compares with a WACHS average of 7.8% and a WA State proportion of 8.8%.
- In line with the WACHS and WA State, most districts had females with higher levels of high or very high psychological distress than males, with the exception of Warren and Leschenault districts.

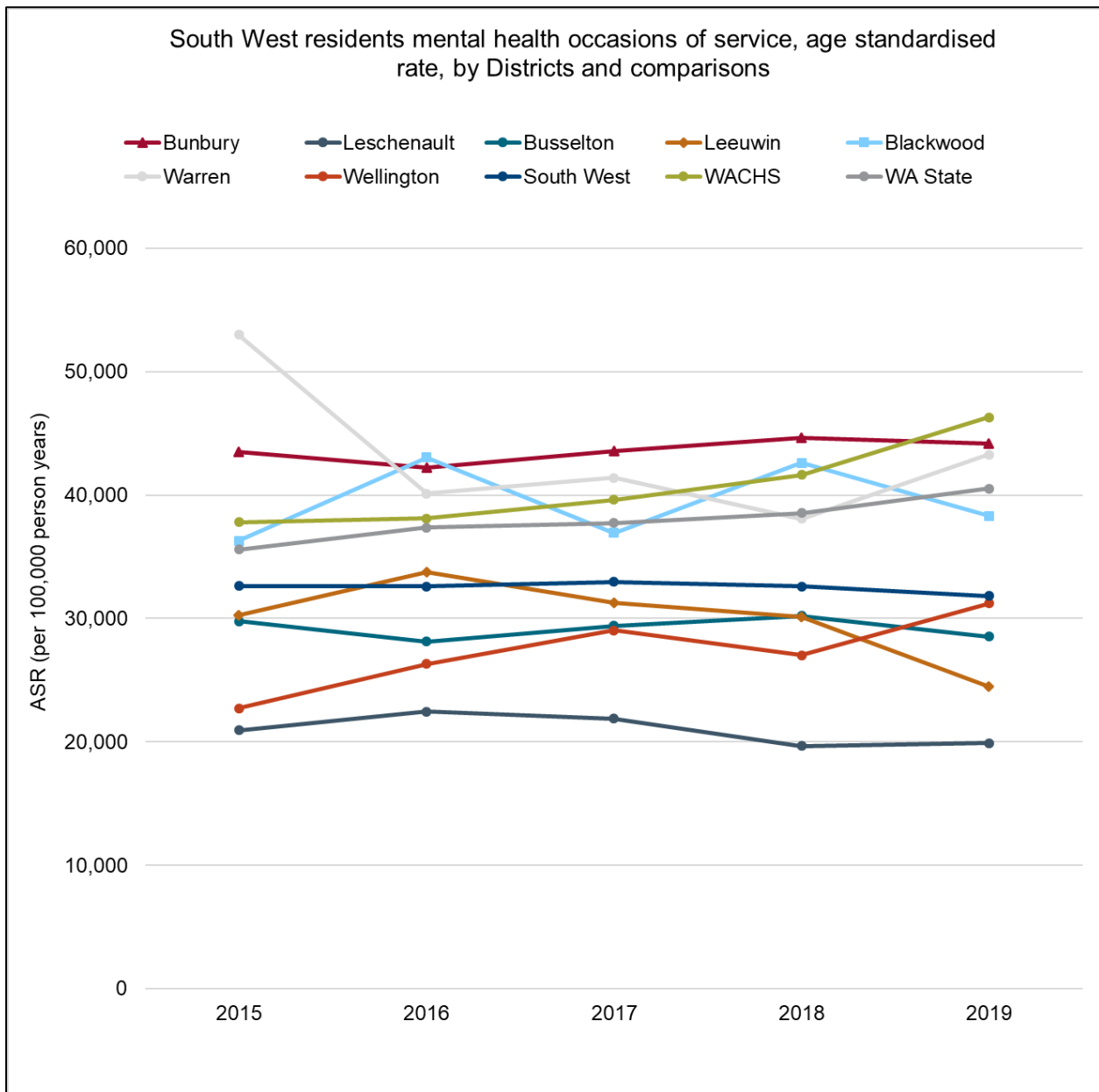
Prevalence of high or very high psychological distress, 2015-2019

Area	Females	Males	Persons
Bunbury	8	6.2	7.1
Leschenault	5.2	6	5.6
Busselton	8.5	9.1	8.8
Leeuwin	7.7	4	6
Blackwood	8.7	2.4	5.8
Warren	5.6	11.3	8.3
Wellington	15	9.3	12
South West average	7.9	7.2	7.5
WACHS average	8.1	7.5	7.8
WA State	9.8	7.8	8.8

Source: HealthTracks, DoH

South West Mental health occasions of service

- Between 2015 and 2019, the rate of mental health occasions of service fluctuated across the LGAs in the South West but was generally highest for residents of the Bunbury district and lowest for Leschenault district residents.
- Across the South West, between 2015 and 2019, the male rate of mental health occasions of service decreased by an annual average of 0.2%, while the female rate decreased by an annual average of 1%.
- For the period 2010-2019, the rate of Mental health mental health service contacts for Aboriginal people was almost three times higher (2.8 times) than the non-Aboriginal rate.



Source: HealthTracks, DoH

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Number of mental health occasions of service by gender, South West 2015–2019

District	Gender	2015	2016	2017	2018	2019	Annual average change in rate
Bunbury	Males	10,284	9,006	10,508	10,610	9,631	-2%
	Females	12,987	13,180	12,083	12,249	13,020	0%
	Persons	23,284	22,231	22,643	22,893	22,663	-1%
Busselton	Males	4,797	4,950	5,202	4,898	4,719	0%
	Females	5,332	5,240	5,429	5,771	5,250	0%
	Persons	10,129	10,190	10,631	10,669	9,969	0%
Leeuwin	Males	2,060	2,346	1,976	2,013	1,644	-5%
	Females	1,936	2,155	2,201	2,050	1,649	-4%
	Persons	3,996	4,501	4,177	4,063	3,293	-5%
Warren	Males	1,817	1,969	2,000	1,682	1,794	0%
	Females	2,577	1,443	1,592	1,596	1,729	-9%
	Persons	4,394	3,412	3,592	3,278	3,523	-5%
Blackwood	Males	923	1,171	1,066	1,498	1,168	6%
	Females	1,426	1,624	1,604	1,544	1,423	0%
	Persons	2,349	2,795	2,673	3,051	2,591	2%
Wellington	Males	1,509	1,619	1,599	1,583	2,230	10%
	Females	1,758	1,943	2,271	1,840	1,782	0%
	Persons	3,267	3,562	3,870	3,423	4,012	5%
Leschenault	Males	2,410	2,823	2,765	2,333	2,451	0%
	Females	3,144	3,347	3,416	3,218	3,076	-1%
	Persons	5,554	6,170	6,181	5,553	5,527	0%
South West	Males	23,800	23,884	25,116	24,617	23,637	0%
	Females	29,160	28,932	28,596	28,268	27,929	-1%
	Persons	52,973	52,861	53,767	52,930	51,578	-1%

Source: HealthTracks, DoH

- In 2020-21, there were 1,071 mental-health related inpatient separations for South West residents (across designated mental health wards and general wards), with an average length of stay of 9.2 days. Over four-fifths (81%) of these separations occurred in a South West hospital (65% in Bunbury Hospital which has a designated mental health ward), with 15% in metropolitan hospitals and 4% in other WACHS regions.

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

	Within South West		To Metro		Other WACHS region		Total	
	separations	ALOS	separations	ALOS	separations	ALOS	separations	ALOS
Bunbury	351	9.6	46	14.2	8	1.5	405	10.0
Busselton	168	10.3	65	9.9	8	12.4	241	10.3
Leeuwin	50	5.2	8	11.0	0	0.0	58	6.0
Warren	52	10.1	7	4.4	16	1.7	75	7.8
Blackwood	46	4.9	7	10.4	5	4.0	58	5.5
Wellington	64	7.9	8	8.6	4	4.3	76	7.8
Leschenault	136	9.6	22	8.9	N/A	N/A	158	9.5
South West	867	9.1	163	10.8	41	4.3	1071	9.2

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 – South West

- Between 2014-2018 there were 5,693 deaths of South West residents, with 57% of these deaths being due to Neoplasms or Circulatory diseases. These were the leading two causes of death across all Districts.
- Deaths by external causes of mortality (including transport accidents, intentional self-harm and falls) were highest compared to the State rate for Wellington residents (1.66 times the State rate), Leeuwin (SRR = 1.27) and Bunbury (SRR = 1.22).

		1st	2nd	3rd	4th	5th	Total
Bunbury	Condition	Neoplasms	Circulatory diseases	Nervous system diseases	Respiratory diseases	External causes of mortality	
	No.	478	416	172	150	149	1,595
	SRR	1.06	1.05	1.09	0.98	1.22	1.04
Leschenault	Condition	Neoplasms	Circulatory diseases	External causes of mortality	Respiratory diseases	Nervous system diseases	
	No.	200	139	59	44	42	565
	SRR	0.96	0.89	1.02	0.72	0.7	0.87
Busselton	Condition	Neoplasms	Circulatory diseases	Nervous system diseases	Respiratory diseases	External causes of mortality	
	No.	410	384	169	142	112	1,399
	SRR	1.03	1.1	1.21	1.04	1.15	1.04
Leeuwin	Condition	Neoplasms	Circulatory diseases	External causes of mortality	Respiratory diseases	Nervous system diseases	
	No.	116	110	44	31	21	376
	SRR	0.94	1.06	1.27	0.78	0.52	0.91
Blackwood	Condition	Neoplasms	Circulatory diseases	Respiratory diseases	External causes of mortality	Nervous system diseases	
	No.	91	90	27	19	17	285
	SRR	0.96	1.25	0.95	0.97	0.61	0.98
Warren	Condition	Circulatory diseases	Neoplasms	Respiratory diseases	External causes of mortality	Nervous system diseases	
	No.	115	104	37	28	26	379
	SRR	1.32	1.02	1.09	1.16	0.75	1.12
Wellington	Condition	Neoplasms	Circulatory diseases	External causes of mortality	Respiratory diseases	Nervous system diseases	
	No.	185	151	61	52	33	574
	SRR	1.22	1.21	1.66	1.07	0.68	1.16

Source: HealthTracks, DoH

Maternal and child health status

Births

- For 2019, the Leschenault district had the highest the age-specific birth rate (68.5 births per 1,000 women aged 15–44 years) Warren district had the lowest (54.6 births per 1,000 women). All district rates were similar to or lower than the WACHS and WA averages.
- Blackwood district residents had a considerably higher proportion of teenage births (7.4%) compared with the other districts and the South West (3.3%), WACHS (5.1%) and State averages (2.1%). Leeuwin district had the lowest proportion of teenage births (0.5%).
- Leeuwin district had the highest proportion of births to women aged 35 years and over (32.6%), followed by Busselton (25.1%), compared with an overall South West average of 20%, a WACHS average of 15.2% and a WA average of 24.3%.

Maternity key indicators, South West, 2019

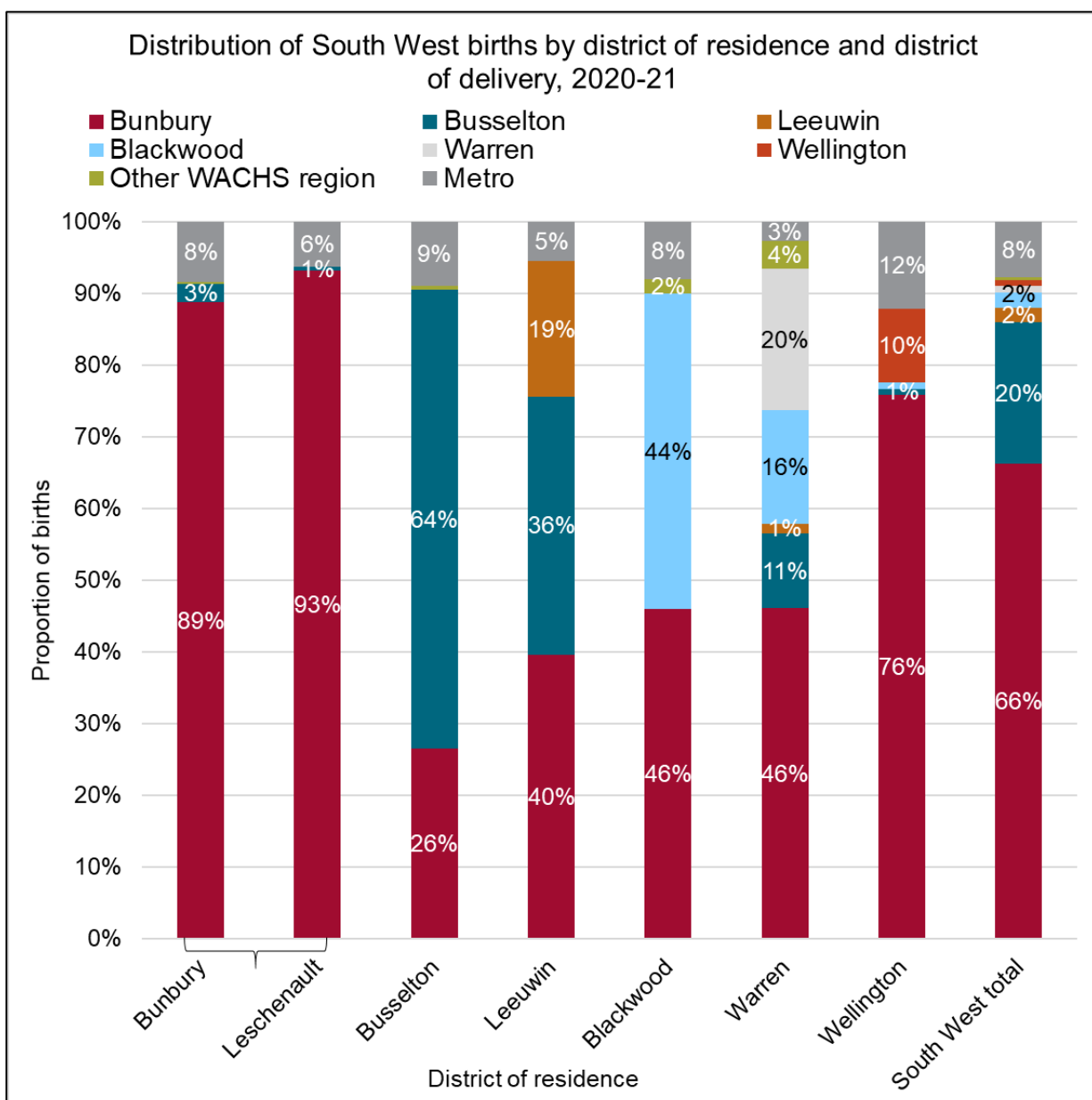
District	Age-specific birth rate*	Teenage births (%)	Births in women aged 35 years+ (%)
Bunbury	65.2	4.9	17.1
Leschenault	68.5	3	17.8
Busselton	57.5	2.3	25.1
Leeuwin	61.9	0.5	32.6
Blackwood	68	7.4	16.2
Warren	54.6	3.9	18.4
Wellington	61.4	2.1	16.4
South West	63.4	3.3	20.2
WAHS	72.2	5.1	15.2
WA average	62.4	2.1	24.3

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

Source: Department of Health, Health Tracks

Births by area of delivery

- Of the 1,616 public births by South West residents in 2020-21, 66% occurred at Bunbury Hospital (including public contracted activity at St John of God Bunbury), with the highest proportion being for residents of the Bunbury and Leschenault districts (89 and 93% respectively), and the lowest proportion by Busselton residents (26%).
- Of the other districts, Busselton district residents had the highest proportion of births at a hospital in their own district (64% at Busselton), followed by Blackwood district (44% at Bridgetown).
- Across the South West public births, 8% occurred in Perth metropolitan hospitals, with the highest proportion for Wellington residents (12%) and the lowest for Warren residents (3%).



Note: Leschenault is not included in the legend as there were no births at Harvey Hospital. Data for Leschenault includes Dardanup residents. Source: Midwives Notification System, DoH

Numbers of births in South West hospitals

Numbers of Births in South West by Hospital, 2020-21.	Number
Bridgetown	35
Bunbury	1086
Busselton	330
Collie	12
Margaret River	32
Warren Manjimup	15
South West	1510

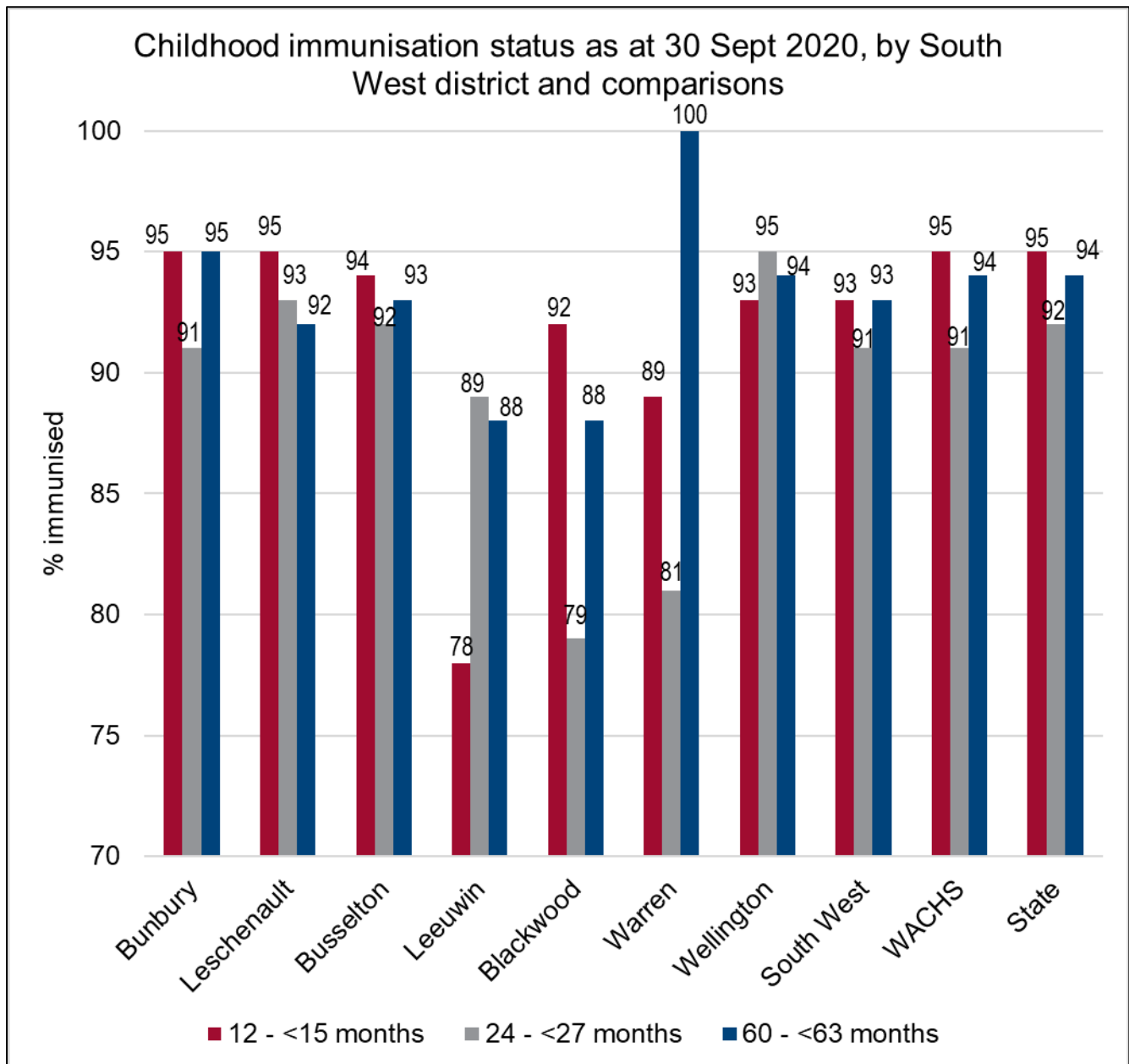
Includes births by non-residents. Bunbury includes publicly funded activity at SJOG Bunbury.

Source: Midwives Notification System, DoH

Childhood Immunisation

- In 2020, the South West region had 93% of children immunised at five years of age which is slightly lower than the WACHS and State averages (both 94%).
- Warren district had the highest proportion of its children immunised at five years of age (100%), however this was an increase from 81% at 2 years of age. Leeuwin and Blackwood residents had the lowest proportion of their children immunised at 5 years of age (both 88%).

South West and comparisons childhood immunisation 2020



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.

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Australian Early Childhood Development Census (AEDC)

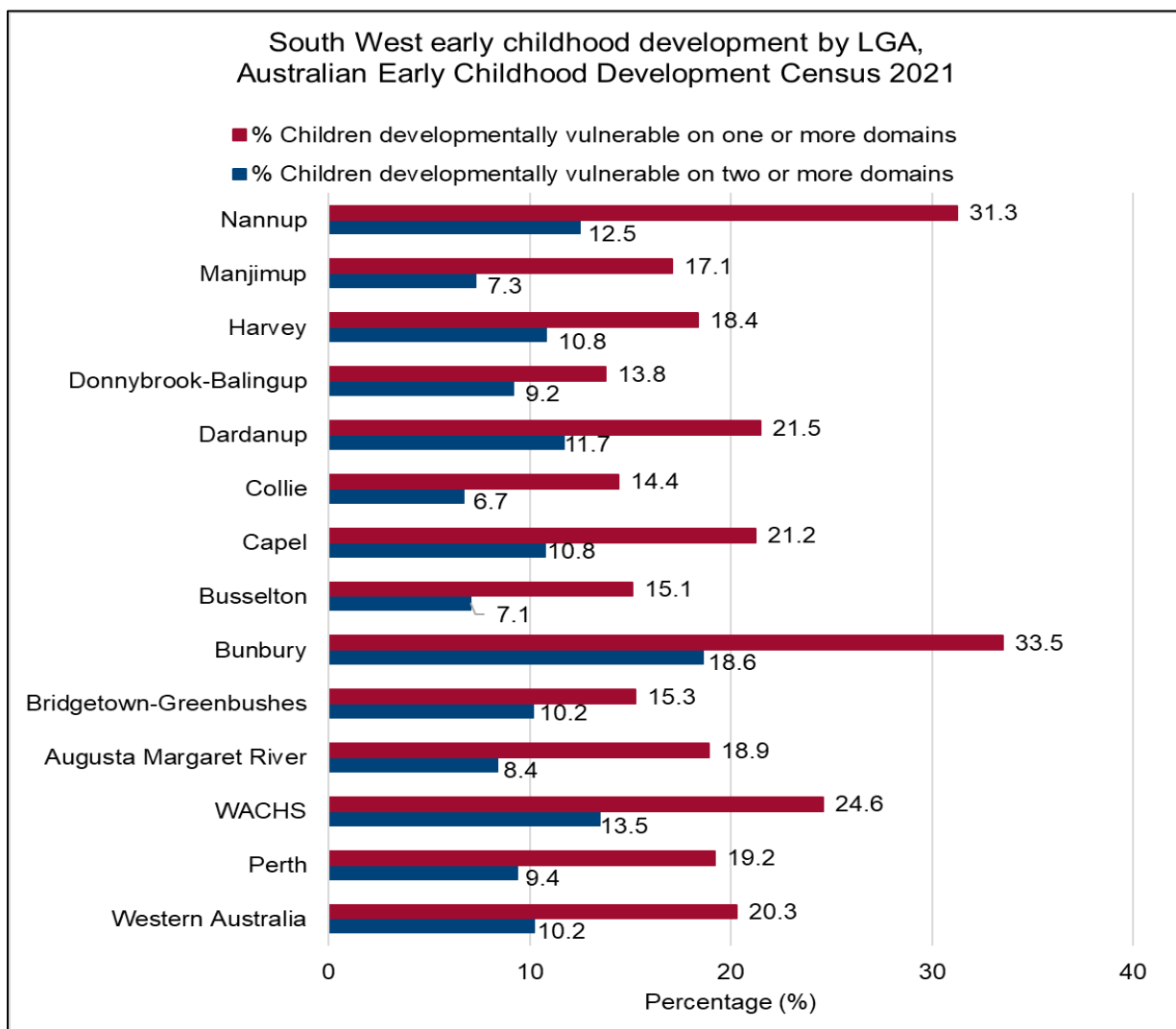
The AEDC uses the early development instrument tool to measure how young children have developed as they start their first year of full-time school.

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.

- In 2021, amongst the LGAs in the South West, the proportion of children rated as developmentally vulnerable on one or more domains of the AEDC was highest in Bunbury (33.5%), and Nannup (31.3%), with the lowest proportion developmentally vulnerable being in Donnybrook-Balingup (13.8%) and Collie (14.4%).



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/>)

Acknowledgements

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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.