



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

## Our Vision

To be a global leader in rural and  
remote healthcare



# Goldfields

## Health Profile 2022



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

Goldfields Health Profile – Preliminary version endorsed October 2022

## Goldfields Health Profile 2022

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

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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 centre 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 of different communities are 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.

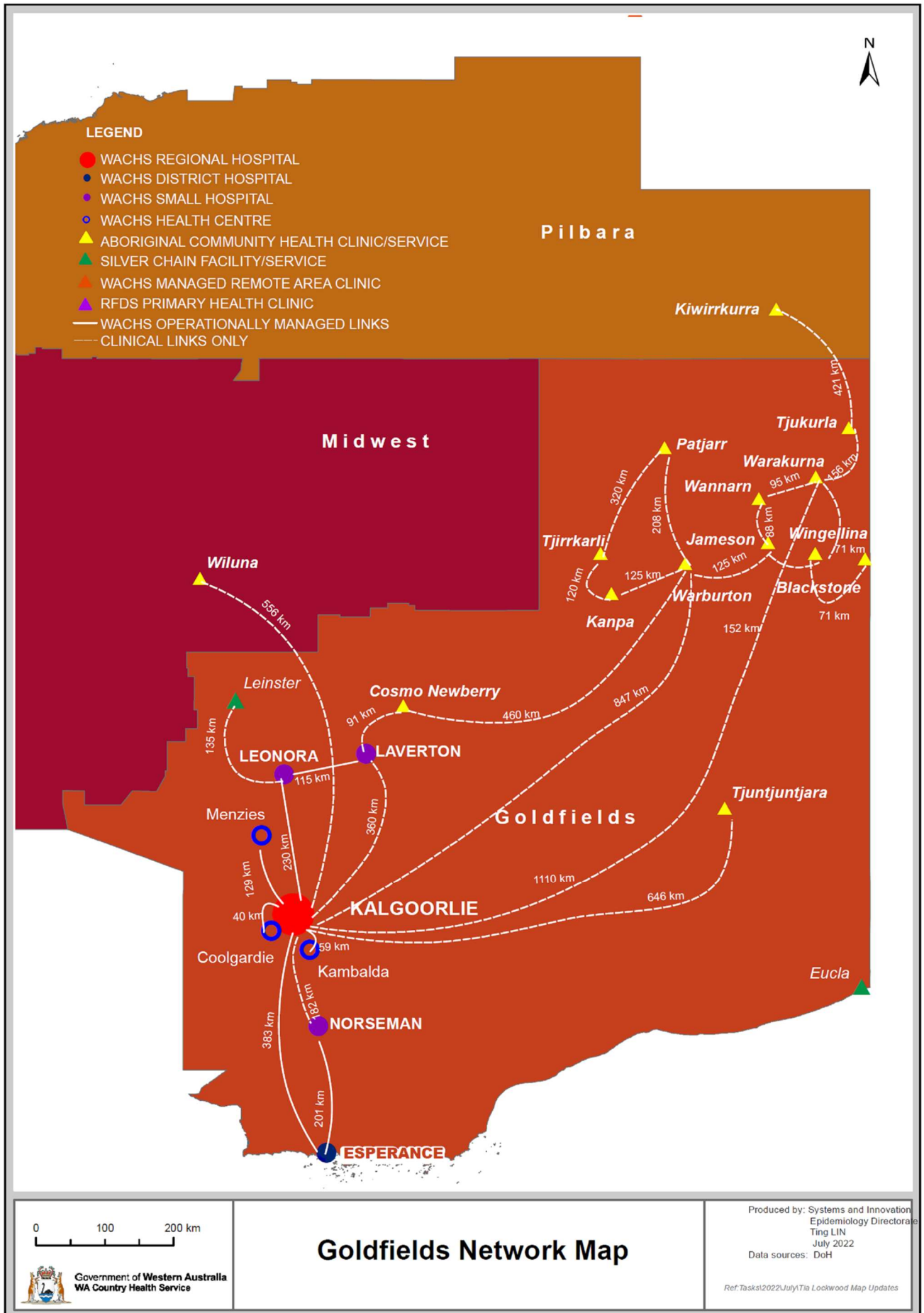
The purpose of this document is to provide an overview of the population, geography, health risk factors and health activity of the Goldfields region and its Health Districts and identify some of the key health issues and needs of its population. The profile aims to provide a guide to inform health service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



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## Goldfields Region and regional links



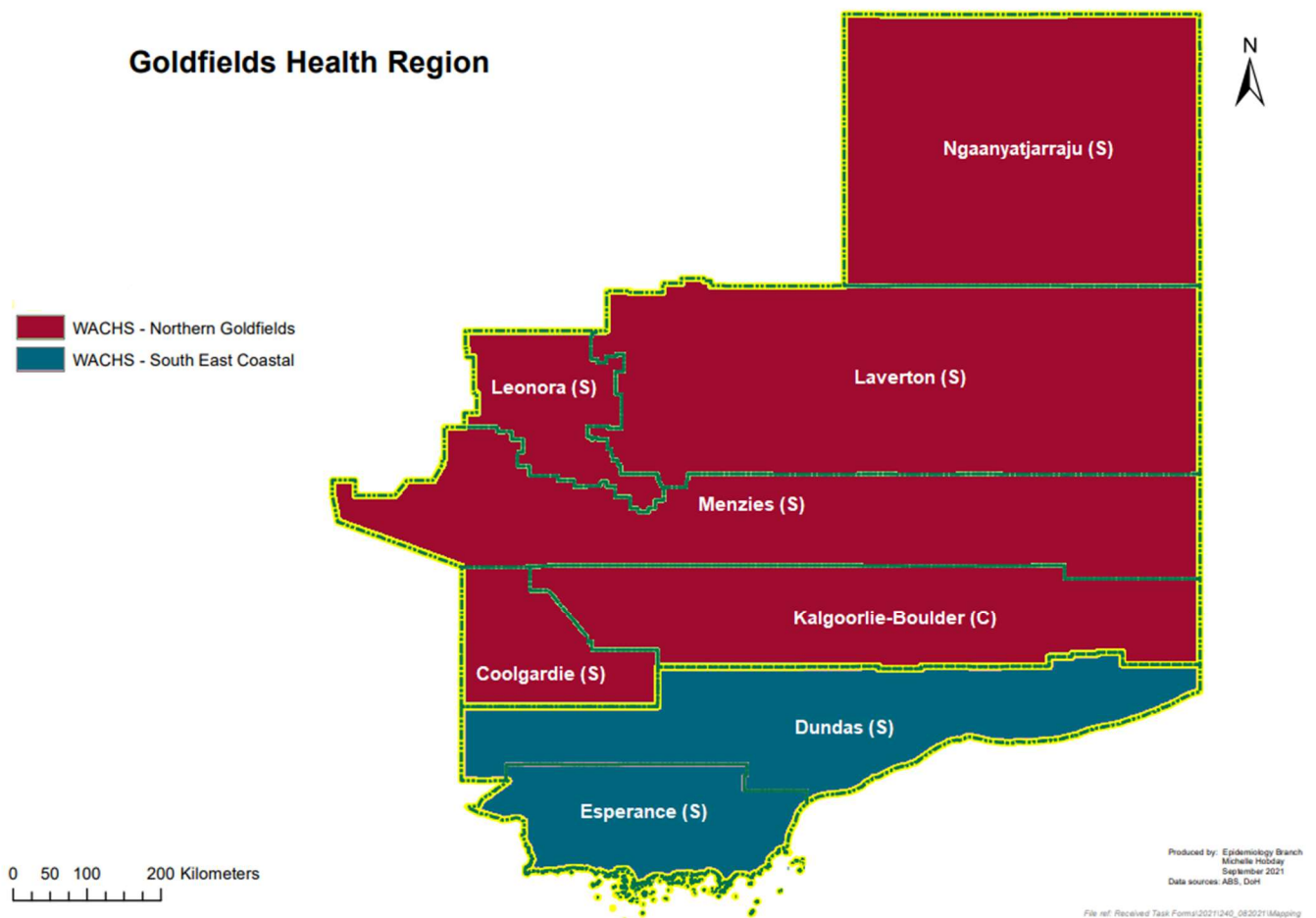
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## Geography and services

- There are two health districts in the Goldfields services, these are the Northern Goldfields and the South East. Health data is organised into these two geographic districts which are built from eight Local Government Areas (LGAs).
- The Goldfields contains one Regional Hospital in Kalgoorlie and one District Hospital in Esperance, three Small Hospitals in Laverton, Leonora and Norseman and three Nursing Posts/Health Centres. Mental Health services and Population Health Services are also provided across the region.

### Goldfields Health Districts



## WA Country Health Service facilities in the Goldfields

Health district	Local Government Area (S) = Shire, (C) = City	Hospitals and Health Centres
<b>Northern Goldfields</b>	Coolgardie (S)	<ul style="list-style-type: none"> <li>Coolgardie Health Centre</li> <li>Kambalda Health Centre</li> </ul>
	Kalgoorlie/Boulder (C)	<ul style="list-style-type: none"> <li>Kalgoorlie Health Campus</li> <li>Kalgoorlie Population Health Centre</li> <li>Boulder Population Health Centre</li> <li>Kalgoorlie Renal Hostel</li> <li>Kalgoorlie Child Development Centre</li> </ul>
	Laverton (S)	<ul style="list-style-type: none"> <li>Laverton Hospital</li> <li>Laverton Community Health Centre</li> </ul>
	Leonora (S)	<ul style="list-style-type: none"> <li>Leonora Hospital</li> <li>Leonora Community Health Centre</li> </ul>
	Menzies (S)	<ul style="list-style-type: none"> <li>Menzies Health Centre</li> </ul>
	Ngaanyatjarraku (S)	<ul style="list-style-type: none"> <li>Warburton Health Centre (managed by AMS/ACHS)</li> </ul>
<b>South East Coastal</b>	Dundas (S)	<ul style="list-style-type: none"> <li>Norseman Hospital</li> <li>Norseman Community Health Centre</li> <li>Eucla Health Centre (managed by Silver Chain)</li> </ul>
	Esperance (S)	<ul style="list-style-type: none"> <li>Esperance Health Campus</li> <li>Esperance Population Health Centre</li> </ul>

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

Health district	Hospital	Emergency Department presentations	Inpatient separations	Outpatient service events**
<b>Northern Goldfields</b>	Coolgardie Health Centre	138	N/A	N/A
	Kalgoorlie Hospital	26,822	13,824	87,525
	Kambalda Health Centre	130	N/A	N/A
	Laverton Hospital	1,604	30	1,446
	Leonora Hospital	2,075	60	1,266
	Menzies Health Centre	29	N/A	N/A
<b>South East Coastal</b>	Esperance Hospital	11,869	2,595	35,123
	Norseman Hospital	1732	25	1770
<b>Goldfields Total</b>		<b>44,399</b>	<b>16,534</b>	<b>127,130</b>

Sources: WACHS Emergency Department Collection, WACHS Inpatient Collection (excludes boarders and unqualified newborns), WACHS Outpatient Appointment Collection (excludes Did Not Attend and Non-Client events). \*Includes activity by both Goldfields and non-Goldfields residents. \*\*Does not include community health service events.



### Goldfields Hospital bed Numbers

Health district	Hospital	Bed Numbers
Northern Goldfields	Kalgoorlie Hospital	116
	Laverton Hospital	8
	Leonora Hospital	8
South East Coastal	Esperance Hospital	30
	Norseman Hospital	8
Goldfields Total		170

Includes neonatal special care and paediatric cots

### 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.



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## Population

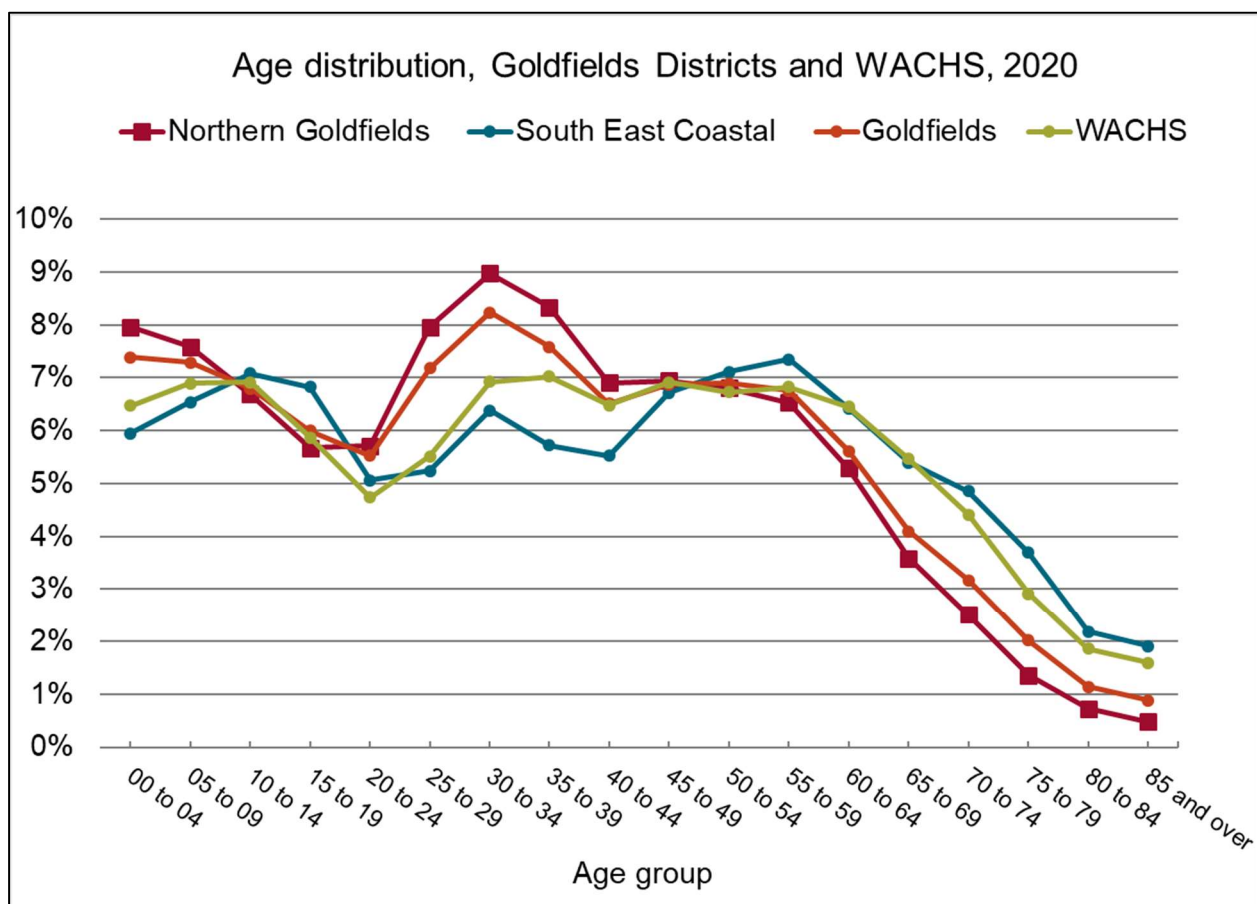
- At 30 June 2020, the Estimated Resident Population of the Goldfields was 52,348.
- Across the whole Goldfields region, 13% of the population identified as Aboriginal, slightly higher than the overall WACHS average of 11% and above the WA State average of 3%.
- The percentage of Aboriginal people varied significantly between the various LGA areas from only 6% in Esperance through to 90% of the population in the Ngaanyatjaraku shire.
- Updated populations from the 2021 Census, which will aid with rebasing population projections, are expected to be released between mid-2022 and early 2023.

Health district	LGA	Aboriginal	Non Aboriginal	Total	% Aboriginal
Northern Goldfields	Coolgardie (S)	469	2879	3348	14%
	Kalgoorlie/Boulder (C)	2,867	26,188	29,055	10%
	Laverton (S)	397	818	1215	33%
	Leonora (S)	342	1206	1548	22%
	Menzies (S)	287	238	525	55%
	Ngaanyatjaraku (S)	1,583	185	1,768	90%
<b>Northern Goldfields Total</b>		<b>5,945</b>	<b>31,514</b>	<b>37,459</b>	<b>16%</b>
South East Coastal	Dundas (S)	94	617	711	13%
	Esperance (S)	793	13385	14178	6%
<b>South East Coastal</b>		<b>887</b>	<b>14002</b>	<b>10849</b>	<b>6%</b>
<b>Goldfields Total</b>		<b>6,832</b>	<b>45,516</b>	<b>52,348</b>	<b>13%</b>

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

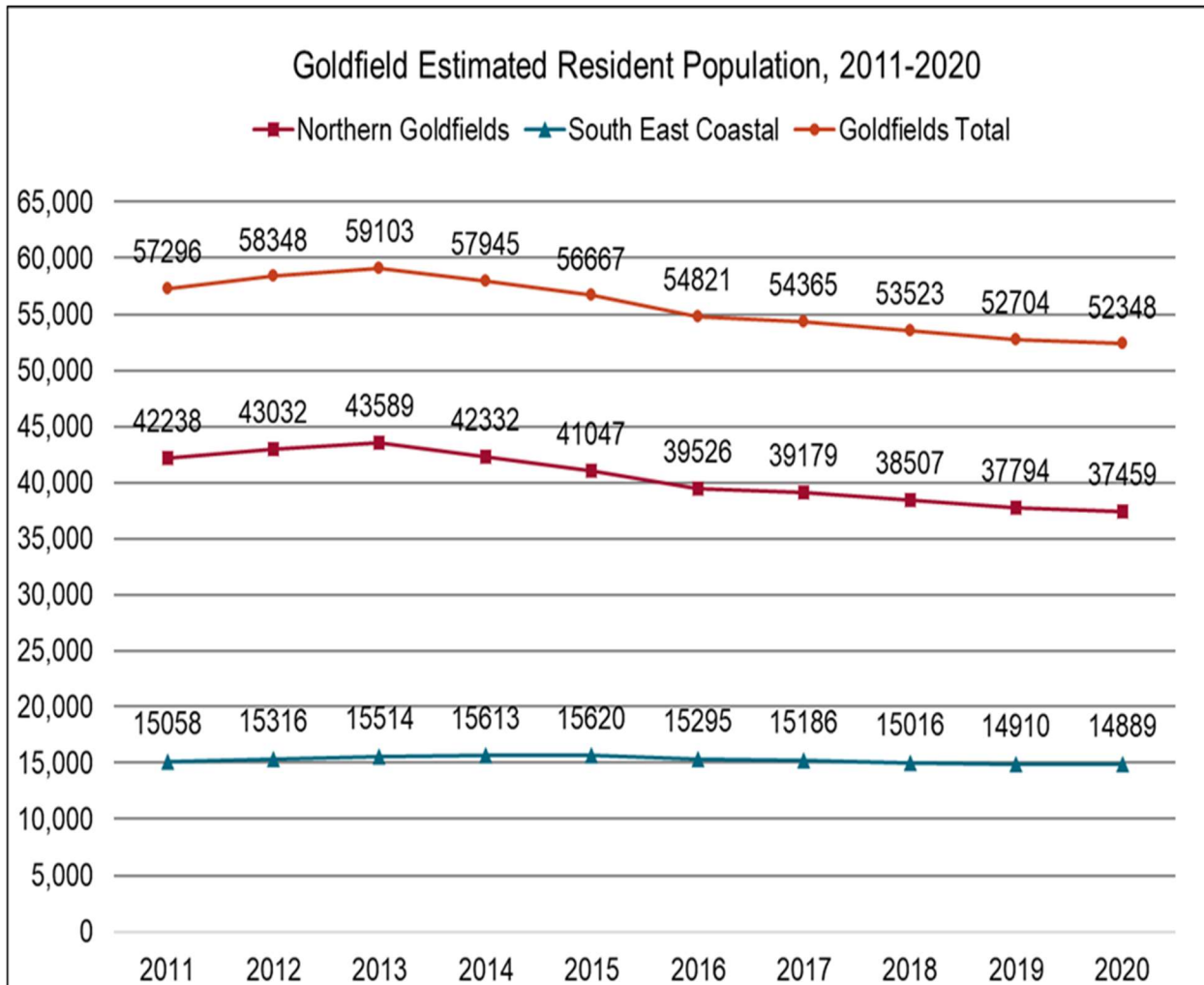
- In 2020, the Goldfields had a slightly younger age profile than overall WACHS. The population aged under 15 years of age was similar, 21% compared to 20% for WACHS. The population aged 20-44 was much higher in the Northern Goldfields (38%) than South East Coastal district (28%) and compared with a WACHS average of 31%.
- In contrast, the South East Coastal district has a much higher proportion of its population aged 65 years and over (18%) than the Northern Goldfields (9%), resulting in a Goldfields average of 11%, lower than the WACHS average of 16%.
- This pattern is influenced by both the Aboriginal population and the working population associated with the mining industry.



Source: ABS Estimated Resident Population, 2020

## Historical population growth

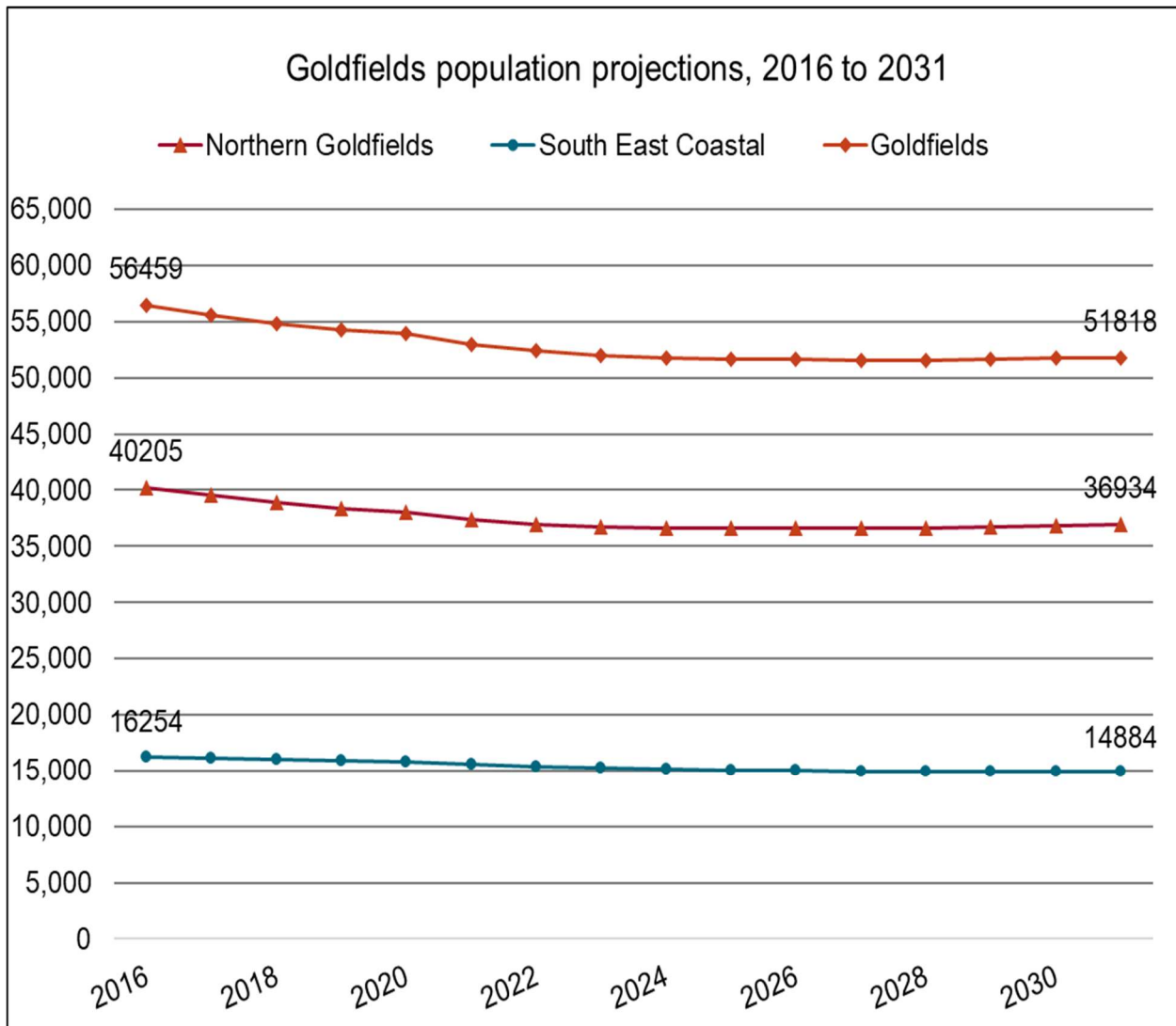
- Between 2011 and 2020, the population of the Goldfields decreased (from 57,296 to 52,348). Population in the region peaked at 59,103 in 2013. Most of the change was in the Northern Goldfields, which is more impacted by the changes in the fly-in, fly-out population but may not be evidenced in the resident population figures.



Source: ABS Estimated Resident Population, 2020.

## Projected population growth

- Between 2016 and 2031, the population of the Goldfields is estimated to decrease by 8% to 51,818.
- The decrease in population is similar in both health districts. Estimates can be impacted by changes in the fly-in, fly-out workforce.
- 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 Goldfields demographic, social and economic facts

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
Northern Goldfields	22%	14.4%	9%	11%	3.3%	6.6%
South East Coastal	12.8%	3.5%	9.1%	9.3%	3.4%	4.7%
Goldfields Health Region	19.4%	11.3%	9%	10.5%	3.3%	6.1%
Metro	36.1%	20.1%	6.8%	22.5%	3.5%	8.1%
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%

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

Note: Households in the Northern Goldfields are commonly large consisting of multi-family and multi-generational structures which may impact on this data.

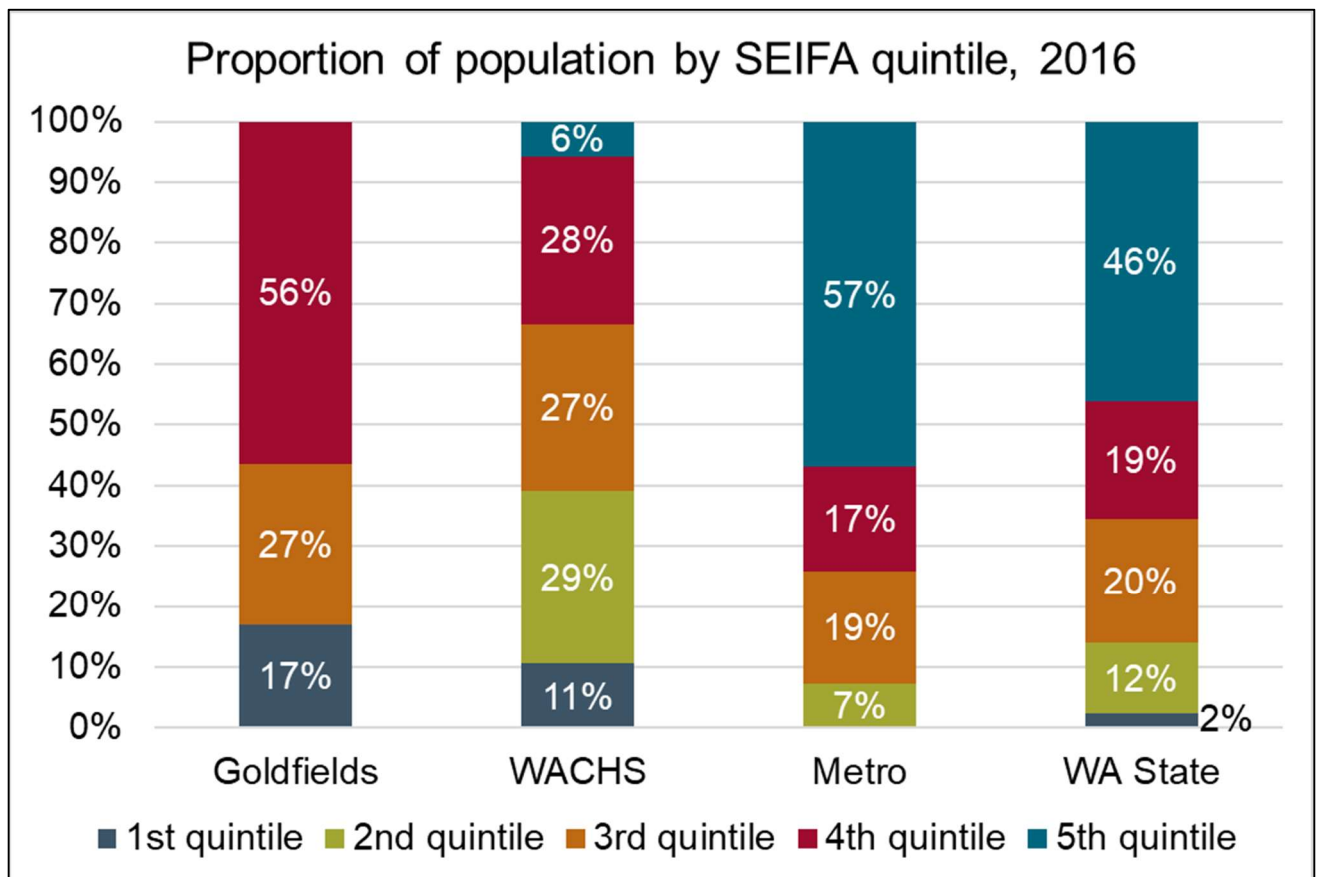


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- *Socio-Economic Indexes for Areas (SEIFA) is an ABS product that ranks areas in Australia according to relative socio-economic advantage and disadvantage. The indexes are based on information from the five-yearly Census of Population and Housing.*
- *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 Goldfields had 17% of its population living in areas with a SEIFA score in the lowest quintile, with the highest relative disadvantage, compared with 11% for WACHS overall and 2% for the WA State average, and significantly no areas of relative advantage. The LGAs of Ngaanyatjaraku, Laverton, Menzies, Dundas, Coolgardie and Leonora were all in the lowest quintile (the highest relative disadvantage), while Esperance was in the third quintile and Kalgoorlie/Boulder was in the 4<sup>th</sup> quintile.



*\*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 Goldfields, 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. Access to these services can be limited in both the availability of local and visiting providers including private, non-government and government delivered services.

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 Goldfields, cardiovascular disease is the leading cause of burden of disease (16.8% of total burden) followed by cancer (15.8%), mental health issues (15.4%), injury (including suicide, self-inflicted and motor vehicle occupant injuries) (13.1%) and musculoskeletal diseases (9.4%).

Coronary heart disease (7% of disability adjusted life years), depressive disorders (6.6%) and back pain/problems (6%) are the highest burdens for Goldfields women; whereas coronary heart disease (13.8%), suicide and self-inflicted injuries (5.1%) and COPD (4.9%) are highest for Goldfields men.

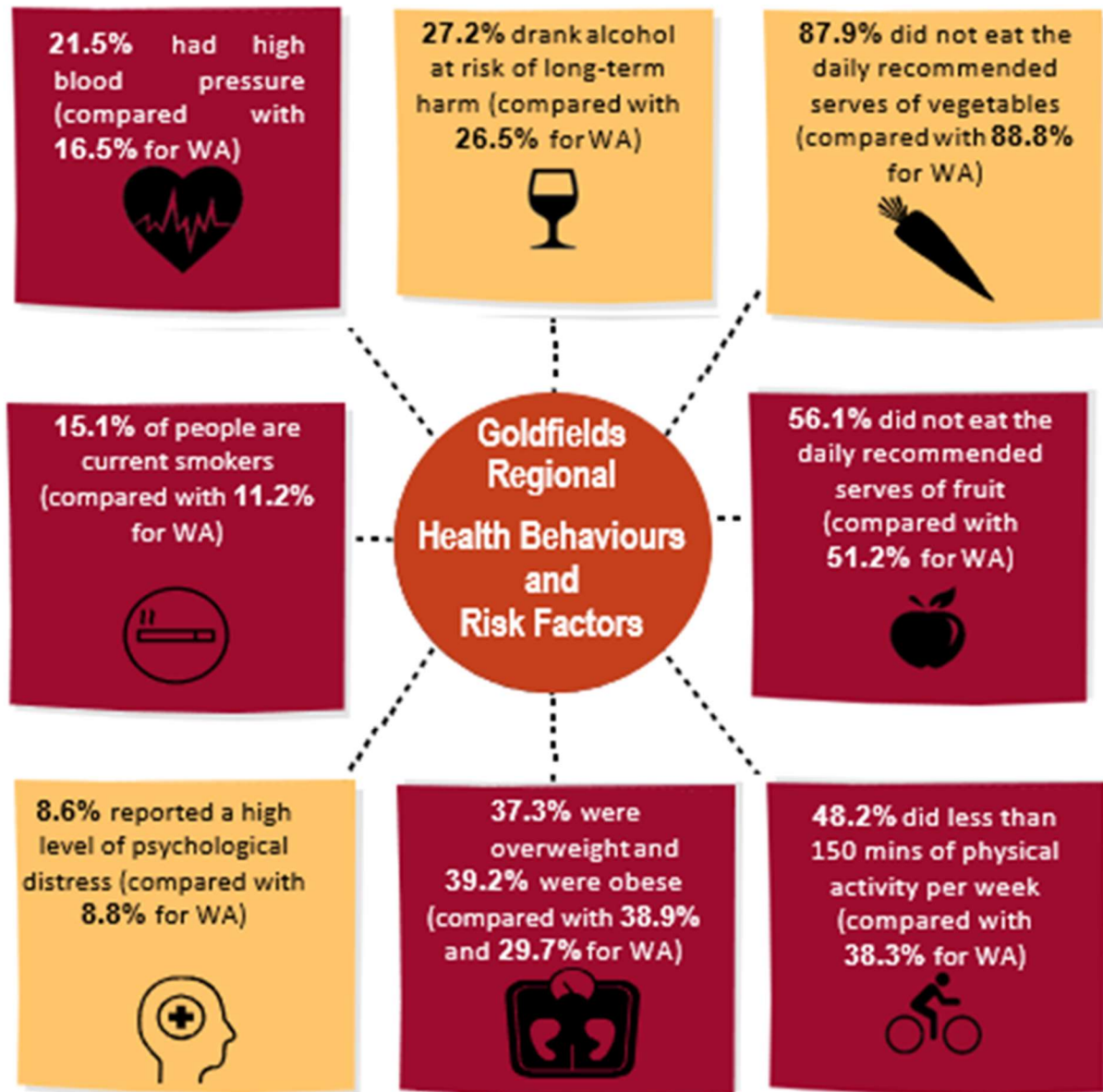
For Goldfields residents aged 15-24, the largest burdens of disease were from injury (including suicide, self-inflicted and motor vehicle occupant injuries) and alcohol use disorders, while for those aged 45 years and over the largest burden was from coronary heart disease, COPD, lung cancer and dementia.

The below report provides further details on breakdowns for the Goldfields 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>

## Goldfields health risk factors

The graphic below highlights the prevalence of key health risk factors in the Goldfields. 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

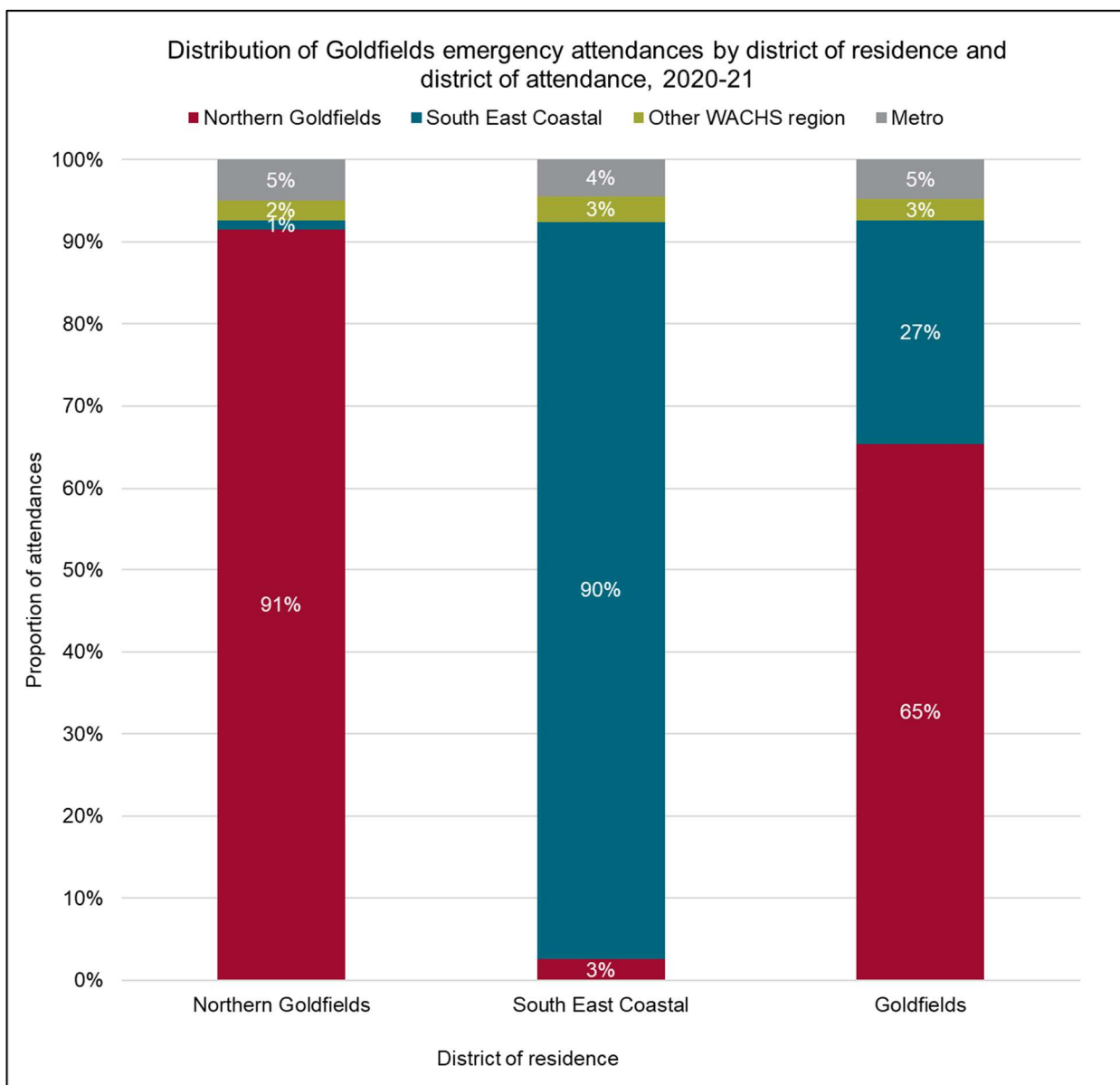
Note: Colour coding reflects where a District rate is significantly different (red higher, green lower, amber similar) than the State rate. The State rate may still be at a level of concern



## Emergency Department

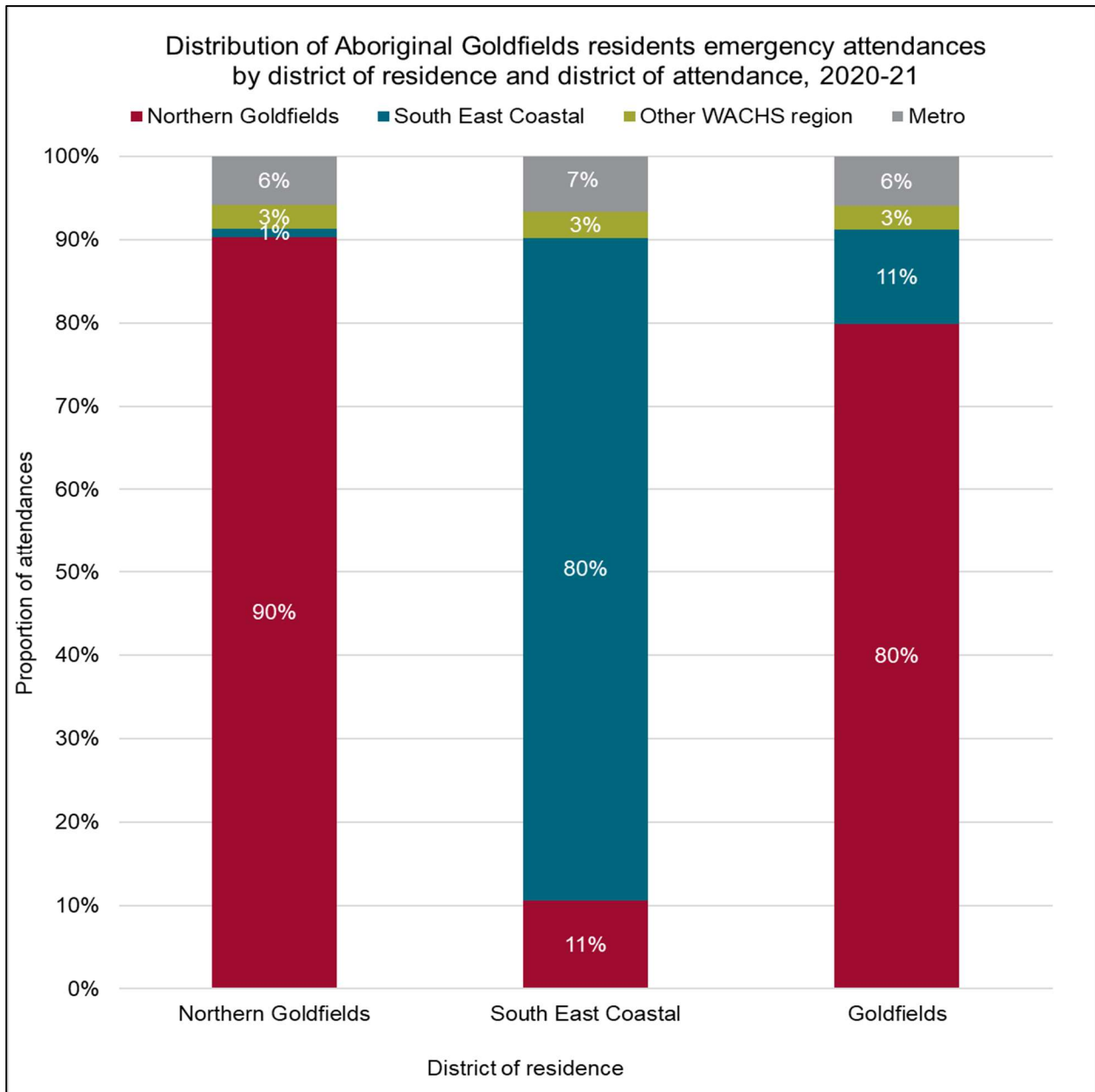
### Goldfields summary

- Of the 41,044 emergency presentations by Goldfields residents in 2020-21, 92% occurred at Goldfields hospitals, 3% in other WACHS regions and 5% at Perth metropolitan hospitals. The Aboriginal population was over-represented in presentations to ED, with Aboriginal residents comprising 32% of ED presentations by Northern Goldfields residents, 12% of South East Coastal residents, and 26% for Goldfields residents overall.
- Within each health district, most residents' emergency presentations occurred at a hospital in their own district (26,515 attendances or 91%) in Northern Goldfields and (10,826 attendances or 90%) for South East Coastal.



Source: Emergency Department Data Collection, DoH

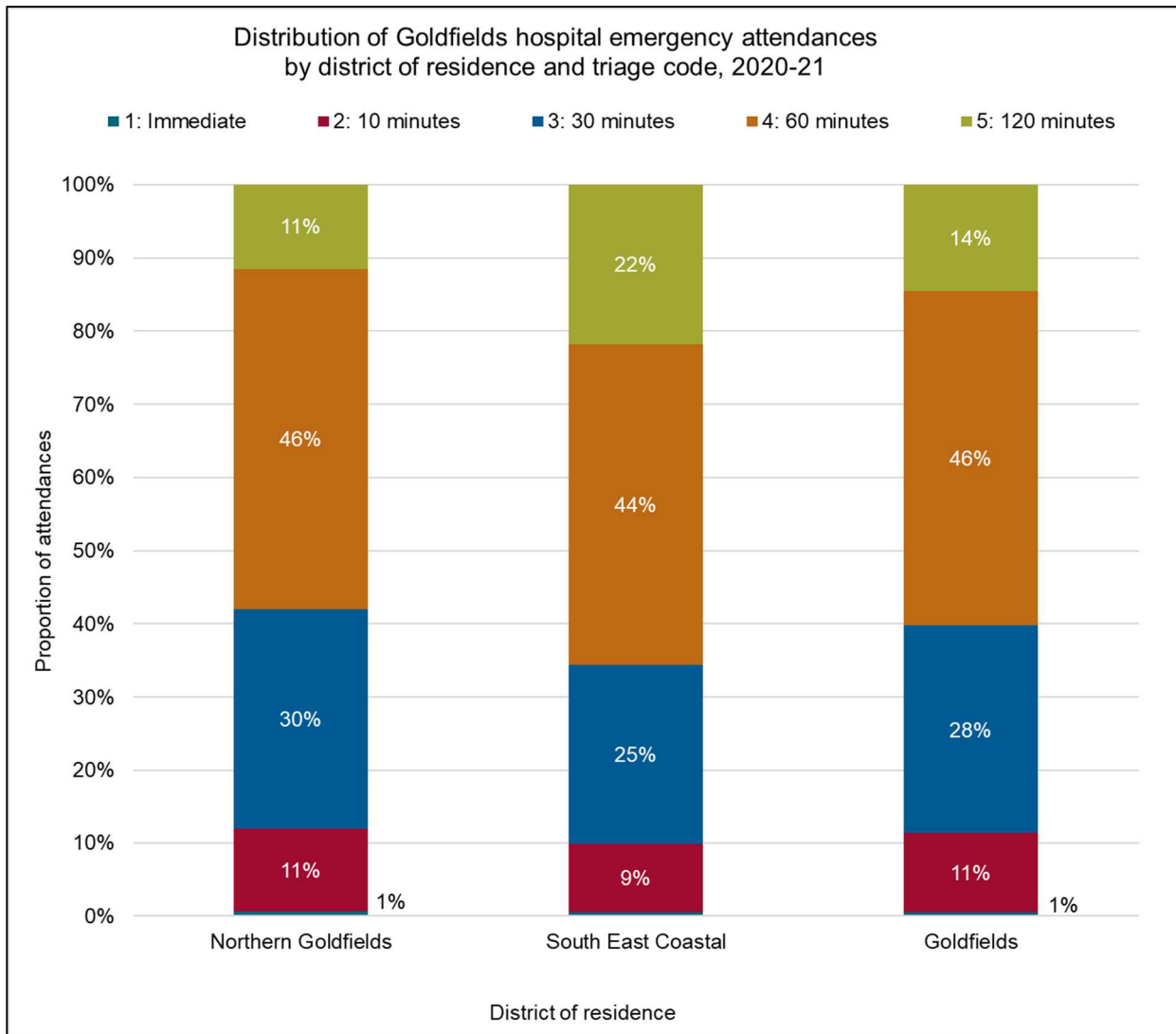
- For Aboriginal Goldfields residents, of their 10,684 presentations in 2020-21, 91% attended a Goldfields hospital, 3% in other WACHS regions and 6% at Perth metropolitan hospitals.
- Similar to the overall Goldfields population, the Aboriginal population were most likely to have an emergency presentation at a hospital in their own district (8,390 attendances or 90%) in the Northern Goldfields and (1,110 attendances or 80%) in South East Coastal.



Source: Emergency Department Data Collection, DoH

## Emergency attendances for Goldfields residents, by triage, 2020-21

- The triage profile of emergency attendances by Goldfields residents in 2020-21 was similar across both districts, although 57% of attendances in Northern Goldfields were triage level 4 or 5 and 66% of attendances in South East Coastal were triage level 4 or 5.
- Attendances with a triage of 3 made up one in three attendances in Northern Goldfields and one in four in South East Coastal.
- On average, 11% of attendances to Goldfields hospitals were triaged as level 1 or 2.



Source: Emergency Department Data Collection, DoH

## Emergency attendances for Goldfields residents attending Goldfields hospitals, key characteristics, 2020-21

- For Goldfields residents who had an emergency presentation in their region in 2020-21 (36,068 attendances), 1% were provided by the Emergency Telehealth Service (ETS).
- Of all Goldfields emergency attendances by Goldfields residents in 2020-21, 66% occurred between the hours of 8am and 5pm, 17% were between 5pm and 9pm, and 17% were between 9pm and 8am.
- Of the Goldfields emergency attendances by Goldfields residents in 2020-21, 79% (28,331) were discharged home, 12% (4,191) were admitted to that hospital, 6% did not wait (2,334) and 2% (816) were transferred to another hospital.
- The Major Diagnostic Categories (MDCs) that made up the largest proportion of Goldfields emergency attendances by Goldfields residents in 2020-21 were Factors influencing health status and other contacts with health services (15%) and Diseases and disorders of the musculoskeletal system and connective tissue (13%). The most common MDCs that led to a transfer to a metropolitan hospital were Diseases and disorder of the circulatory system (19% of metro transfers) and Diseases and disorders of the digestive system (13% of metro transfers).

### Top 5 Major Diagnostic Categories for Goldfields residents attending Goldfields hospital emergency presentations, 2020-21

Major Diagnostic Category	Attendances	% of total
Factors influencing health status and other contacts with health services	5,474	15%
Diseases and disorders of the musculoskeletal system and connective tissue	4,783	13%
Injuries, poisonings and toxic effects of drugs	3,338	9%
Diseases and disorders of the skin, subcutaneous tissue and breast	3,135	9%
Diseases and disorders of the ear, nose, mouth and throat	3,113	9%

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

Major Diagnostic Category	Attendances	% of metro transfers
Diseases and disorders of the circulatory system	59	19%
Diseases and disorders of the digestive system	39	16%
Diseases and disorders of the nervous system	37	14%
Diseases and disorders of the musculoskeletal system and connective tissue	35	10%
Injuries, poisonings and toxic effects of drugs	30	10%

*\*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.*

*Emergency Department Collection, WACHS Business Intelligence*

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## Emergency attendances for Goldfields residents attending Goldfields hospitals, key characteristics by Aboriginality, 2020-21

- The Major Diagnostic Categories (MDCs) that made up the largest proportion of Aboriginal emergency attendances by Aboriginal Goldfields residents in 2020-21 were Factors influencing health status and other contacts with health services (14%) and Diseases and disorders of the skin, subcutaneous tissue and breast (10%). 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 musculoskeletal system and connective tissue (15%).

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

Major Diagnostic Category	Attendances	% of total
Factors influencing health status and other contacts with health services	1,243	14%
Diseases and disorders of the skin, subcutaneous tissue and breast	898	10%
Injuries, poisonings and toxic effects of drugs	851	9%
Diseases and disorders of the musculoskeletal system and connective tissue	834	9%
Diseases and disorders of the ear, nose, mouth and throat	733	8%

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

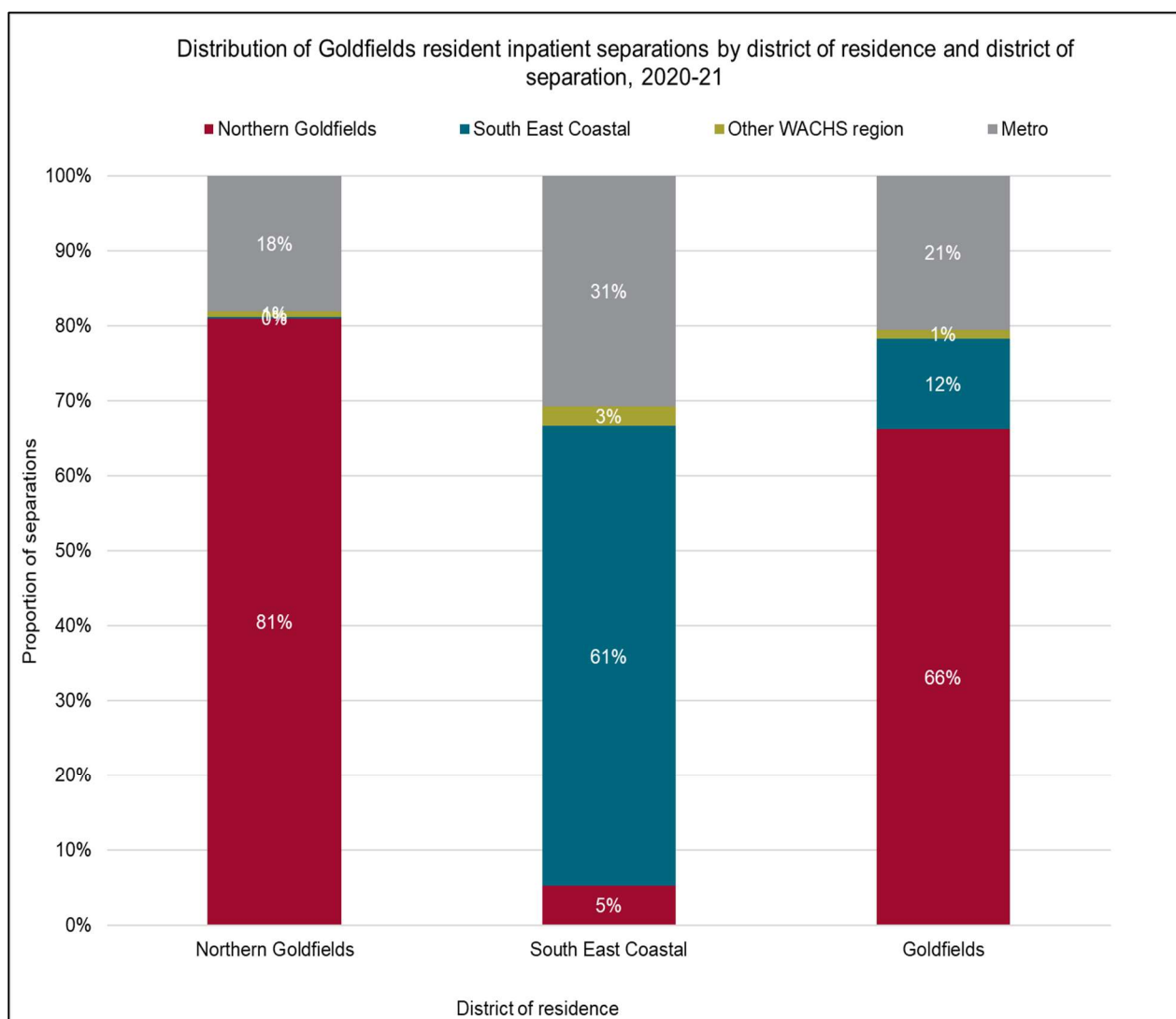
Major Diagnostic Category	Attendances	% of total
Factors influencing health status and other contacts with health services	4,182	16%
Diseases and disorders of the musculoskeletal system and connective tissue	3,919	15%
Injuries, poisonings and toxic effects of drugs	2,458	9%
Diseases and disorders of the ear, nose, mouth and throat	2,360	9%
Diseases and disorders of the digestive system	2,228	8%

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

## Hospitalisations

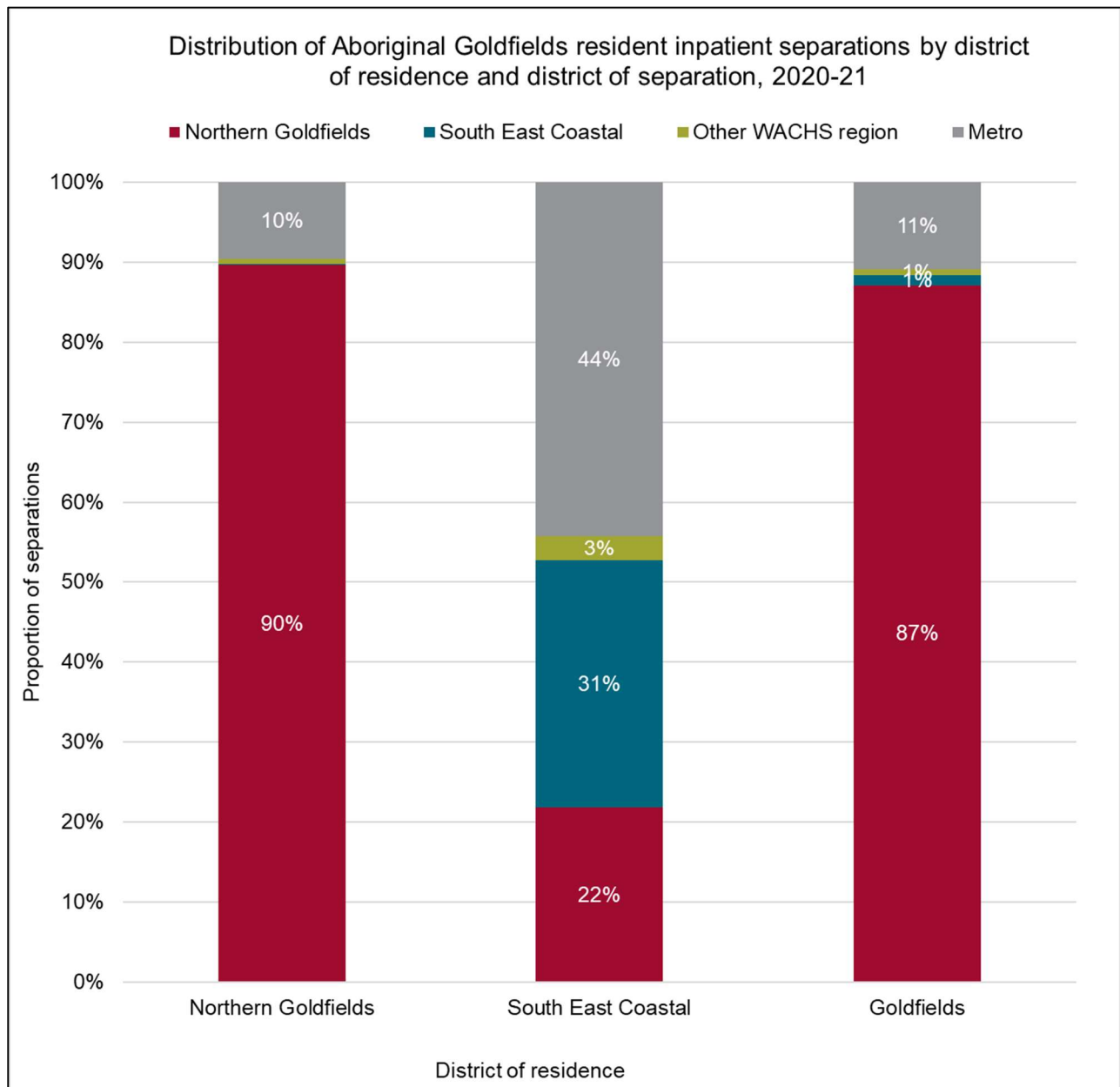
### Goldfields summary

- Of the 19,879 inpatient separations by Goldfields residents across WA in 2020-21, 78% occurred in Goldfields hospitals while 21% occurred in a Perth metropolitan hospital. The Aboriginal Goldfields population made up 43% of inpatient separations (51% for Northern Goldfields and 8% for South East Coastal residents).
- Residents of the Northern Goldfields had the highest proportion of separations occurring at a hospital in their own district (81%); residents of South East Coastal had fewer separations occurring at a hospital in their own district (61%) and a higher proportion of separations in a metropolitan hospital (31%).



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

- For Aboriginal residents, of their 8,463 inpatient separations in 2020-21, 87% attended a Goldfields hospital while 11% occurred in a Perth metropolitan hospital.
- Aboriginal residents from the South East Coastal had a much higher proportion of their inpatient separations occurring in a Perth metropolitan hospital (44%).



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

## Inpatient separations, key characteristics

- The most common Enhanced Service Related Group (ESRG) for the 19,879 hospital separations (across all hospitals) by Goldfields residents in 2020-21 was Renal Dialysis (6,309, 32% of separations).
- For Aboriginal residents, renal dialysis made up 66% of their 8,463 inpatient separations in 2020-21.

### Inpatient separations, Goldfields residents, by top ESRGs, 2020-21

Enhanced Service Related Group	Separations	% of all separations
042, Renal Dialysis	6,309	32%
031, Chemotherapy	1,124	6%
022, Colonoscopy	652	3%
114, Vaginal Delivery	470	2%
020, Other Gastroscopy	320	2%
053, Other Non Subspecialty Medicine	296	1%
079, Other Orthopaedics - Surgical	257	1%
117, Qualified Neonate	257	1%
045, Respiratory Infections/Inflammations	252	1%
028, Cellulitis	250	1%
029, Septicaemia, HIV, Viral and Other Infectious Diseases	243	1%
049, Other Respiratory Medicine	238	1%

### Inpatient separations, Aboriginal Goldfields residents, by top ESRGs, 2020-21

Enhanced Service Related Group	Separations	% of all separations
042, Renal Dialysis	5,611	66%
045, Respiratory Infections/Inflammations	120	1%
028, Cellulitis	119	1%
122, Drug & Alcohol	91	1%
098, Injuries - Non-surgical	90	1%
058, Disorders of Biliary Tract and Pancreas	86	1%
114, Vaginal Delivery	82	1%
096, Other Vascular Surgery Procedures	72	1%
049, Other Respiratory Medicine	69	1%
117, Qualified Neonate 016, Other Endocrinology	67	1%
113, Ante-natal Admission	66	1%
053, Other Non Subspecialty Medicine	65	1%

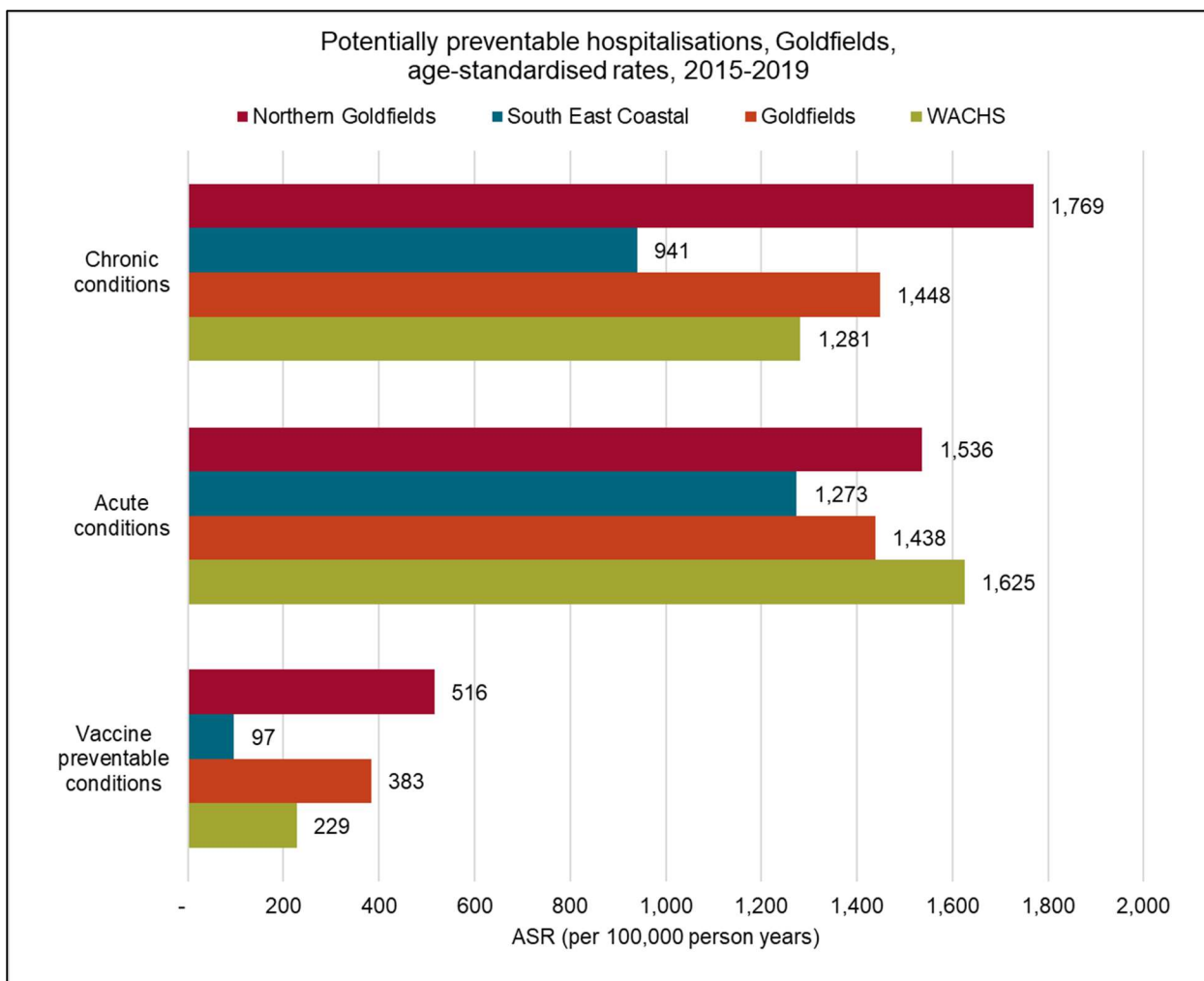
Source: Hospital Morbidity Data Collection, Department of Health.

\*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.



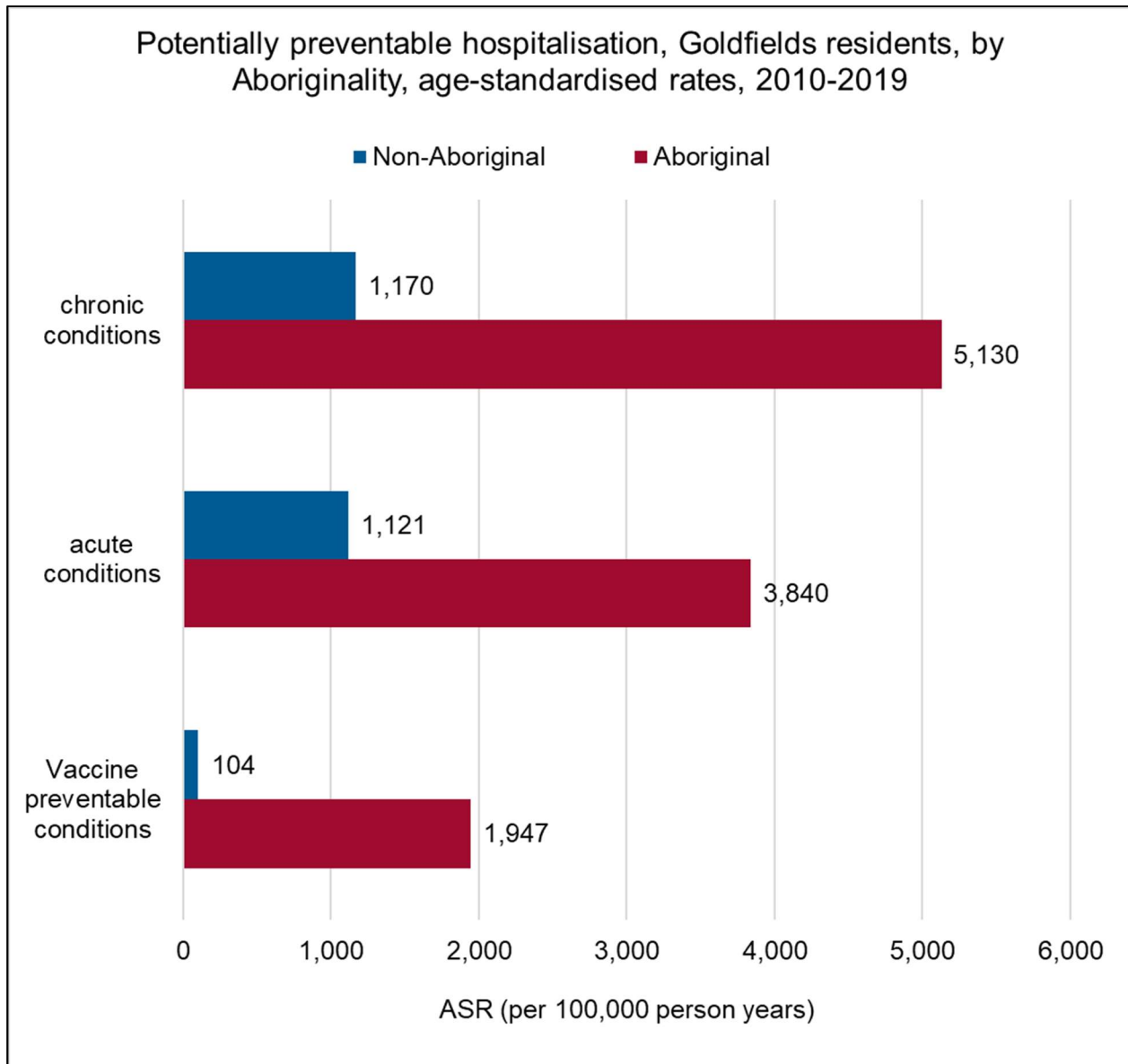
## Potentially Preventable Hospitalisations

- 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<sup>1</sup>.
- For the period 2015-2019, the rate of PPHs for Goldfields residents were higher than the WACHS average across two of three conditions (chronic conditions and vaccine-preventable conditions).
- Rates of PPHs for chronic conditions and vaccine-preventable conditions are particularly high for Northern Goldfields 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 4.4 times higher, for acute conditions the rate was 3.4 times higher and for vaccine-preventable conditions the rate was 18.7 times higher.



Source: HealthTracks, DoH

## Leading conditions for potentially preventable hospitalisations, 2015-2019

- The five leading causes of PPHs for Goldfields residents for 2015-2019 were cellulitis (10.6% of cases), chronic obstructive pulmonary disease (COPD) (9.5%), ENT infections (8.7%), dental conditions (8.3%) and diabetes complications (7.7 %).

Condition	Type	Number	% of all cases	SRR (comparison with State average)
Cellulitis	acute	905	10.6%	1.62
Chronic obstructive pulmonary disease	chronic	810	9.5%	1.7
ENT infections	acute	739	8.7%	1.64
Dental conditions	acute	711	8.3%	0.69
Diabetes complications	chronic	659	7.7%	1.46
Urinary tract infections	acute	600	7.0%	0.9
Iron deficiency anaemia	chronic	588	6.9%	1.37
Congestive cardiac failure	chronic	562	6.6%	1.35
Convulsions and epilepsy	acute	506	5.9%	1.45
Pneumonia and influenza	vaccine-preventable	387	4.5%	1.79

Source: HealthTracks, DoH.

### Top 5 PPHs by Goldfields district, 2015-2019

		1st	2nd	3rd	4th	5th	Total
Northern Goldfields	Condition	Cellulitis	ENT infections	Chronic obstructive pulmonary disease	Diabetes complications	Dental conditions	
	No.	649	611	583	505	488	<b>2,836</b>
	SRR	1.72	1.82	2.17	1.73	0.66	
South East Coastal	Condition	Cellulitis	Chronic obstructive pulmonary disease	Dental conditions	Urinary tract infections	Diabetes complications	
	No.	256	227	223	164	154	<b>1,024</b>
	SRR	1.42	1.1	0.77	0.7	0.96	

### Top 5 PPHs for non-Aboriginal Goldfields residents, 2015-2019

- For the period 2010-2019, the highest occurring PPH condition for non-Aboriginal residents was Dental conditions (11.2% of total PPHs for non-Aboriginal people), however this occurred at a rate lower than the state rate for non-Aboriginal PPHs (SRR = 0.68).
- The other top PPHs for non-Aboriginal Goldfields residents occurred at rates slightly higher than the non-Aboriginal State rate.

		1st	2nd	3rd	4th	5th	Total
Non-Aboriginal	Condition	Dental conditions	Cellulitis	Chronic obstructive pulmonary disease	Iron deficiency anaemia	ENT infections	
	No.	615	591	581	503	482	<b>5,513</b>
	SRR	0.68	1.35	1.38	1.27	1.37	<b>1.04</b>

### Top 5 PPHs for Aboriginal Goldfields residents, 2010-2019

- For the period 2010-2019, the highest occurring PPH condition for Aboriginal Goldfields residents was Cellulitis (10.5% of total PPHs for Aboriginal people) followed by Diabetes complications (10.2%).
- For non-Aboriginal Goldfields residents most PPH conditions occurred at rates close to or slightly higher than the non-Aboriginal State rate.

		1st	2nd	3rd	4th	5th	Total
Aboriginal	Condition	Cellulitis	Diabetes complications	Convulsions and epilepsy	ENT infections	Chronic obstructive pulmonary disease	
	No.	615	601	542	483	417	<b>5,885</b>
	SRR	0.92	1.52	1.21	1.17	1.04	<b>1.19</b>

Source: HealthTracks, DoH.

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## 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, the communicable disease notifications for Goldfields residents was (SRR = 1.23) higher than the State rate (SRR = 0.82).
- The rates for most categories were higher than the State rate except for Vaccine-preventable diseases and Zoonotic diseases.

Condition	Notifications	SRR
Sexually transmitted infections	2,502	1.56
Vaccine-preventable diseases	1,071	0.85
Enteric infections	714	1.08
Vector-borne diseases	242	1.56
Blood-borne diseases	220	1.18
Other notifiable diseases	34	1.36
Zoonotic diseases	N/A	N/A
<b>All notifications</b>	<b>4,786</b>	<b>1.23</b>

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



### Goldfields leading communicable disease notifications, 2014-2018

- The leading causes of communicable disease notifications for 2014-2018 for Goldfields residents was chlamydia (genital) (34% of cases), Gonorrhoea (16% of cases) and influenza (12% of cases). Chlamydia was the leading cause across both districts.

Condition	Type	Notifications	SRR
Chlamydia (genital)	Sexually transmitted infections	1,645	1.32
Gonorrhoea	Sexually transmitted infections	790	2.46
Influenza	Vaccine-preventable diseases	563	0.86
Campylobacteriosis	Enteric	308	0.9
Salmonellosis	Enteric	217	1.03
Ross River virus	Vector-borne diseases	191	1.91
Varicella (shingles)	Vaccine-preventable diseases	156	0.88
Hepatitis C	Blood-borne diseases	152	1.22
Mumps	Vaccine-preventable diseases	104	4.59
Rotavirus	Enteric	84	1.79

Source: HealthTracks, DoH



*Kalgoorlie Renal Hostel*

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### Top 5 communicable disease notifications by Goldfields district, 2014-2018

		1st	2nd	3rd	4th	5th	Total
Northern Goldfields	Condition	Chlamydia (genital)	Gonorrhoea	Influenza	Campylobacteriosis	Salmonellosis	
	No.	1,385	747	474	222	169	<b>2,997</b>
	SRR	1.46	3.05	1.02	0.9	1.09	
South East Coastal	Condition	Chlamydia (genital)	Influenza	Campylobacteriosis	Varicella (shingles)	Hepatitis C	
	No.	260	89	86	55	49	<b>539</b>
	SRR	0.87	0.47	0.9	1.01	1.58	

### Top 5 Communicable disease notifications for non-Aboriginal Goldfields residents, 2014-2018

- For the period 2014-2018, the highest number of communicable disease notifications for non-Aboriginal Goldfields residents was for Chlamydia (genital) (941 notifications, 34% of total notifications for non-Aboriginal people) followed by Influenza (415 notifications, 15%).
- Most communicable disease conditions occurred at similar or lower than the State non-Aboriginal rate, with the exception of Ross River virus notifications, which occurred at more than double the rate (SRR = 2.24).

		1st	2nd	3rd	4th	5th	Total
Non-Aboriginal	Condition	Chlamydia (genital)	Influenza	Campylobacteriosis	Ross River virus	Salmonellosis)	
	No.	941	415	286	189	172	<b>2,804</b>
	SRR	1.03	0.77	0.98	2.23	0.98	<b>0.93</b>

### Top 5 Communicable disease notifications for Aboriginal Goldfields residents, 2009-2018

- For the period 2009-2018, the highest number of communicable disease notifications for Aboriginal Goldfields residents was for Chlamydia (genital) (1,385 notifications, 37% of total notifications for Aboriginal people) followed by Gonorrhoea (1,266, 34%).
- Most of the top communicable disease conditions occurred at slightly higher than the State Aboriginal rate, (Gonorrhoea occurring at almost twice the State rate, SRR = 1.76) except for Hepatitis C, which occurred at only half the State Aboriginal rate (SRR = 0.59)

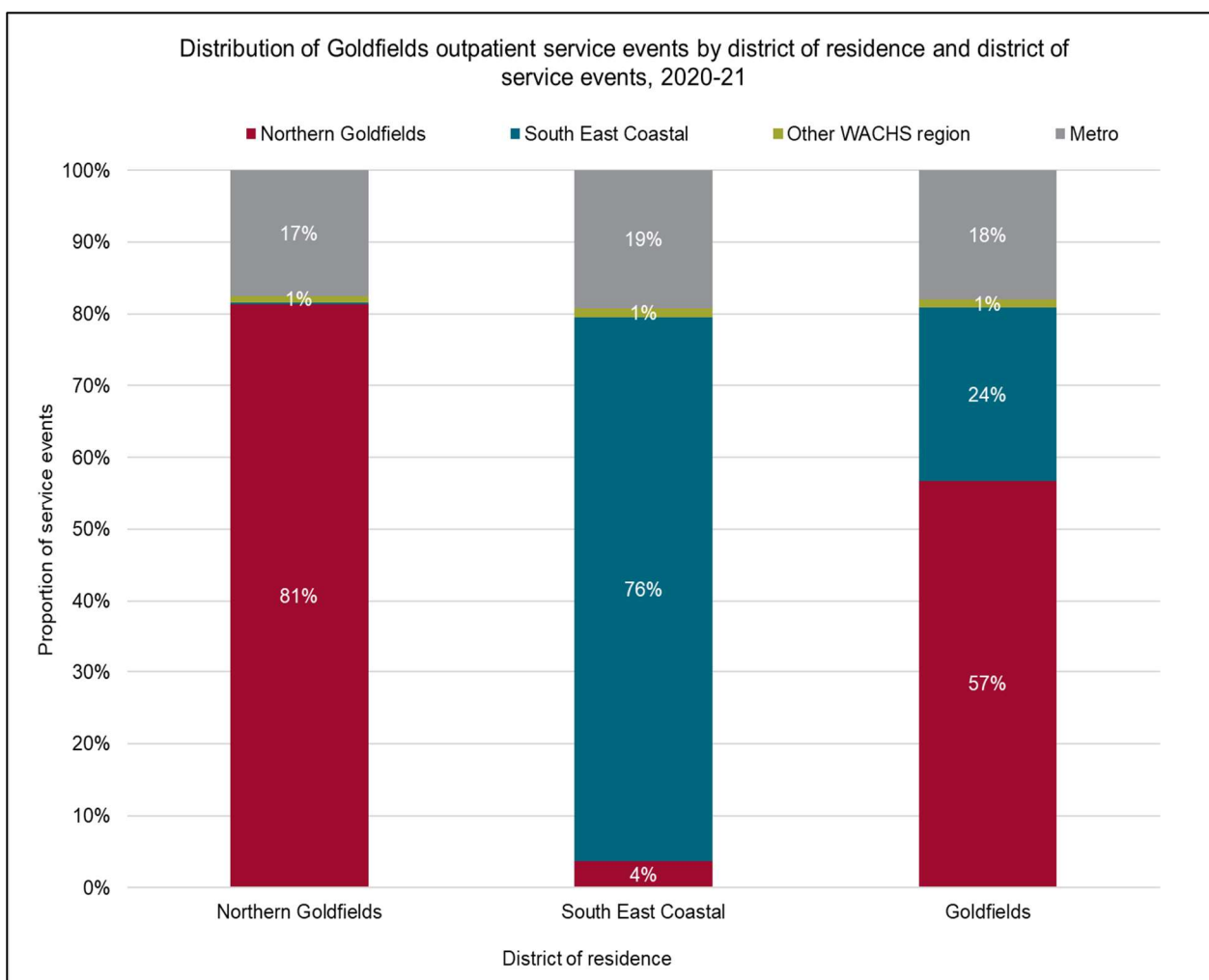
		1st	2nd	3rd	4th	5th	Total
Aboriginal	Condition	Chlamydia (genital)	Gonorrhoea	Influenza	Mumps	Hepatitis C	
	No.	1,385	1,266	323	96	89	<b>3,766</b>
	SRR	1.28	1.76	1.36	1.65	0.59	<b>1.39</b>

Source: HealthTracks, DoH.

## Outpatient

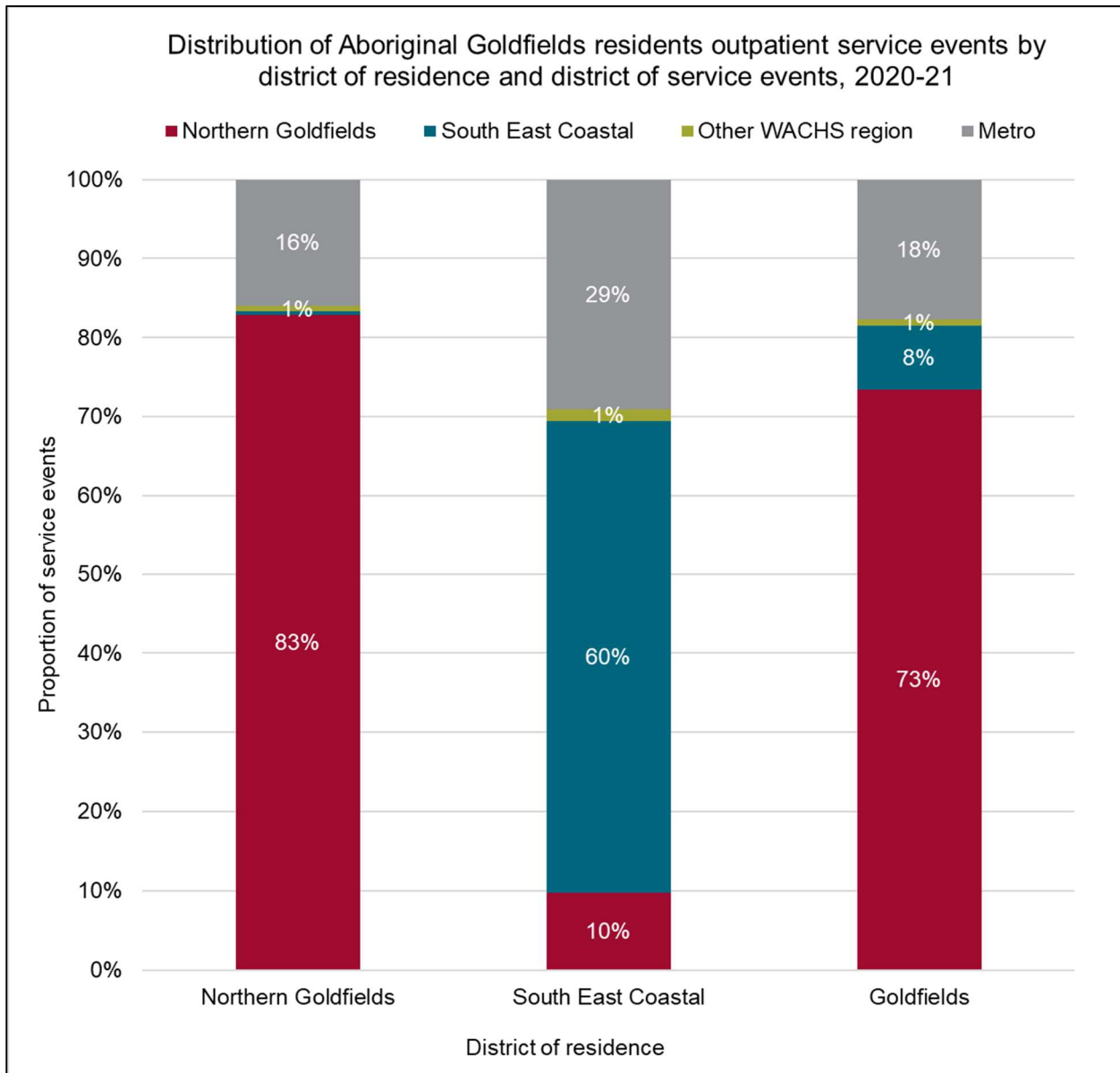
### Goldfields summary

- Of the 121,149 outpatient service events for Goldfields residents across WA in 2020-21, only 18% (21,817) occurred at Perth metropolitan hospitals, with 81% occurring within a Goldfields hospital.
- In 2020-21 the overall proportion of appointments for Goldfields residents that were delivered by telephone/telehealth was 13% (15,495) (6% for Goldfields hospitals and 41% for metro hospitals). This overall proportion of telephone/telehealth appointments ranged from 12% for Northern Goldfields residents to 14% for South East Coastal district residents.



Source: Non-admitted Data Collection, DoH

- For Aboriginal residents, of their 15,173 outpatient service events in 2020-21, 81% occurred at a Goldfields hospital while 18% occurred in a Perth metropolitan hospital.
- Aboriginal residents of the Northern Goldfields had 83% of their outpatient activity at a hospital within their health district.
- Aboriginal residents of South East Coastal had 60% of their outpatient activity at a hospital within their health district.



Source: Non-admitted Data Collection, DoH

## Outpatient activity for Goldfields residents, key characteristics

- For Goldfields residents in 2020-21, the most common Tier 2 Medical code was 20.29 Orthopaedics (3% of total service events) and 20.07 General Surgery (3%), while the top Nursing codes (including allied health) were 40.53 General Medicine (11% of total service events) followed by 40.28 Midwifery (4%)

## Outpatient activity, Goldfields 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	4056	3%	40.53 General Medicine	13711	11%
20.07 General Surgery	3910	3%	40.28 Midwifery	5032	4%
20.38 Gynaecology	2113	2%	40.09 Physiotherapy	4505	4%
20.02 Anaesthetics	1957	2%	40.07 Pre-Admission and Pre-Anaesthesia	3220	3%
20.11 Paediatric Medicine	1848	2%	40.06 Occupational Therapy	2144	2%
20.35 Nephrology	1500	1%	40.08 Primary Health Care	2039	2%
20.17 Ophthalmology	1467	1%	40.52 Oncology	1927	2%
20.42 Medical Oncology (Consultation)	1279	1%	40.12 Rehabilitation	1319	1%
20.53 Obstetrics – management of complex pregnancy	1235	1%	40.35 Palliative Care	1131	1%
20.05 General Medicine	1026	1%	40.11 Social Work	1011	1%

Note: Imaging code 30.01 General Imaging was the overall leading Tier 2 code, comprising 24% of total service events.

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 higher for Goldfields residents (8.6%) than the average for WACHS (7.8%), but lower than the WA State average (8.8%).
- Northern Goldfields females were the highest proportion of people with reported high or very high levels of psychological distress (10.9%) across the Goldfields.

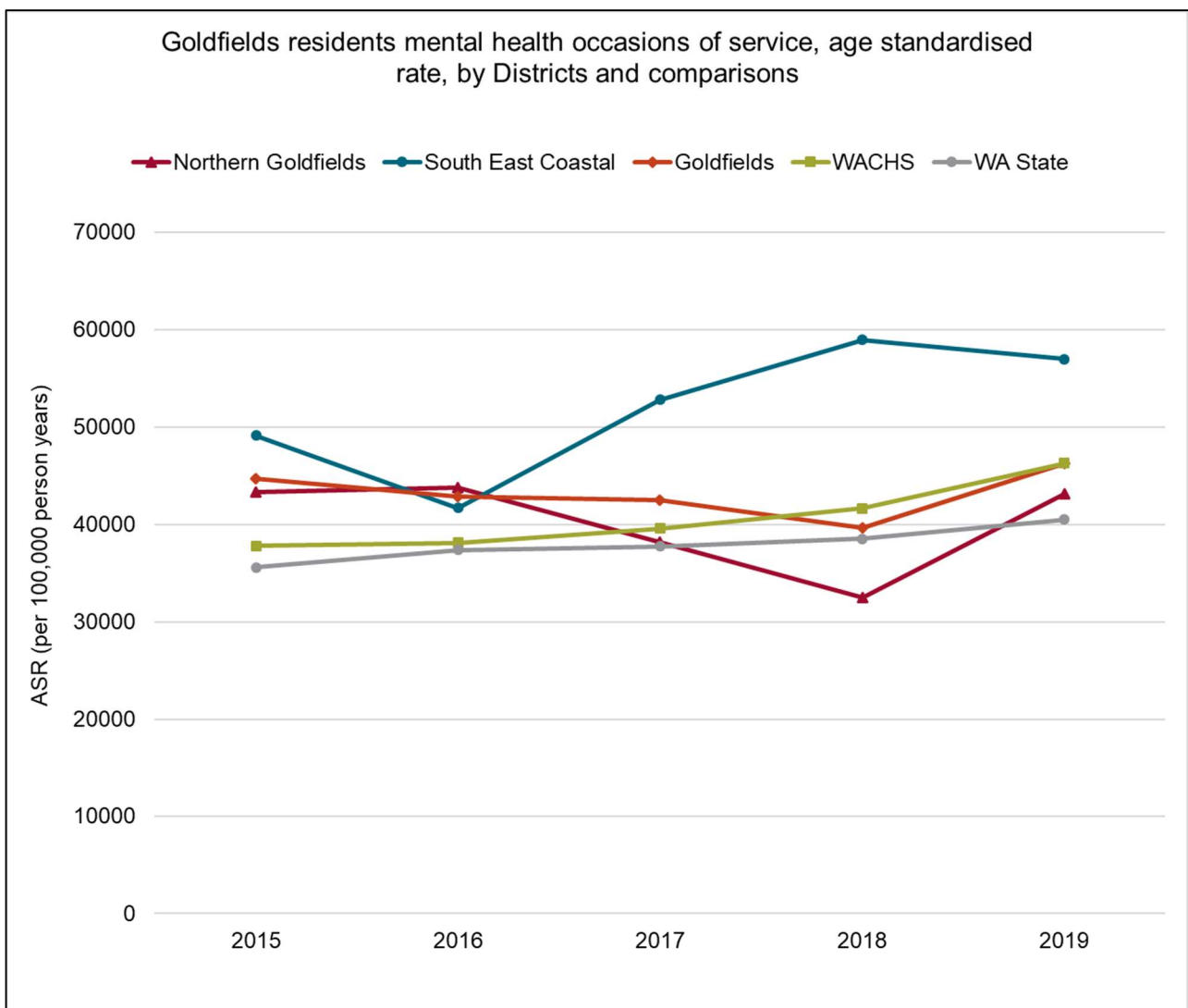
### Prevalence of high or very high psychological distress, 2015-2019

Area	Females	Males	Persons
Northern Goldfields	10.9	6.3	8.6
South East Coastal	8.2	9	8.6
<b>Goldfields</b>	<b>9.9</b>	<b>7.4</b>	<b>8.6</b>
WACHS average	8.1	7.5	7.8
WA State	9.8	7.8	8.8

Source: HealthTracks, DoH

## Mental health community hospital activity of Goldfields residents

- Between 2015 and 2019, the rate of community mental health occasions of service fluctuated across the 2 Goldfields districts but was generally highest in the most recent years for residents of South East Coastal district, and were also higher than the WACHS and WA State rates.
- The rate increased by an annual average of 3.8% between 2015 and 2019 for the South East Coastal district and decreased by -0.1% for Northern Goldfields district residents.
- Across the Goldfields, between 2015 and 2019, the male rate of mental health occasions of service decreased by an annual average of 7%, while the female rate increased by an annual average of 2%.
- For the period 2010-2019, the rate of Mental health mental health service contacts for Aboriginal people was almost double (1.9 times) the non-Aboriginal rate.



Source: Department of Health, Health Tracks

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### Number of community mental health occasions of service by gender, Goldfields residents 2015–2019

Area	Gender	2015	2016	2017	2018	2019	Annual average change in rate
Northern Goldfields	Males	8,816	7,682	6,732	5,235	6,177	-9%
	Females	9,211	9,543	7,906	6,770	9,555	1%
	Persons	18,027	17,226	14,639	12,011	15,735	-3%
South East Coastal	Males	3,241	2,824	3,269	3,606	3,015	-2%
	Females	4,000	3,164	4,415	4,875	4,899	5%
	Persons	7,241	5,988	7,684	8,481	7,914	2%
Goldfields	Males	12,057	10,506	10,001	8,841	9,192	-7%
	Females	13,211	12,707	12,321	11,645	14,454	2%
	Persons	25,268	23,214	22,323	20,492	23,649	-2%

- In 2020-21, there were 351 mental-health related inpatient separations for Goldfields residents (across designated mental health wards and general wards), with an average length of stay of 8.2 days. Most (80%) of these separations occurred in a Goldfields hospital, including 61% at Kalgoorlie Hospital (which has a designated mental health ward) and 16% at Esperance Hospital.

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

Area	Within Goldfields		To Metro		Other WACHS region		Total	
	separations	ALOS	separations	ALOS	separations	ALOS	separations	ALOS
Northern Goldfields	203	7.3	37	9.3	9	6.1	249	7.5
South East Coastal	77	7.9	12	8.4	13	24.1	102	10.0
Goldfields	280	7.4	49	9.1	22	16.7	351	8.2

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

- Between 2014-2018 there were 1,357 deaths of Goldfields residents, with 28% of these deaths being due to Neoplasms (Cancer tumours) and 26% due to Circulatory diseases. These were the leading two causes of death across both Districts.
- Most causes of death across Goldfields residents occurred at slightly higher rates to the State rate, with the highest being deaths due Circulatory diseases, which occurred almost 1.5 times the times the State rate. Deaths due to External causes of mortality (which includes transport accidents and intentional self-harm) amongst Northern Goldfields residents occurred at over twice the State rate (SRR = 2.03).

### Top five causes of death, Goldfields residents, 2014–2018

		1st	2nd	3rd	4th	5th	Total
Northern Goldfields	Condition	Neoplasms	Circulatory diseases	External causes of mortality	Respiratory diseases	Endocrine and nutritional diseases	
	No.	223	205	108	97	40	<b>844</b>
	SRR	1.19	1.59	2.03	1.41	1.7	<b>1.44</b>
South East Coastal	Condition	Neoplasms	Circulatory diseases	External causes of mortality	Nervous system diseases	Respiratory diseases	
	No.	156	152	52	42	32	<b>513</b>
	SRR	1.12	1.32	1.43	0.92	0.71	<b>1.12</b>
Goldfields	Condition	Neoplasms	Circulatory diseases	External causes of mortality	Respiratory diseases	Nervous system diseases	
	No.	379	357	160	129	80	<b>1,357</b>
	SRR	1.16	1.46	1.42	1.39	0.87	<b>1.3</b>

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.

Source: Department of Health, Health Tracks

## Maternal and child health status

### Births

- For 2019, residents in the Northern Goldfields had the highest age-specific birth rate (75.2 births per 1,000 women aged 15–44 years) while residents of South East Coastal had the lowest (72.2 births per 1,000 women). Overall, the Goldfields age-specific birth rate (74.5) is higher than both the metro (60.9) and WA State average (62.4).
- Residents of the Northern Goldfields had the highest proportion of teenage births (6.1%) while residents of the South East Coastal had the lowest (3.2%). Overall, the Goldfields average proportion of teenage births (5.4%) was significantly higher than the metro (1.5%) and the WA State average (2.1%).
- The Goldfields had lower proportions of births to women aged 35 years and over (15.5%) than the metro (25.7%) and the WA State average (24.3%).

### Maternity key indicators, Goldfields, 2019

Area	Age-specific birth rate*	Teenage births (%)	Births in women aged 35 years+ (%)
Northern Goldfields	75.2	6.1	16
South East Coastal	72.2	3.2	14.1
<b>Goldfields</b>	<b>74.5</b>	<b>5.4</b>	<b>15.5</b>
<b>Metro</b>	<b>60.9</b>	<b>1.5</b>	<b>25.7</b>
<b>WA State</b>	<b>62.4</b>	<b>2.1</b>	<b>24.3</b>

\*per 1,000 women aged 15-44 years. Source: Department of Health, Health Tracks

### Numbers of births in Goldfields hospitals

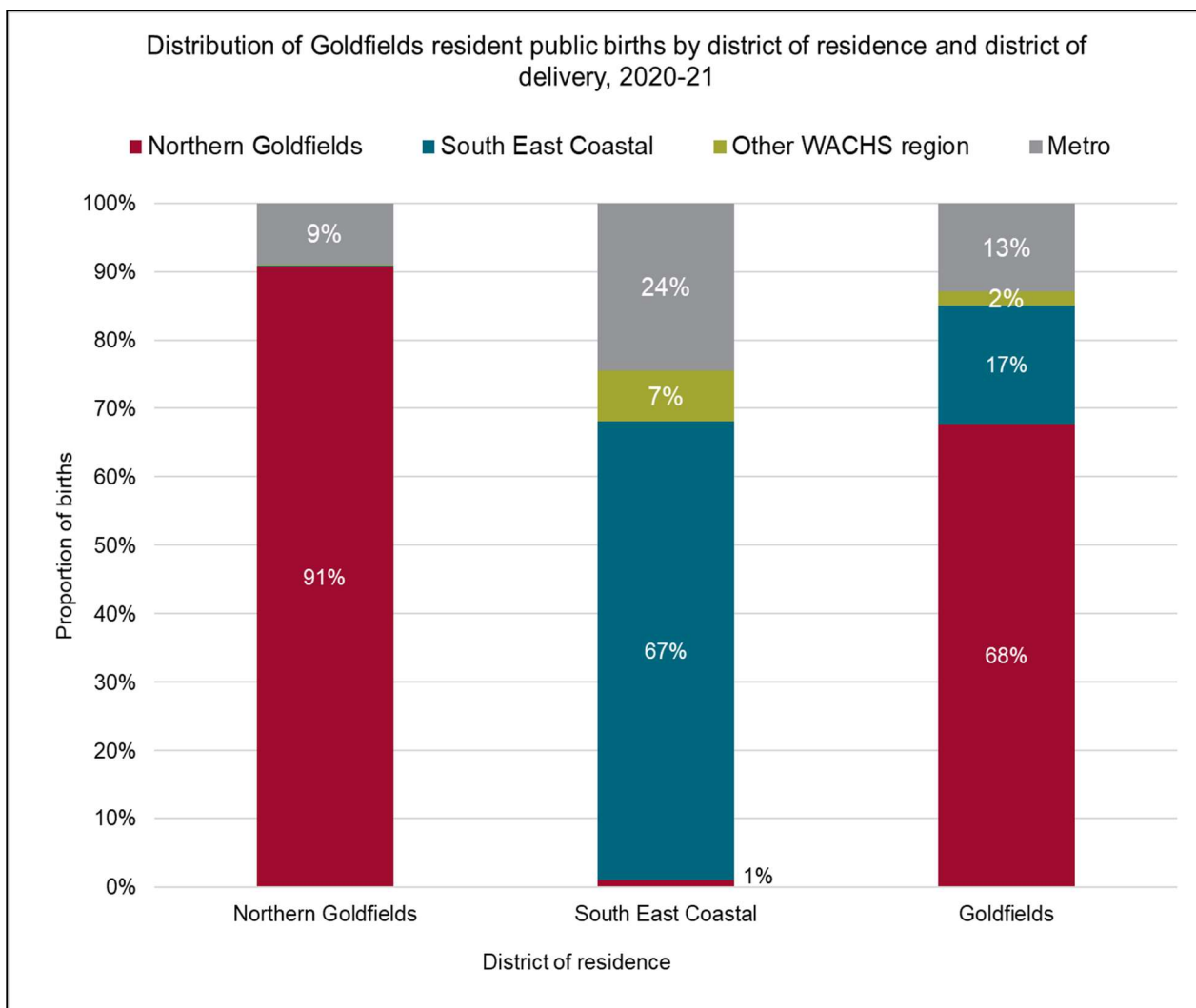
Numbers of Births in Goldfields by Hospital, 2020-21.	Number
Kalgoorlie Hospital	500
Esperance Hospital	128
<b>Goldfields</b>	<b>628</b>

Includes births by non-residents



### Births by Goldfields residents by area of delivery

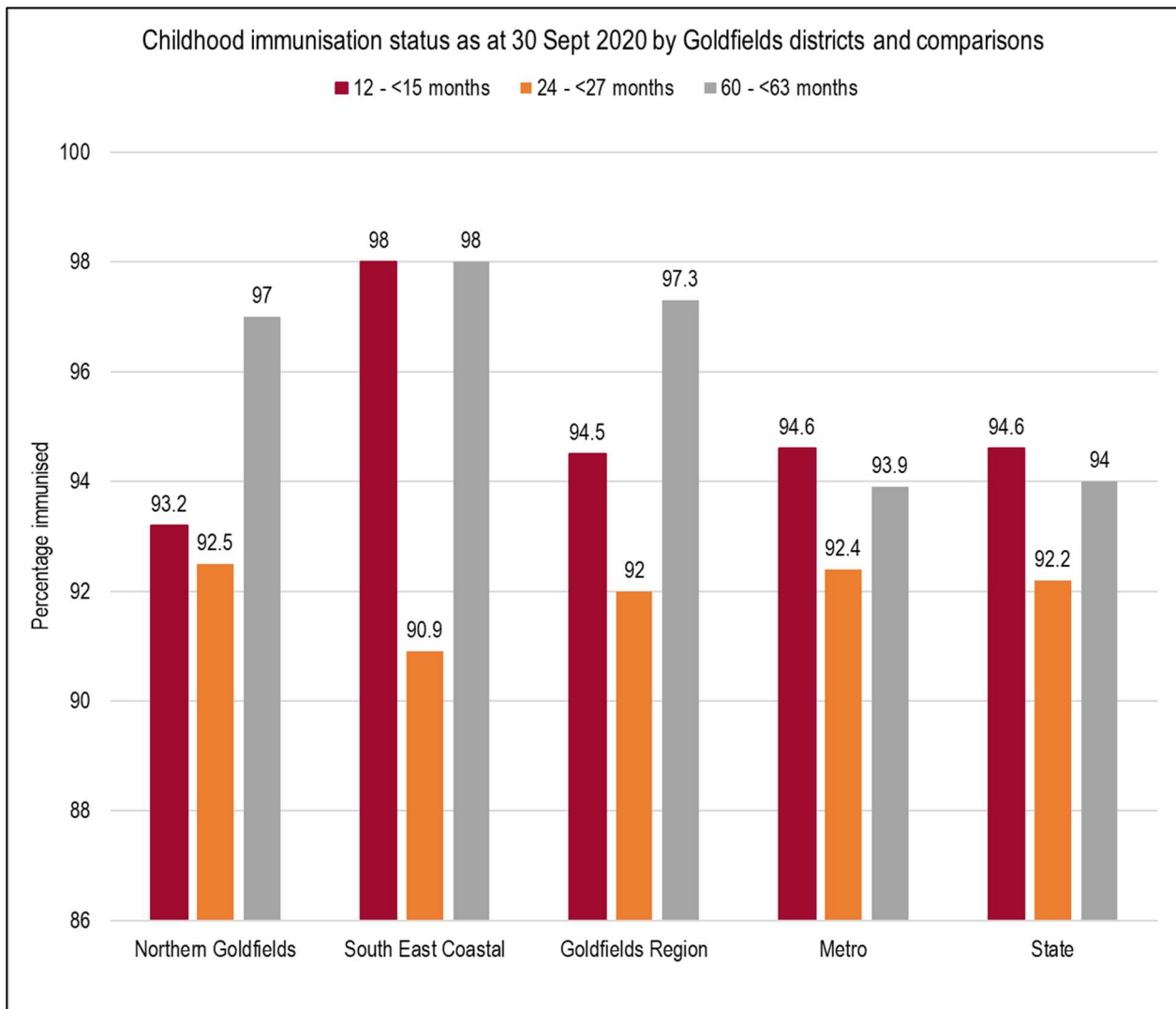
- Of the 735 public births by Goldfields residents in 2020-21, 85% occurred in Goldfields hospitals, with 13% occurring at a Perth metropolitan hospital.
- Northern Goldfields residents had the highest proportion of births at a hospital in their own district (91% at Kalgoorlie Hospital), with the remaining 9% occurring at a Perth metropolitan hospital.
- South East Coastal residents had 67% of births within their own district; the remaining births occurring at a hospital in another WACHS region (7%) or in Perth metropolitan area (24%).



Source: Hospital Morbidity Data Collection, Department of Health

## Childhood Immunisation

- In 2020, the Goldfields region had 97.3% of children immunised at five years of age which is a higher level than the State (94%).
- However, Northern Goldfields had lower levels of immunisation for 12 – 15 month children (93.2%) than either the metro or state levels and South East Coastal had lower levels of immunisation for 24 – 27 month children (90.9%) than either the metro or state levels.



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)

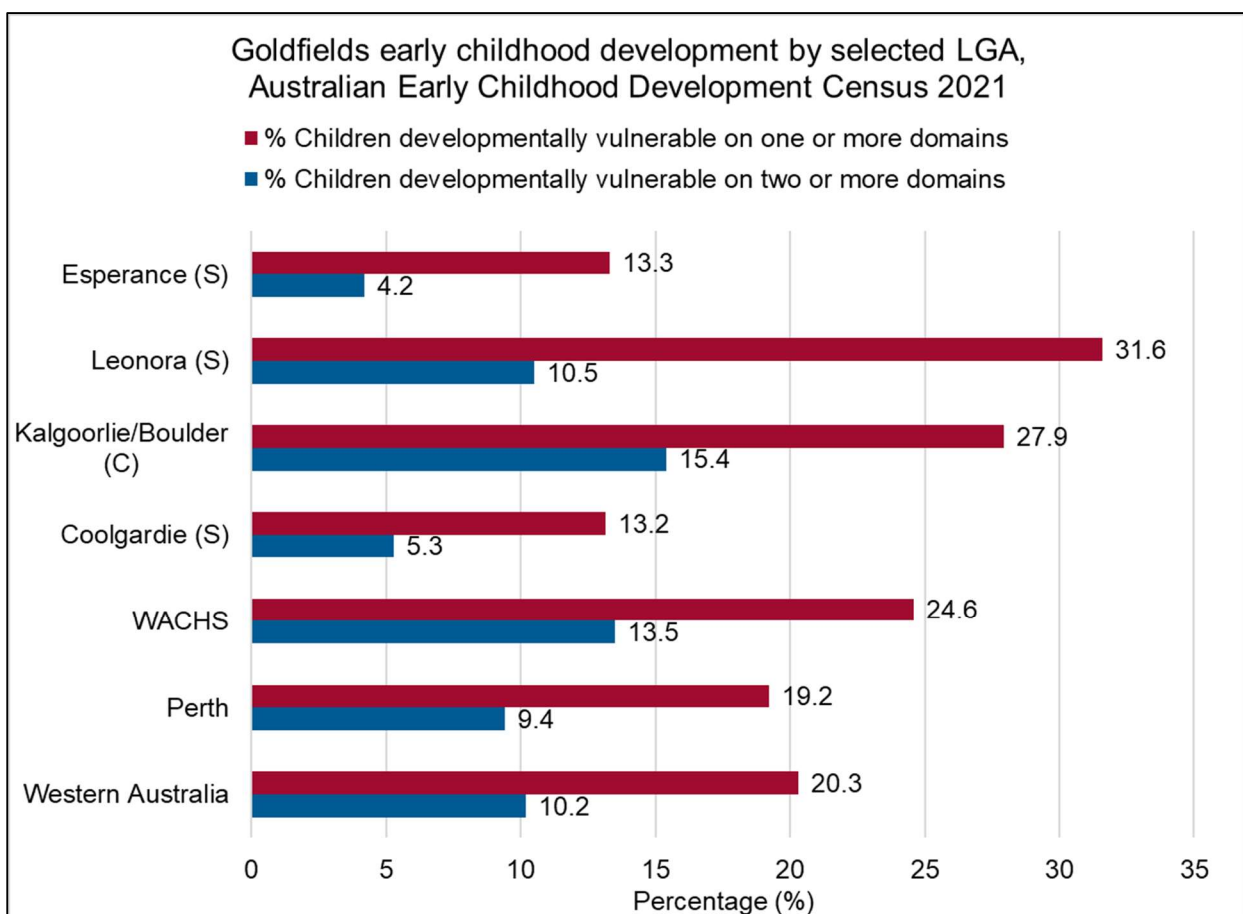
The AEDC uses the early development instrument tool to measure how young children have developed as they start their first year of full-time school.

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 Goldfields varies considerably depending on location, however some areas demonstrate higher levels of developmental vulnerability compared to the WACHS and State averages. Leonora has 31.6% of children assessed as vulnerable on 1 or more domains and 10.5% with vulnerability on 2 or more developmental domains.



Source: Australian Early Development Census. Some LGAs do not have available data due to low numbers.

## 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

Thank you to staff from WACHS and other agencies who have contributed to the design and information presented in this profile.

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

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



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