Mapping Access to Sexual and Reproductive Health Services in Regional Victoria

Final Report

DEAKIN UNIVERSITY | DRH DEAKIN RURAL HEALTH | CARA Centre for Australian Research into Access | WOMEN'S HEALTH & WELLBEING Barwon South West

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We would like to acknowledge the Traditional Custodians of the unceded lands on which Deakin University campuses are located: the Wadawurrung people, the Boon Wurrung people, the Wurundjeri people, and the Gunditjmara people

Contents

Executive summary

This report summarises the evidence on access to sexual and reproductive health (SRH) services in the Barwon South West (BSW) region. It highlights significant geographic and systemic barriers that affect rural women's access to SRH services and can contribute to inequities in health outcomes across the life course.

This project aimed firstly to map the location of SRH services across the BSW region and, secondly, to understand the barriers and facilitators to service access.

The spatial analysis revealed gaps in primary care access for specific services, such as medical termination of pregnancy and long-acting reversible contraceptives. The study identified areas, particularly Glenelg Shire and Southern Grampians Shire, where travel times were significantly longer, highlighting the need for further investigations within these communities to understand the local barriers and access needs.

The systematic literature review provided further insights into the barriers and facilitators of SRH service access in rural areas. Women's perspectives revealed barriers such as limited awareness, fragmented care, negative attitudes, cultural safety concerns, financial burdens, and lack of support systems. Providers highlighted barriers, such as fragmented healthcare pathways, inadequate service availability, and high costs. Facilitators include improved knowledge and awareness, local care preferences, telehealth access, health system improvements, culturally sensitive practices, enhanced local service provision, cost reduction strategies, and patient-centred care.

The report also addressed disparities in prevention services, such as cervical screening, where the participation rates in the BSW were slightly above the state average, yet some Local Government Areas (LGAs) lag. Travel times to cervical screening services were generally reasonable across the BSW; however, the LGAs with below-state-average participation rates also faced longer travel times, highlighting the need for targeted interventions in these areas.

The report explores the implications of these findings and proposes recommendations for future actions. The first recommendation is to engage in community consultations in regions with limited access to specific SRH services. The second is to build capacity with healthcare providers in the region. There is a need for stakeholder collaboration and advocacy to address SRH data limitations to comprehensively understand SRH service supply and demand in Australia and ensure rural women have access to the care they need.

Equitable access to SRH services is crucial for improving women's health outcomes and achieving universal health coverage. The identified disparities and barriers highlight the need for targeted interventions and comprehensive healthcare policies informed by a nuanced understanding of rural women's needs. This report provides a foundation for strategic planning and advocacy to enhance SRH service access and equity in the BSW region.

Abbreviations

ABS	Australian Bureau of Statistics
AHP	Aboriginal health practitioners
AIHW	Australian Institute of Health and Welfare
ART	Assisted reproductive technology
BSW	Barwon South West
BQ	Borough of Queenscliffe
CARA	Centre for Australian Research into Access
COG	City of Greater Geelong
COS	Colac Otway Shire
CS	Corangamite Shire
EC	Emergency contraception
GNAF	Geocoded National Address File
GP	General practitioner
GS	Glenelg Shire
HVP	Human papillomavirus
IER	Index of Economic Resources
IEO	Index of Education and Occupation
IRSAD	Index of Relative Socio-economic Disadvantage and Advantage
IRSD	Index of Relative Socio-economic Disadvantage
IVF	In vitro fertilisation
IUD	Intrauterine device
LGA	Local Government Area
LARC	Long-acting reversible contraception
MTOP	Medical termination of pregnancy
MS	Moyne Shire
NSCP	National Cervical Screening Program
PATS	Patient Assisted Travel Scheme
PN	Practice nurses
POCT	Point-of-care-test
SC	Surf Coast Shire
SEIFA	Socio-Economic Indexes for Areas
SG	Southern Grampians Shire
SRH	Sexual and reproductive health
STI	Sexually transmitted infection
STOP	Surgical termination of pregnancy
ToP	Termination of pregnancy
TGA	Therapeutic Goods Administration
WC	Warrnambool City
WHWBSW	Women's Health & Wellbeing Barwon South West

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Introduction

Healthcare access directly impacts population health, and barriers to access contribute to health inequities and the disease burden.[1] Despite Australia's reputation for advanced healthcare infrastructure, complex barriers and inequities exist when accessing essential sexual and reproductive health (SRH) services in rural, regional, and remote (hereafter rural) areas.

Access to these SRH services is fundamental to universal health coverage,[2] and barriers to access disproportionately impact women and contribute to inequities in health across the life course.[3,4] To develop comprehensive healthcare policies, strategies, and interventions that address the diverse needs of rural communities it is essential that these barriers are understood.

To inform the Barwon South West regional SRH strategy, Women's Health and Wellbeing Barwon South West (WHWBSW) engaged Deakin Rural Health (DRH) / Centre for Australian Research into Access (CARA) to map SRH services within the Barwon South West (BSW) region. WHWBSW is the regional women's health service for the BSW region and one of twelve women's health agencies across Victoria funded by the Department of Health to deliver health promotion.

Project objectives

This project had two objectives:

1. Spatial mapping and analysis to identify sexual and reproductive health service gaps and demonstrate inequity to support strategic planning and advocacy.

2. Systematic review of peer-reviewed literature to understand sexual and reproductive health service access in a rural context.

Project and report purpose

The significance of this project lies in its potential for advocacy. It highlights the systemic barriers and disparities in service access that lead to long wait times, limited provider availability, and poorer SRH outcomes for women and girls in the BSW region. This report provides evidence for developing a regional SRH strategy and planning interventions which can help address these disparities.

The spatial mapping of the BSW region can be used as a case study to examine SRH service access in more granular detail. The BSW case study has the potential to be applied to other rural areas or scaled up to examine SRH access across the rest of Victoria.

Report structure

Section 2. Background: An overview of SRH and the social determinants of SRH and introduces the concept of access. It discusses the importance of access and equity in relation to SRH.

Section 3. Study area: An overview of the study area, including the region's demographics, intersectional and socioeconomic profile.

Section 4. Methodology: Presents the methods used to examine access.

Section 5. Examining regional SRH service access: Comprehensively examines SRH service access in the BSW region through the spatial mapping and analysis undertaken to identify service gaps.

Section 6. Barriers and facilitators of rural SRH access: Presents the evidence from the systematic review on the barriers and facilitators to spatial and aspatial access to women's SRH services in Australia's rural healthcare settings.

Section 7. Discussion: Explores the implications of the findings and proposes recommendations for future investigations in the BSW region.

Section 8. Conclusions: Provides an overview of the conclusions.

Background

Sexual and reproductive health overview

Optimal sexual and reproductive health (SRH) goes beyond the absence of disease. It encompasses complete physical, mental, and social well-being in all aspects related to the reproductive system.[5] SRH encompasses a broad spectrum of healthcare needs, spanning the entire life course, influenced by biological, social, and cultural factors.[6] Achieving and maintaining sexual health requires the protection and fulfilment of the sexual and reproductive rights of all individuals. For this to be achieved, it relies on women having the right to make decisions concerning reproduction, free of discrimination, coercion and violence.[7]

Social determinants of sexual and reproductive health

Medical and non-medical factors influence health outcomes.[8] The social determinants of health (SDoH) are the non-medical factors that affect the social and environmental conditions in which people are born, grow, live, work, and play.[8,9] SDoH are influenced by upstream factors of systems and structures, including political systems, social norms, environment, health systems, and economic and social government policy.

Social determinants influence SRH outcomes in systematic and inequitable ways. Health inequities are the avoidable differences in health risks and outcomes resulting from economic, social, and cultural disadvantages,[10] with the fundamental drivers being power, money, and resource inequality.[9]

Six SDoH have been identified[11] as a priority in redressing SRH inequities:

1. norms, practices and structures
2. cultural and societal norms and values
3. violence, discrimination, racism and stigma
4. socio-economic status
5. public policy and the law
6. access to healthcare and services.

This report is focused on access to healthcare and services and provides evidence for addressing this social determinant of SRH.

Sexual and reproductive health service access and equity

Universal access to SRH services has been a long-standing global priority.[12] It is essential for improving maternal health, reducing child mortality, and preventing communicable diseases, particularly those that depend on access to these services.[12] Access to safe, effective, timely, affordable health services supports optimal SRH outcomes.

SRH services that should be universally accessible to women across the life course, in the context of primary care, include family planning, maternity care, prevention and treatment of infertility, abortion-related care, and prevention, detection and treatment of sexually transmitted infections (STIs).[13] Failure to ensure equitable access to SRH services has short- and long-term consequences for women and significant implications for the healthcare sector.

Access is a multifaceted indicator of healthcare system performance and equitable care provision, encompassing dimensions defined in both spatial and aspatial terms (Table 1). Aspatial access concerns non-geographic factors affecting access, such as affordability, timeliness, accommodation, acceptability, and awareness. Spatial access relates to geographic factors affecting the availability and accessibility of healthcare providers and services.[1]

Healthcare access is defined by numerous models and frameworks. The Conceptual Framework of Access to Healthcare[15] (Figure 1) encompasses a multidimensional view of healthcare access.

The framework considers access from both a supply and demand dimension.

Table 1. Spatial and aspatial dimensions of access

Spatial dimensions	Aspatial dimensions
Accessibility: proximity of services to consumers	Affordability: cost of health services from the perspective of providers and consumers
Availability: location and capacity of services to meet consumer demand	Acceptability: provider and consumer attitudes towards services
	Accommodation: organisation and structure of services
	Awareness: communication about services between providers and consumers
	Timeliness: ability for consumers to use a service when needed

The supply dimension considers access in the context of health systems (e.g., approachability, acceptability, availability and accommodation, affordability, and appropriateness). The demand dimensions focus on the social determinants influencing healthcare-seeking behaviours, such as the abilities of individuals and populations to perceive, seek, reach, pay, and engage in healthcare. By incorporating both the health system's and the patient's perspective, strategies can be developed to address service availability and use disparities.

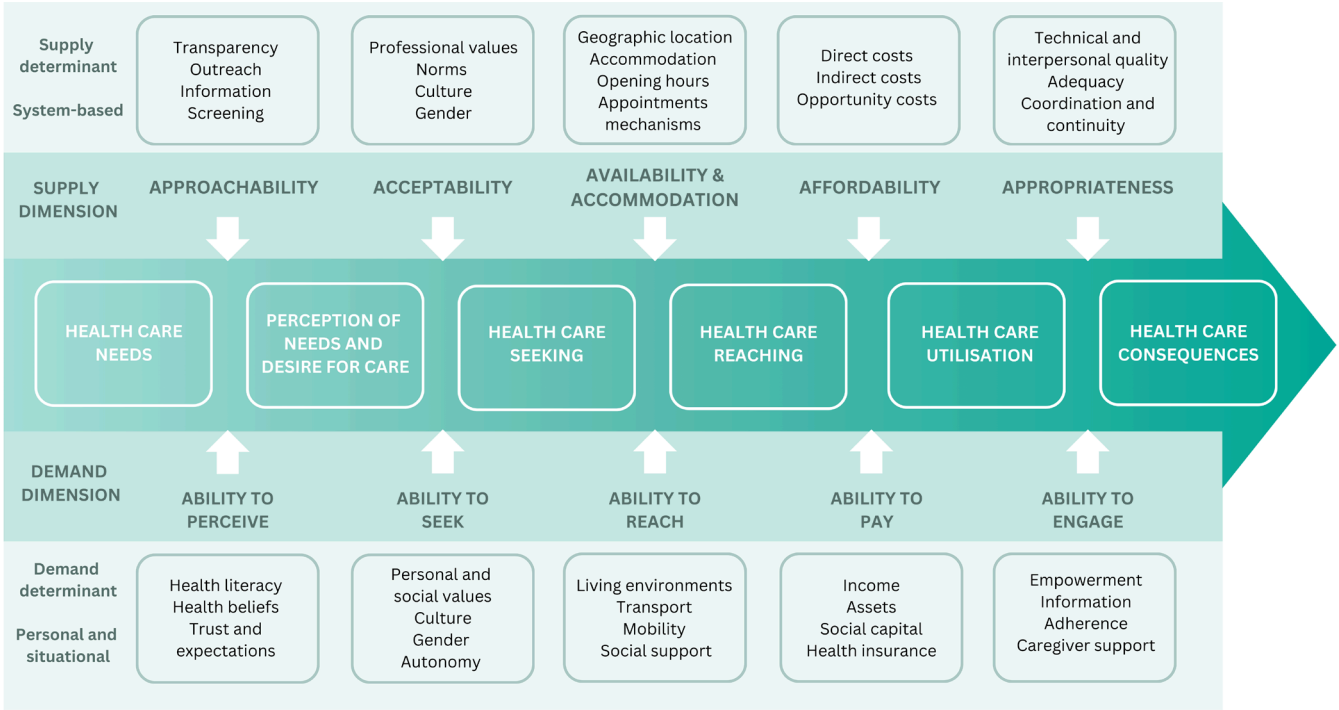

Figure 1. Patient-centred access to healthcare dimensions and determinants

(Adapted from Levesque et al. conceptual framework)[15]

Policy context

Access is a key priority across multiple policy levels, including international, national, and state (Table 2). These policies collectively aim to ensure that all individuals, regardless of their geographic location or socioeconomic status, have access to comprehensive and equitable SRH care.

Table 2. SRH policy context

International	Purpose	Priorities
WHO Global Strategy for Women's, Children's and Adolescents' Health (2016-2030).	A roadmap for ending all preventable maternal, newborn and child deaths and improving their overall health and well-being.	To expand contraceptive **access**, choice and method mix through research and development.
United Nations 2030 Agenda for Sustainable Development	Goals include good health and well-being (SDG3), gender equality (SDG5), and reduced inequalities (SDG10).	A world with equitable and **universal access** to quality education at all levels, to health care and social protection, where physical, mental and social well-being are assured.
National	**Purpose**	**Priorities**
National Women's Health Strategy (2020-2030)	Aimed at improving the health of women and girls and to reduce inequities between different groups.	Increase **access** to sexual and reproductive health care information, diagnosis, treatment and services. Support **enhanced access** to maternal and perinatal health care services.
National Action Plan for Endometriosis (2018)	Aimed at improving awareness, undersing and treatment of endometriosis.	Target diagnostic delay and promote early **access** to intervention, care, and treatment options. Improve the affordability, **accessibility** and national consistency of management and care options throughout Australia.
National STI Strategy (2018–2022)	Provides guiding principles to support a high-quality, evidence-based and equitable response to STIs.	Ensure **equitable access** to prevention programs and resources, testing and treatment in a variety of settings.
State	**Purpose**	**Priorities**
Victorian Sexual and Reproductive Health and Viral Hepatitis Strategy (2022-30)	Designed to support people to achieve the best possible sexual and reproductive health outcomes and reduce the impact of blood-borne viruses and STI on all Victorians.	Support skill development to provide culturally safe, appropriate and informed services that recognise, respect and seek to address barriers to **access**. Promote use of the nurse practitioner and pharmacist workforce models to **increase access** and service delivery options as prescribers and dispensers.

Study area

Barwon South West region

The Barwon South West (BSW) region is located in southwestern Victoria, Australia, and covers 29,146 square kilometres. The region spans the lands of three Traditional Owner groups – the Gunditjmara, Eastern Maar and Wadawurrung – and the clans that reside within them. The BSW includes nine local government areas (LGA): Borough of Queenscliffe, City of Greater Geelong, Colac Otway Shire, Corangamite Shire, Glenelg Shire, Moyne Shire, Southern Grampians Shire, Surf Coast Shire, and Warrnambool City (Figure 2).

Demographic profile

The BSW has a population of approximately 440,075, of which 224,928 are female (Table 3) and 215,147 are male.

Table 4 outlines pregnancy and births for the region. Glenelg Shire and Southern Grampians Shire have higher adolescent birth rates than other LGAs.

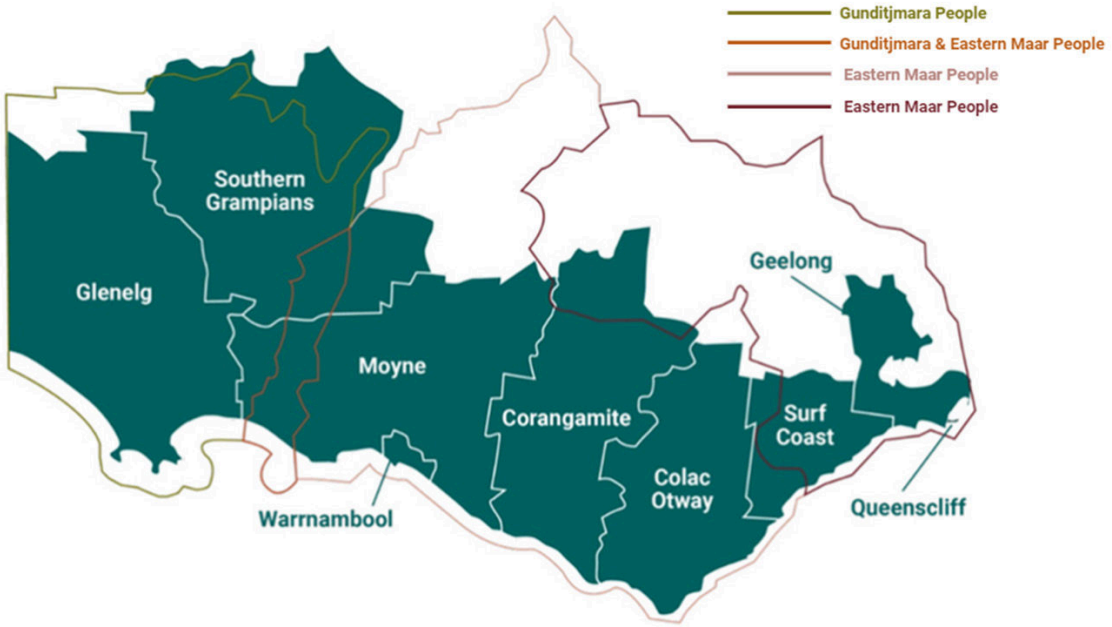

Figure 2. Barwon South West region (Figure supplied by WHWBSW)

Table 3. BSW age profile by LGA

Local Government Areas	Female population	% 0-14 years	% 15-24 years	% 25-44 years	% 45-64 years	% 65+ years
Colac Otway Shire	11,200	16.0	9.3	22.4	27.2	25.3
Corangamite Shire	8,003	16.3	9.6	19.6	28.9	25.5
Glenelg Shire	10,104	15.0	9.0	20.0	30.0	26.1
City of Greater Geelong	139,203	16.7	11.4	26.4	24.6	20.9
Moyne Shire	8,780	18.6	10.1	21.3	28.4	21.8
Borough of Queenscliffe	1,725	9.3	5.1	11.3	28.5	45.1
Southern Grampians Shire	8,457	16.1	9.7	20.3	26.9	27.0
Surf Coast Shire	19,087	18.6	9.2	24.8	27.3	20.2
Warrnambool City	18,369	16.0	10.7	24.3	26.3	22.6
State average		16.3	10.2	25.0	26.5	21.9

Data: ABS Census 2021

Table 4. Pregnancy and births in the BSW

Local Government Areas	Number of births (2022)	Total fertility rate (2022)	Adolescent birth per 1,000 (2020)	% Women who did not attend antenatal care within the first ten weeks	% low birth weight babies	% smoking during pregnancy
Colac Otway Shire	228.0	1.8	3.1	29.2	3.7	9.4
Corangamite Shire	154.0	1.9	3.9	46.4	7.1	12.9
Glenelg Shire	182.0	1.9	13.8	47.3	5.9	17.2
City of Greater Geelong	3382.0	1.7	9.1	22.3	6.4	8.3
Moyne Shire	194.0	2.2	3.6	66.0	4.9	10.4
Borough of Queenscliffe	20.0	2.2	0.0	20.7		
Southern Grampians Shire	158.0	2.0	14.8	34.3	6.2	13.1
Surf Coast Shire	410.0	1.8	2.1	26.7	4.2	2.1
Warrnambool City	367.0	1.6	4.6	67.1	6.1	12.8
BSW average		1.9		40.0	5.6	10.8
State average				36.4	6.3	7.5

Data: 2024 PHIDU, Torrens University, ABS Births, Australia, 2020, Women's Health Atlas

The proportion of women receiving antenatal care in the first trimester (before 14 weeks' gestational age) is the most widely reported indicator of antenatal care. Regular antenatal care in the first trimester is associated with better maternal health in pregnancy, fewer interventions in late pregnancy and positive child health outcomes.[16] The Australian Pregnancy Care Guidelines recommend that a woman has her first antenatal visit with a healthcare provier within the first ten weeks of pregnancy.[17]

For BSW women who gave birth, 40% did not attend their first antenatal visit before ten weeks gestation; overall, this was higher than the state average (36.4%). High rates were observed for Warrnambool City (67.1%) and Moyne Shire (66%). The City of Greater Geelong (22.3%) and Colac Otway Shire (29.2%) had a low proportion of women who gave birth and did not attend their first antenatal visit.

Table 5. BSW intersectional profile by LGA (female)

Local Government Areas	Indigenous status %	Disability status %	Born in Australia %	Low English proficiency %
Colac Otway Shire	1.4	7.2	83.1	1.2
Corangamite Shire	1.3	7.0	84.9	0.2
Glenelg Shire	2.9	8.2	83.8	0.2
City of Greater Geelong	1.3	6.9	78.0	1.7
Moyne Shire	1.8	5.2	85.1	0.2
Borough of Queenscliffe	0.2	6.0	83.2	0.3
Southern Grampians Shire	2.4	7.4	84.8	0.3
Surf Coast Shire	0.6	3.9	82.7	0.3
Warrnambool City	1.8	6.9	85.1	0.8
BSW average	1.5	6.5	83.4	0.6
State average	1.4	6.7	73.6	2.8

Data: 2024 PHIDU, Torrens University, ABS Births, Australia, 2020, Women's Health Atlas

When examining the intersectional profile of the BSW region (Table 5), there is a slightly higher proportion of Indigenous women than the state average; however, this varies widely across the LGAs. Glenelg Shire (2.9%) has over double the state average (1.4%), followed by Southern Grampians Shire (2.4%) and Warrnambool City (1.8%); the remaining LGAs were at the state average or below.

The proportion of women with a disability was slightly below the state average; however, six out of the nine LGAs were above the state average, with the highest being Glenelg Shire (8.2%). The region has a high proportion of women born in Australia (83.4%) compared to the state average (73.6%).

Socioeconomic factors are key determinants of health. The Australian Bureau of Statistics (ABS) produces a range of measures of socioeconomic conditions across geographic areas. The Socio-Economic Indexes for Areas (SEIFA) is one measure that ranks areas in Australia according to relative socio-economic advantage and disadvantage.[18]

Table 6. BSW Socioeconomic Indexes for Australia (SEIFA) by LGA (2021)

	CO	CS	GS	COG	MS	BQ	SG	SC	WC
Index of Relative Socio-economic Disadvantage (IRSD)									
IRSD Score	973	985	952	1007	1029	1082	994	1086	995
Ranking within Australia									
Rank	248	293	170	390	449	527	339	530	347
Decile	5	6	4	8	9	10	7	10	7
Ranking within Victoria									
Rank	21	26	13	46	58	75	35	77	37
Decile	3	4	2	6	8	10	5	10	5
Index of Relative Socio-economic Disadvantage and Advantage (IRSAD)									
IRSAD Score	938	955	919	990	998	1067	962	1076	961
Ranking within Australia									
Rank	208	285	133	405	422	500	317	505	312
Decile	4	6	3	8	8	10	6	10	6
Ranking within Victoria									
Rank	19	26	5	49	53	69	32	72	31
Decile	3	4	1	7	7	9	4	9	4
Index of Economic Resources (IER)									
IER Score	984	998	970	997	1037	1029	986	1076	982
Ranking within Australia									
Rank	208	285	133	405	422	500	317	505	312
Decile	38	53	25	74	78	92	58	93	57
Ranking within Victoria									
Rank	19	26	5	49	53	69	32	72	31
Decile	3	4	1	7	7	9	4	9	4
Index of Education and Occupation (IEO)									
IEO Score	925	948	911	993	996	1089	964	1074	957
Ranking within Australia									
Rank	197	300	146	421	427	500	359	488	329
Decile	4	6	3	8	8	10	7	9	7
Ranking within Victoria									
Rank	10	23	3	49	51	72	33	64	26
Decile	2	3	1	7	7	9	5	8	4

Data: ABS Census 2021, IRSD 2021, IRSAD 2021. Key: CO: Colac Otway Shire; CS: Corangamite Shire; GS: Glenelg Shire; COG: City of Greater Geelong; MS: Moyne Shire; BQ: Borough of Queenscliffe; SG: Southern Grampians Shire; SC: Surf Coast Shire; WC: Warrnambool City

The Index of Relative Socio-economic Disadvantage (IRSD) measures relative disadvantage and is calculated by geographic area using census data on income, education, occupation, housing, and other socioeconomic variables. A lower score indicates that an area is relatively disadvantaged compared to an area with a higher score.

For the BSW, the highest IRSD index for an LGA was in Surf Coast Shire (1086), followed by Borough of Queenscliffe (1082), indicating lower overall levels of disadvantage in these regions. Conversely, the lowest IRSD index was in Glenelg Shire (952) and Colac-Otway Shire (985), indicating relatively higher overall levels of disadvantage (Table 6).

For deciles, all areas are ordered from lowest to highest score; the lowest 10% of areas are given a decile number of 1, and up to the highest 10% of areas are given a decile number of 10. This means areas are divided into ten groups, depending on their score. Decile 1 is the most disadvantaged relative to the other deciles.

The Index of Relative Socio-economic Disadvantage and Advantage (IRSAD) measures both relative advantage and disadvantage. The highest IRSAD for an LGA within the BSW compared to Australia was in Surf Coast Shire and Borough of Queenscliffe, with a decile of 10, indicating a relative lack of disadvantage and greater advantage in general.

Poverty undermines people's mental and physical health, creates considerable stress for families and can hinder children's emotional, physical, and mental wellbeing and development.[17] The state poverty rate for women was 12.9%. The poverty rates across the BSW are unequal, with high rates observed in Glenelg Shire (14.8%) and Southern Grampians Shire (14.3%). Glenelg Shire also has higher than the state average of women earning below the weekly minimum wage (53.4%) (Table 7).

Seven out of nine LGAs have a percentage of women with Year 12 attainment below the state average (45.3%), with the lowest observed in Glenelg Shire (33.6%) (Table 7). Educational achievement is crucial for enhancing women's status. Young women who complete Year 12 are more likely to engage in full-time employment or study, experience lower unemployment rates, and earn higher incomes than those who do not complete Year 12. This leads to greater representation in professional fields, improved health outcomes and literacy, better financial stability, and increased political representation.[20]

Examining the socioeconomic profile of the BSW region reveals deep inequities and disadvantages that impact women. Having access to material and social resources and participating in society is important for maintaining good health. People in lower socioeconomic groups are at greater risk of poor health, have higher rates of illness, disability and death, and live shorter lives than people from higher socioeconomic groups. The higher a person's socioeconomic position, the healthier they tend to be.[21]

Access to SRH services is a critical component of women's sexual and reproductive health outcomes. Examining access to services can help identify gaps and barriers, thereby informing strategies to address disparities, enhance service provision, and ensure comprehensive healthcare for all. The following section provides an overview of the methodology undertaken for the spatial analysis, which maps the accessibility of SRH services across the region.

Table 7. BSW socioeconomic profile by LGA

	Proportion of the female population									
	CO	CS	GS	COG	MS	BQ	SG	SC	WC	State
Economic disadvantage										
Below weekly minimum wage (% aged 15 and over earning $0-799)	49.2%	49.6%	53.4%	46.3%	44.7%	47.0%	49.2%	39.7%	47.3%	46.3%
Living in poverty (poverty rate %)	12.5%	11.7%	14.8%	11.4%	11.0%	7.6%	14.3%	8.7%	12.3%	12.9%
Lone-parent status (% of female lone parents)	79.1%	76.2%	78.7%	81.4%	76.4%	80.5%	80.1%	77.6%	82.5%	79.3%
Lone parents living in poverty (% of all single parents)	22.0%	24.0%	13.0%	18.0%	26.0%	5.0%	20.0%	17.0%	22.0%	-
Employment status										
Employed full-time (% aged 15 and over)	37.5%	38.8%	37.1%	38.9%	38.3%	33.0%	39.8%	37.8%	38.0%	41.4%
Employed part-time (% aged 15 and over)	50.8%	49.7%	50.2%	49.0%	49.3%	51.2%	49.1%	50.6%	51.2%	46.4%
Unemployed (% aged 15 and over)	2.4%	3.0%	4.2%	4.0%	2.3%	3.6%	2.6%	2.6%	2.9%	4.0%
Education status										
Education (% attained year 12 or equivalent)	34.9%	36.5%	33.6%	36.2%	40.6%	57.0%	37.7%	52.8%	41.4%	45.3%
Children in families where the mother has low educational attainment (%)	17.4%	14.8%	18.8%	14.6%	12.7%	6.5%	15.3%	6.0%	15.0%	17.4%

Data sources: ABS Census 2021, VCOSS 2023. Key: CO: Colac Otway Shire; CS: Corangamite Shire; GS: Glenelg Shire; COG: City of Greater Geelong; MS: Moyne Shire; BQ: Borough of Queenscliffe; SG: Southern Grampians Shire; SC: Surf Coast Shire; WC: Warrnambool City

Methodology

This project used several methods to enable a comprehensive analysis of SRH access across the region:

1. Epidemiological analysis of SRH data
2. Spatial analysis at the address level
3. Systematic review of the peer-reviewed literature

Data sources and analysis

Several different data sources were collected for this project (Appendix A). Manually collected service data was geocoded to enable spatial processing using ArcGIS Pro. Using address-level intelligence, a time accessibility model was then applied. The time accessibility model was calculated from the health service location to every Geocoded National Address File (GNAF)* location along a road network in the BSW region. This methodology is in the process of being refined and validated by CARA as part of an Australian Research Council Linkage, Infrastructure, Equipment & Facilities (ARC LIEF) grant.

Health service classification

Following the World Health Organization life course approach, SRH services include access to contraception, menstrual health and menopause, fertility and infertility care, maternal and perinatal health, prevention and treatment of STIs, and education. SRH services were classified and presented according to the Australian Institute of Health and Welfare (AIHW) definitions to reflect the various components of the Australian healthcare system (Table 8).

Table 8. SRH health services

Health services	Definition	Example of services
Health promotion and prevention	Improving health and preventing ill health	• Immunisation (e.g., HPV vaccination) • Cancer screening (e.g., cervical, breast) • STI screening
Primary healthcare	First contact with the health system	• GP practice (e.g., contraception, medical termination of pregnancy) • Community health (e.g., maternal health, lactation consultant) • Allied health (e.g., pelvic floor physiotherapy, continence services) • Pharmacy (e.g., dispensing of contraception and MS2Step)
Specialist care	Provides services for those with specific or complex conditions or issues	• Referred medical specialist services (e.g., reproductive endocrinology fertility services, gynaecology, obstetrics) • Diagnostic services (ultrasound, pathology)
Hospitals	Services provided to admitted and non-admitted patients	• Inpatient (e.g., surgical termination of pregnancy, fertility treatments) • Outpatient clinics • Maternity services

* GNAF is the authoritative list of all 15 million physical addresses in Australia provided by Geoscape Australia Ltd. Approximately 10 million of which have been determined to be residential by the ABS.

Examining sexual and reproductive health service access in the Barwon South West

Health promotion and prevention

Cervical screening services

Cervical screening services are part of the National Cervical Screening Program that reduces illness and death from cervical cancer. From 2018 to 2020, the BSW region had higher participation rates than the state average (48.2% and 47.4%, respectively). However, there is variation between the LGAs, with four of the nine having below-state average participation. Below-state average participation rates are observed in Southern Grampians Shire (39.3%), Glenelg Shire (40.9%), Colac Otway Shire (44.9%), and Corangamite Shire (46.7%).

Access to services

There were 106 publicly listed cervical screening services across the BSW region (Figure 3). These services were located in GP clinics (n=86), specialist services (n=2), community health services (n=14), Aboriginal health services (n=3), and hospitals (n=1).

The average travel time to a cervical screening service in the BSW region was 8 minutes (min 0; max 51) (Table 9). Travel times varied within each LGA. For instance, in Glenelg Shire, where participation rates are lower than the state average, there were areas where residents would need to travel 95 minutes to access a service.

Table 9. Travel time (minutes) to cervical screening services

LGA	Mean	Med	Min	Max
Colac Otway Shire	10	4	0	70
Corangamite Shire	12	5	0	63
Glenelg Shire	14	6	0	95
City of Greater Geelong	3	3	0	42
Moyne Shire	8	4	0	55
Borough of Queenscliffe	3	3	0	11
Southern Grampians Shire	12	5	0	63
Surf Coast Shire	4	3	0	36
Warrnambool City	3	2	0	21
BSW average	8	4	0	51

* mean travel times may change during CARA sensitivity testing

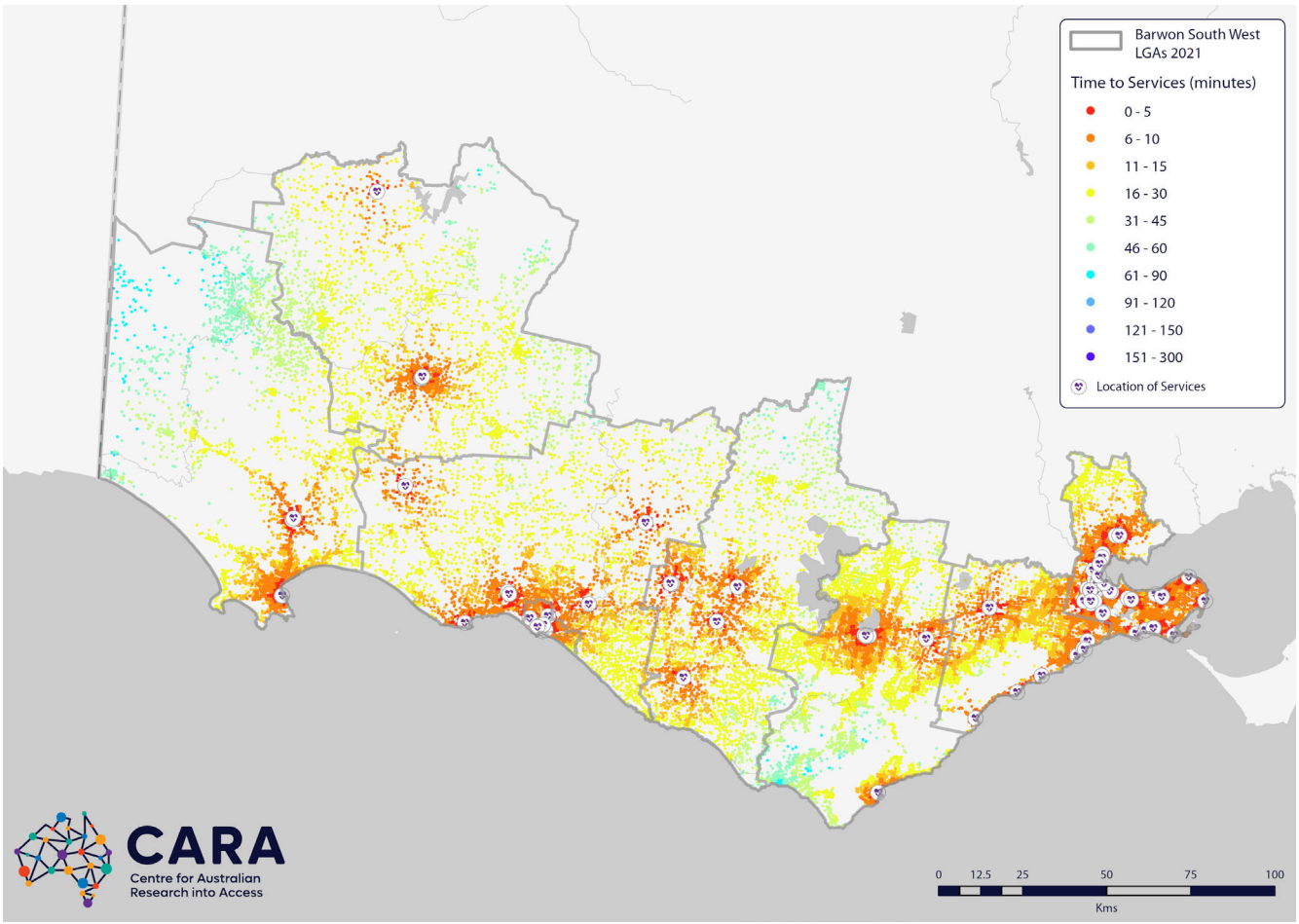

Figure 3. Distribution of cervical screening services across the BSW region

Sexually transmitted infection screening services

Sexually transmitted infection (STI) screening services provide STI check-ups, testing, and treatment. Chlamydia is the most frequently reported notifiable infection in Victoria. It has become a significant public health problem because of its long-term consequences of infection, which are predominantly experienced by women.

Access to services

There were 43 publicly listed STI screening services across the BSW region (Figure 4). These services were located in GP clinics (n=35), specialist services (n=2), community health services (n=3), hospitals (n=2), and SRH clinics (n=1). The average travel time to an STI screening service in the BSW region was 13 minutes (min 1; max 58) (Table 10). The average travel times for Colac-Otway Shire (25 minutes) and Glenelg Shire (24 minutes) were higher than that for other LGAs.

Table 10. Travel time (minutes) to STI screening services

LGA	Mean	Med	Min	Max
Colac Otway Shire	25	14	0	88
Corangamite Shire	18	12	0	72
Glenelg Shire	24	21	0	96
City of Greater Geelong	4	3	0	42
Moyne Shire	11	7	0	59
Borough of Queenscliffe	9	9	6	18
Southern Grampians Shire	14	5	0	72
Surf Coast Shire	10	4	0	54
Warrnambool City	3	3	0	21
BSW average	13	9	1	58

* mean travel times may change during CARA sensitivity testing

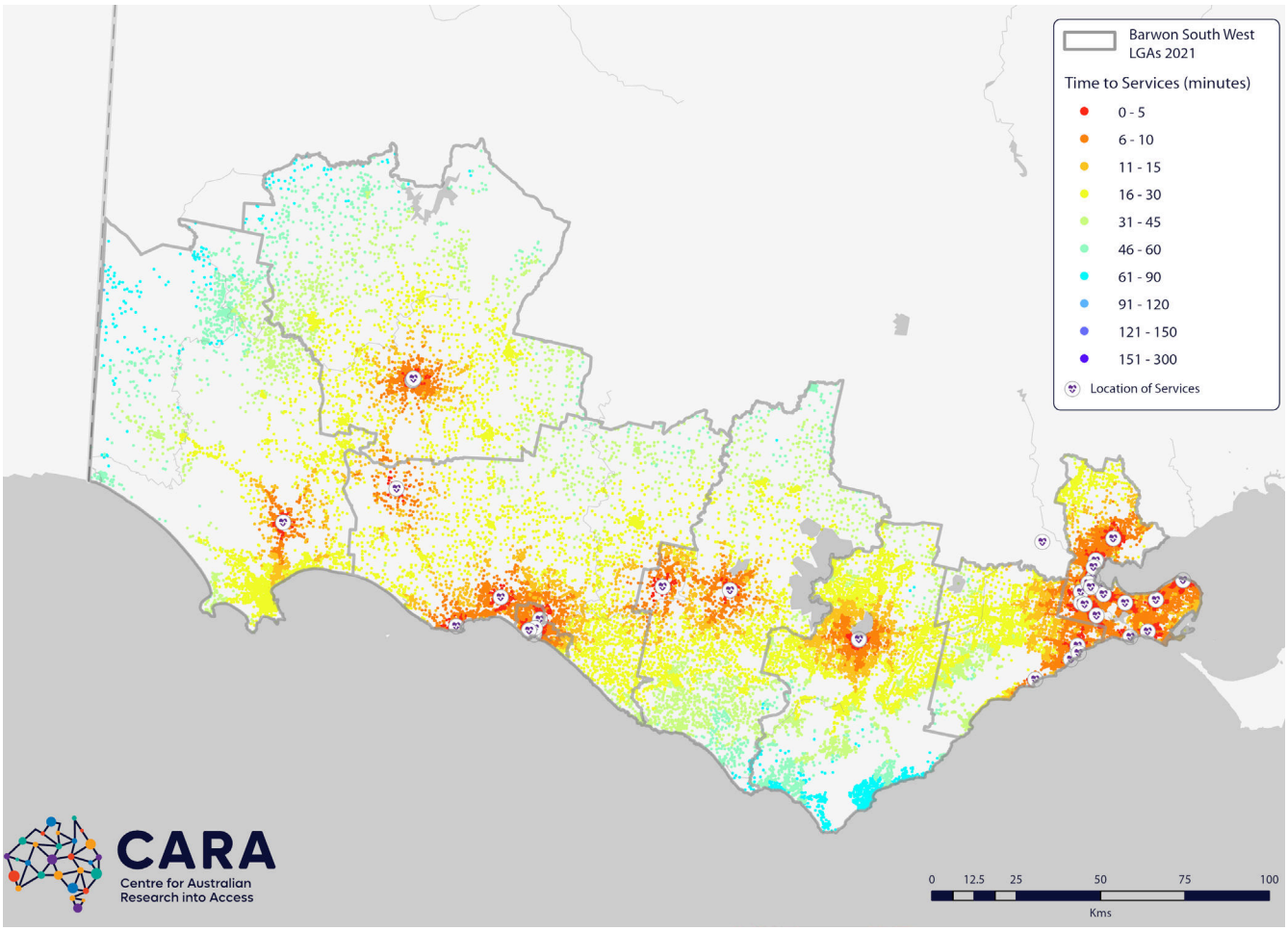

Figure 4. Distribution of STI services across the BSW region

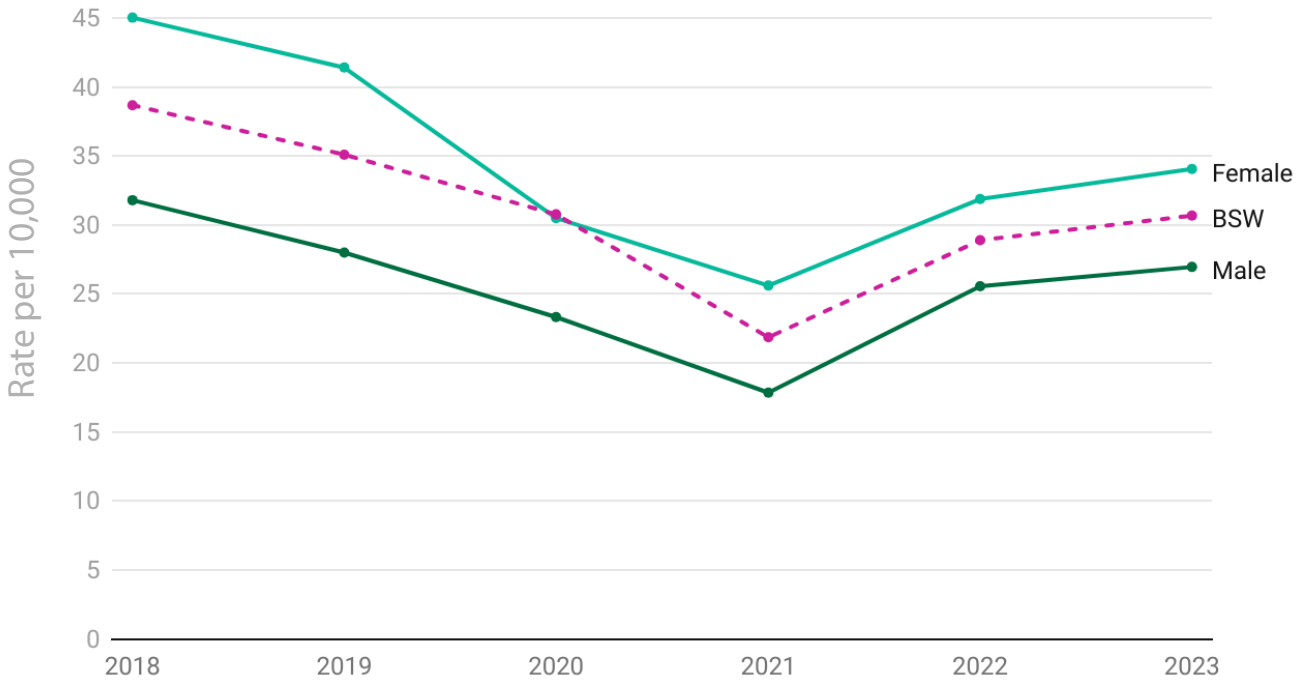

Figure 5. Barwon South West chlamydia rate per 10,000 (2018-2023)

Figure 5 shows the sex-specific rates and total population rate per 10,000 for the number of chlamydia cases notified within the BSW annually over a six-year period (2018-2023).

Primary healthcare

General practice

In 2022, the BSW region had 129.6 general practitioners (GPs) per 100,000 population, slightly higher than the state-wide rate of 124.6. However, there was wide variability in GP distribution across the LGAs, with lower distribution in Glenelg Shire (54.9 GPs per 100,000), followed by Corangamite Shire (62.5 GPs per 100,000 population) and Moyne Shire (68.7 GPs per 100,000). A higher distribution of GPs were observed in Borough of Queenscliffe (434.8 GPs per 100,000 population) and Warrnambool City (171.5 GPs per 100,000 population).

Access to services

The average travel time to GP services in the BSW region was 5 minutes (min 0; max 41) (Figure 6). Travel times were calculated to a service location, not an individual practitioner. The LGA with the longest travel times was Colac Otway Shire, with areas where residents need to travel 70 minutes to access a service (Table 11).

Table 11. Travel time (minutes) to GP services

LGA	Mean	Med	Min	Max
Colac Otway Shire	7	3	0	70
Corangamite Shire	7	2	0	54
Glenelg Shire	6	3	0	54
City of Greater Geelong	2	2	0	30
Moyne Shire	9	5	0	47
Borough of Queenscliffe	2	2	0	7
Southern Grampians Shire	6	2	0	54
Surf Coast Shire	3	2	0	36
Warrnambool City	2	2	0	16
BSW average	5	3	0	41

* mean travel times may change during CARA sensitivity testing

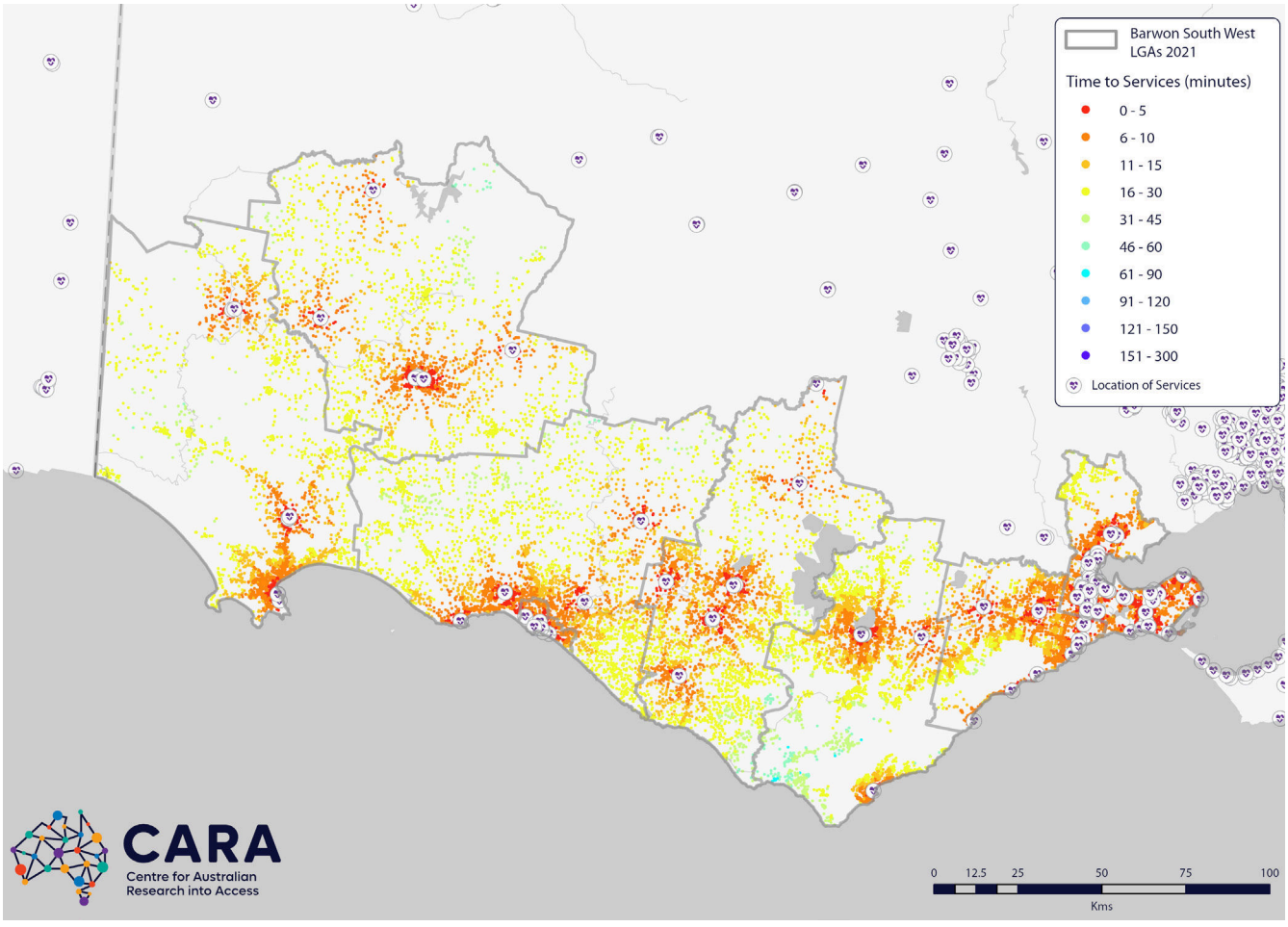

Figure 6. Distribution of GP services across the BSW region

Medical termination of pregnancy

Medical termination of pregnancy (MTOP) is a safe, legal, and standard procedure provided in primary care settings. It involves the prescription of mifepristone and misoprostol (MS-2 Step) to end a pregnancy up to nine weeks of gestation. Figures 7 and 8 present the data for patient and provider rates in the BSW. The rate equals the number of claims for PBS Item 10211K (Mifepristone and Misoprostol) services provided to female patients (all ages) by the patient and provider LGA location in the BSW during the calendar years 2021 and 2022, respectively.

The distribution of MTOP services in the BSW varies considerably between supply (provider location) and demand (patient location). For 2021, Colac Otway Shire had the greatest disparity in the number of providers to patient location, followed by Southern Grampians Shire (Figure 7). Warrnambool City had more providers prescribing MTOPs than patients seeking the service, indicating that patients may travel to the LGA to access a provider.

There were more disparities in 2022 than the previous year. Borough of Queenscliffe and Glenelg Shire had the most significant disparity in the number of providers per patient location, with Queenscliffe having no provider prescriptions recorded for the region (Figure 8). Warrnambool showed similar numbers of providers prescribing MTOPs to patients seeking the service in the previous year, with a slight increase in providers prescribing MTOPs and patients seeking the service.

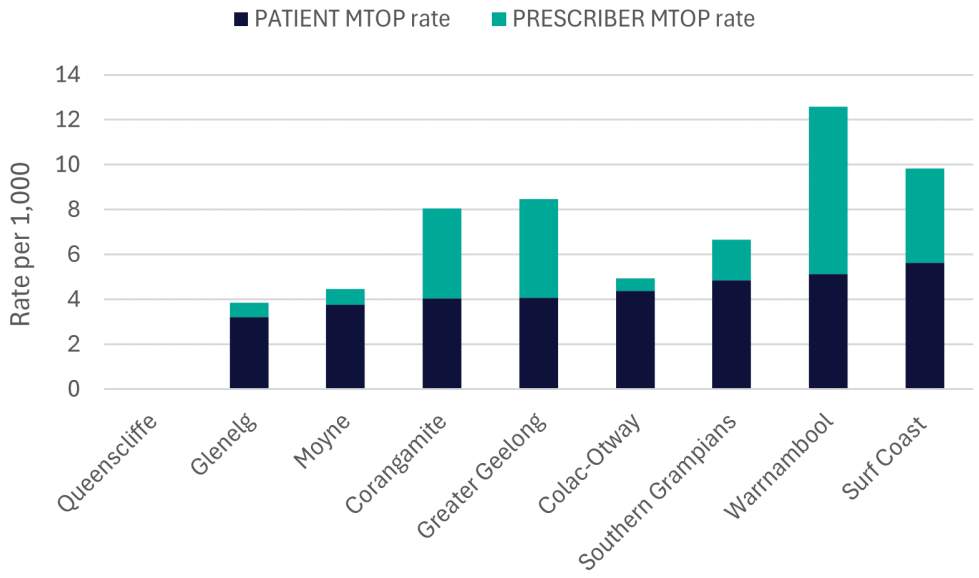

Figure 7. MTOP patient and provider rate per 1,000 by LGA (2021)

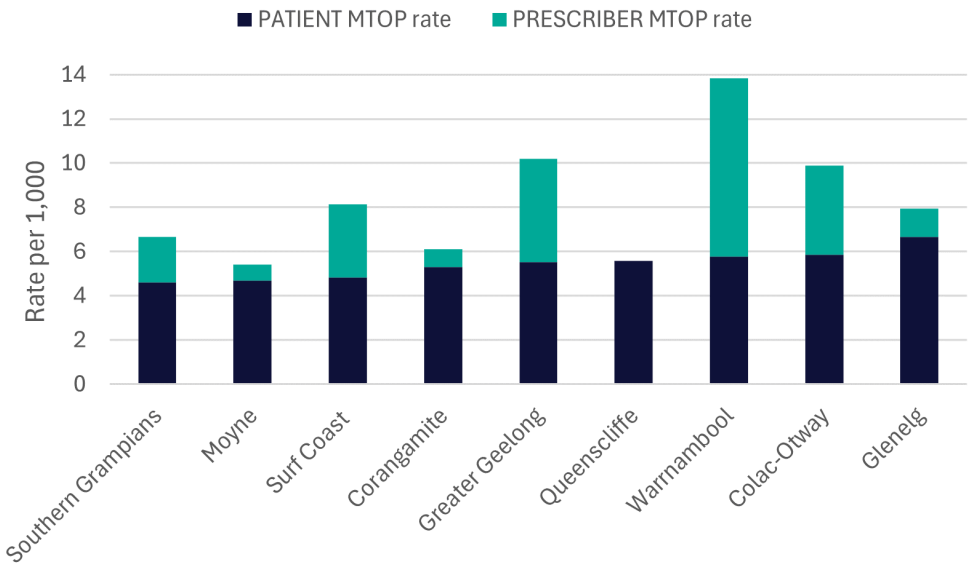

Figure 8. MTOP patient and provider rate per 1,000 by LGA (2022)

Access to services

In the BSW, only 24 GP services were publicly listed as MTOP providers (Figure 9), and at the time of data collection, 14 MTOP providers were available for appointments within six weeks.

The average travel time to an MTOP service in the BSW region was 20 minutes (min 3; max 65) (Table 12). The average travel time for Glenelg Shire (49 minutes) and Southern Grampians Shire (34 minutes) were higher than that for other LGAs. In Glenelg Shire, there were areas where residents would need to travel 115 minutes to access a service.

Table 12. Travel time (minutes) to MTOP services

LGA	Mean	Med	Min	Max
Colac Otway Shire	25	14	0	88
Corangamite Shire	24	19	0	74
Glenelg Shire	49	49	12	115
City of Greater Geelong	5	4	0	42
Moyne Shire	14	13	0	71
Borough of Queenscliffe	14	13	10	22
Southern Grampians Shire	34	27	7	94
Surf Coast Shire	10	4	0	54
Warrnambool City	3	3	0	21
BSW average	20	16	3	65

* mean travel times may change during CARA sensitivity testing

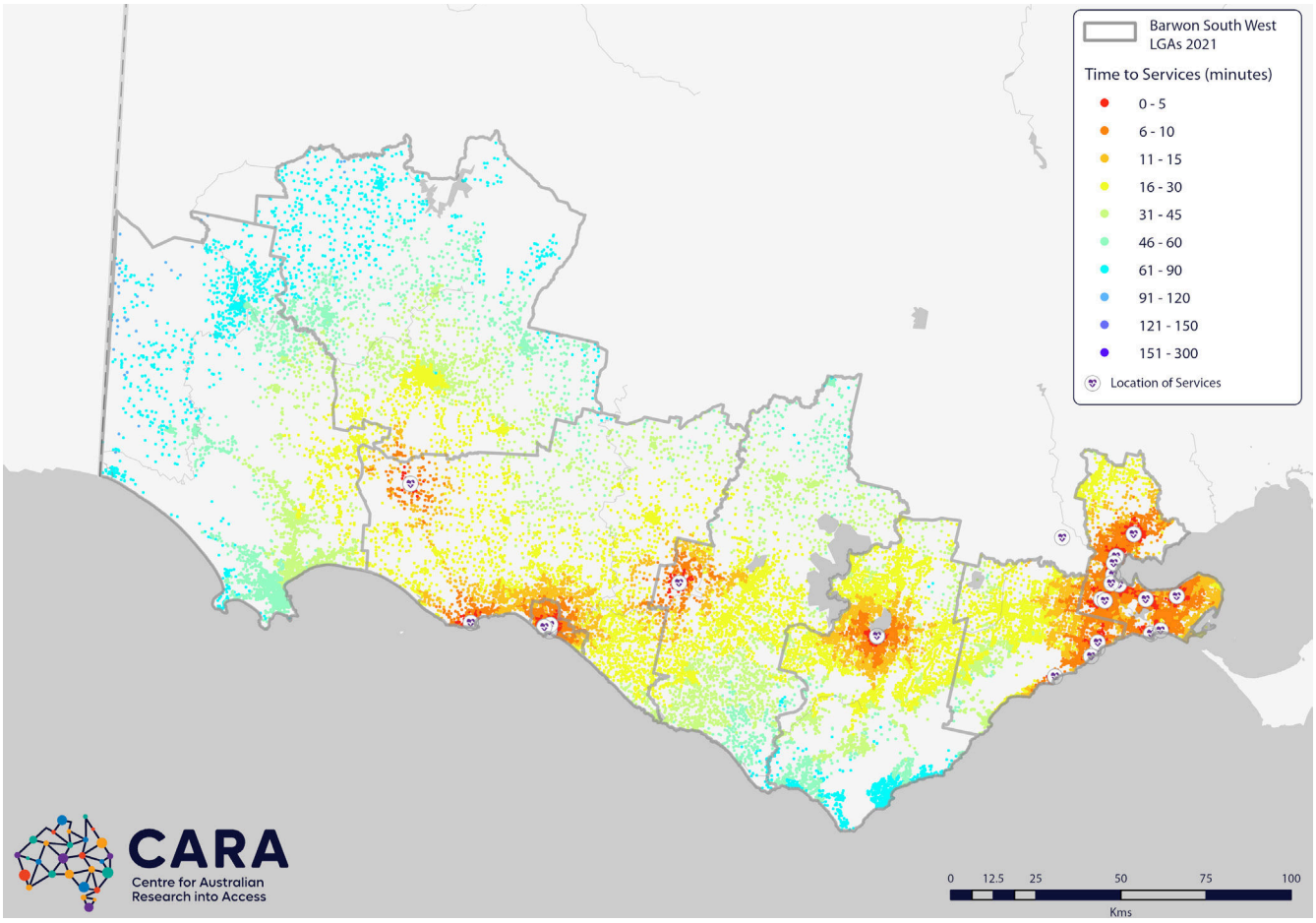

Figure 9. Distribution of MTOP services across the BSW region

Contraceptive intrauterine device

The contraceptive intrauterine device (IUD) is a Long-Acting Reversible Contraception (LARC) method where a small device is positioned into the uterus. The copper IUD and the hormonal IUD are available in Australia. They last for at least five years and are 99.9% effective in preventing pregnancy. Figures 10 and 11 provide the data for patient and provider rates. The rate equals the number of claims for MBS Item 35503 (introduction of an intrauterine contraceptive device) services provided to female patients (all ages) by the patient and provider LGA location in the BSW during the calendar years 2021 and 2022, respectively.

The distribution of contraceptive IUD services in the BSW varies considerably between supply (provider location) and demand (patient location). For 2021, Moyne Shire had the greatest disparity in the number of providers to patient location (Figure 10). Warrnambool City had more providers of IUD services than patients seeking the service, indicating that patients may travel to the LGA to access a provider.

Overall, there was less disparity across the BSW in 2022 than in the previous year (Figure 11). However, disparities worsened among the LGAs. Moyne Shire worsened from the previous year and had more disparity in the number of providers to patient location, as no provider prescriptions were recorded. Warrnambool City had more providers of IUD services than patients seeking the service, which was higher than the previous year.

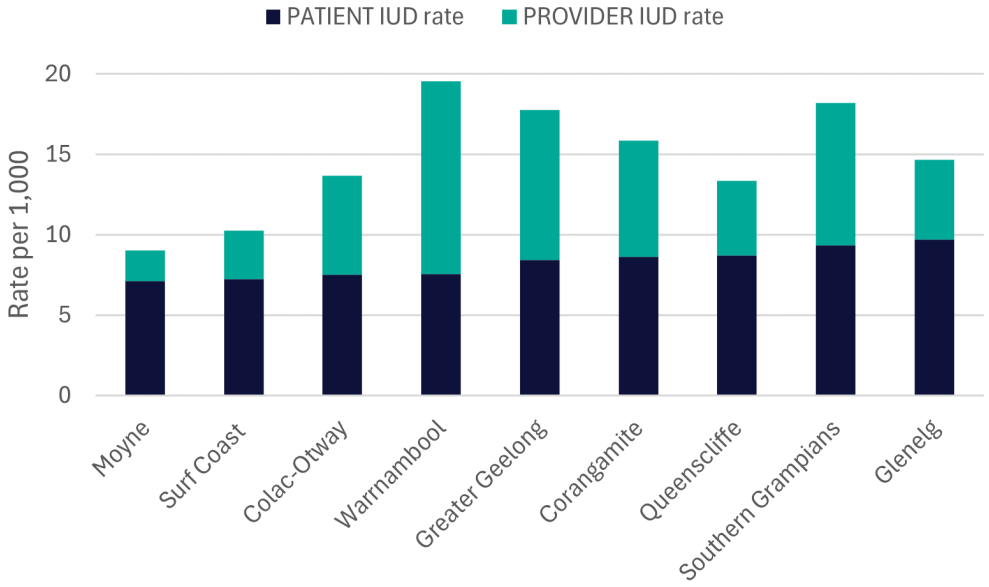

Figure 10. IUD patient and provider rates per 1,000 by LGA (2021)

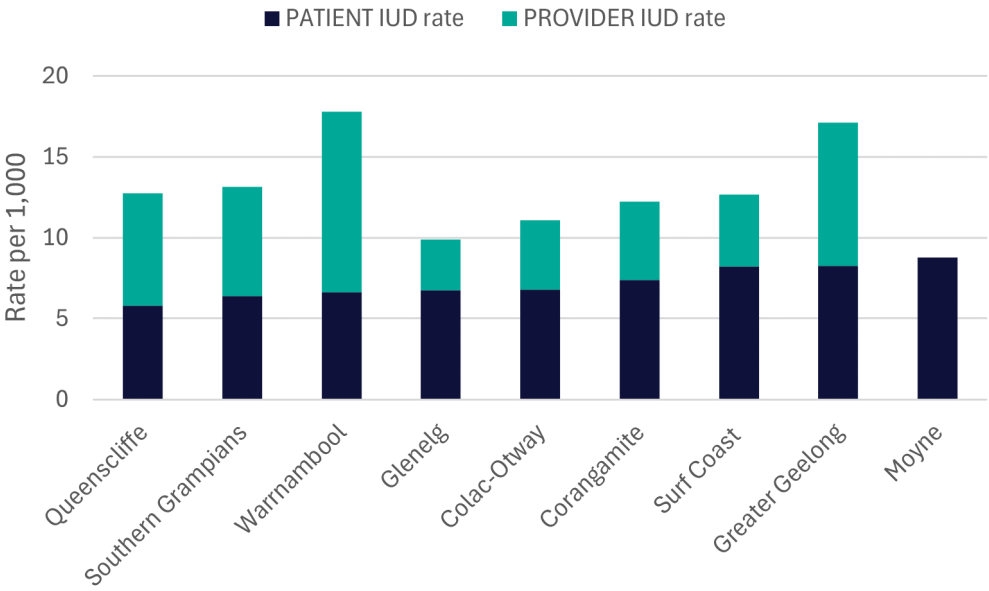

Figure 11. IUD patient and provider rates per 1,000 by LGA (2022)

Access to services

In the BSW, 36 health services were publicly listed as providers of IUD insertion (Figure 12). These services were provided in GP clinics (n=30), specialist services (n=2), community health services (n=2), and hospitals (n=2).

The average travel time to IUD services in the BSW region was 16 minutes (min 3; max 59) (Table 13). However, travel times varied within each LGA. For instance, in Glenelg Shire, the average travel time to access a service was 50 minutes, and there were areas where residents would need to travel over 100 minutes.

Table 13. Travel time (minutes) to IUD services

LGA	Mean	Med	Min	Max
Colac Otway Shire	25	14	0	88
Corangamite Shire	18	12	0	72
Glenelg Shire	50	50	20	101
City of Greater Geelong	4	4	0	42
Moyne Shire	12	9	0	59
Borough of Queenscliffe	9	9	6	18
Southern Grampians Shire	14	5	0	72
Surf Coast Shire	10	4	0	54
Warrnambool City	4	3	0	21
BSW average	16	12	3	59

* mean travel times may change during CARA sensitivity testing

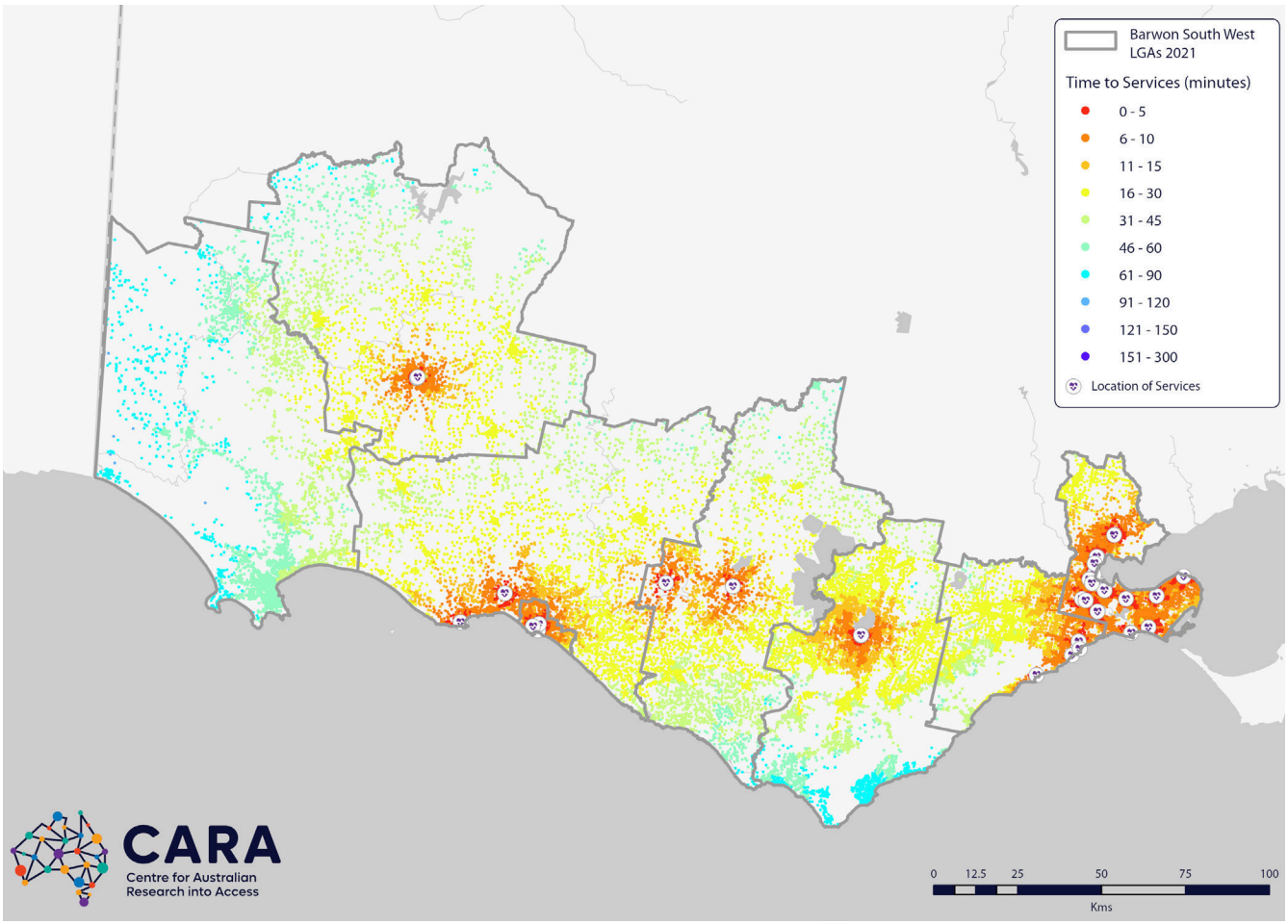

Figure 12. Distribution of IUD services across the BSW region

Contraceptive implant

The contraceptive implant is an LARC method. A small hormonal implant is inserted under the skin for up to three years. It is 99.9% effective in preventing pregnancy. Figures 13 and 14 provide the data for patient and provider rates. The rate equals the number of claims for MBS Item 14206 (hormone or living tissue implantation by cannula) services provided to female patients (all ages) by the patient and provider LGA location in the BSW during the calendar years 2021 and 2022, respectively.

The distribution of contraceptive implant services in the BSW varies considerably between supply (provider location) and demand (patient location). For 2021, Moyne Shire had the most significant disparity in the number of providers to patient location (Figure 13). Warrnambool City had more implant service providers than patients seeking the service, followed by Borough of Queenscliffe, indicating that patients may travel to these LGAs to access a provider.

There were more disparities in 2022 than in the previous year (Figure 14). Moyne Shire had the greatest disparity in the number of providers to patient location, worsening from the previous year. Warrnambool City had more providers of implant services than patients seeking the service; however, this was less than the previous year.

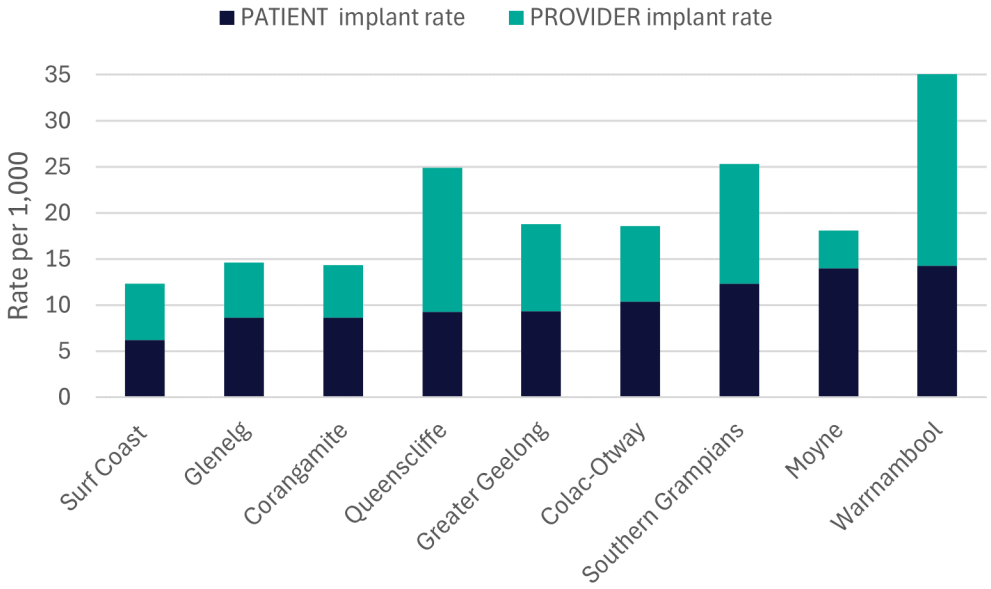

Figure 13. Implant patient and provider rates per 1,000 by LGA (2021)

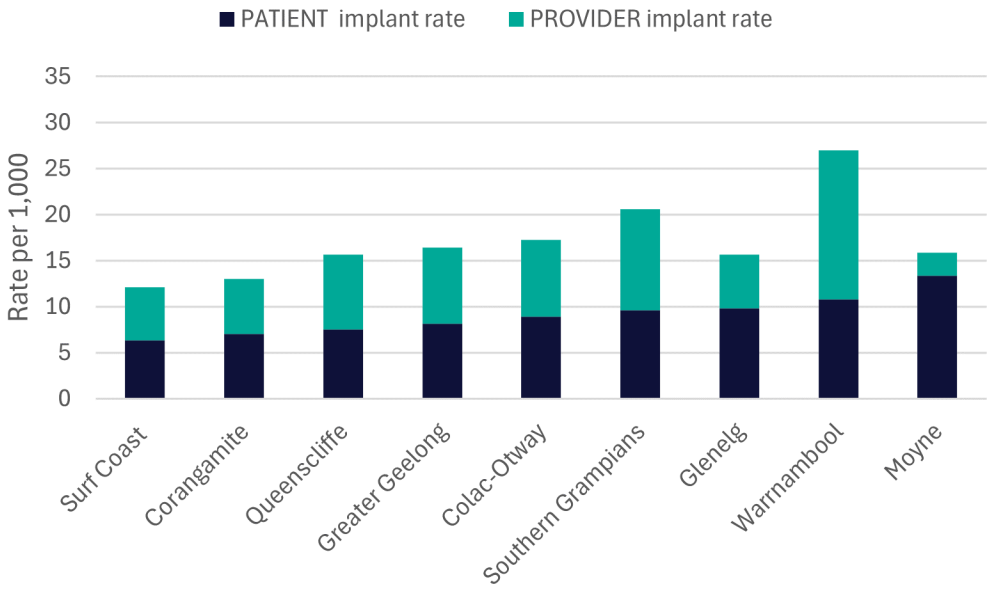

Figure 14. Implant patient and provider rates per 1,000 by LGA (2022)

Access to services

In the BSW, 41 health services were publicly listed as providers of implant services (Figure 15). These included GP clinics (n=34), hospitals (n=3), specialists (n=2), and community health services (n=2). Average travel times to implant services in the BSW region were similar to IUD services, with a travel time of 15 minutes (min 3; max 59) (Table 14). Travel times for LGAs, such as Glenelg Shire, were still higher than the others, with areas where residents need to travel 101 minutes to access a service.

Table 14. Travel time (minutes) to implant services

LGA	Mean	Med	Min	Max
Colac Otway Shire	25	14	0	88
Corangamite Shire	18	12	0	72
Glenelg Shire	47	48	12	101
City of Greater Geelong	4	3	0	42
Moyne Shire	11	7	0	59
Borough of Queenscliffe	9	9	6	18
Southern Grampians Shire	14	5	0	72
Surf Coast Shire	10	4	0	54
Warrnambool City	3	3	0	21
BSW average	16	12	3	59

* mean travel times may change during CARA sensitivity testing

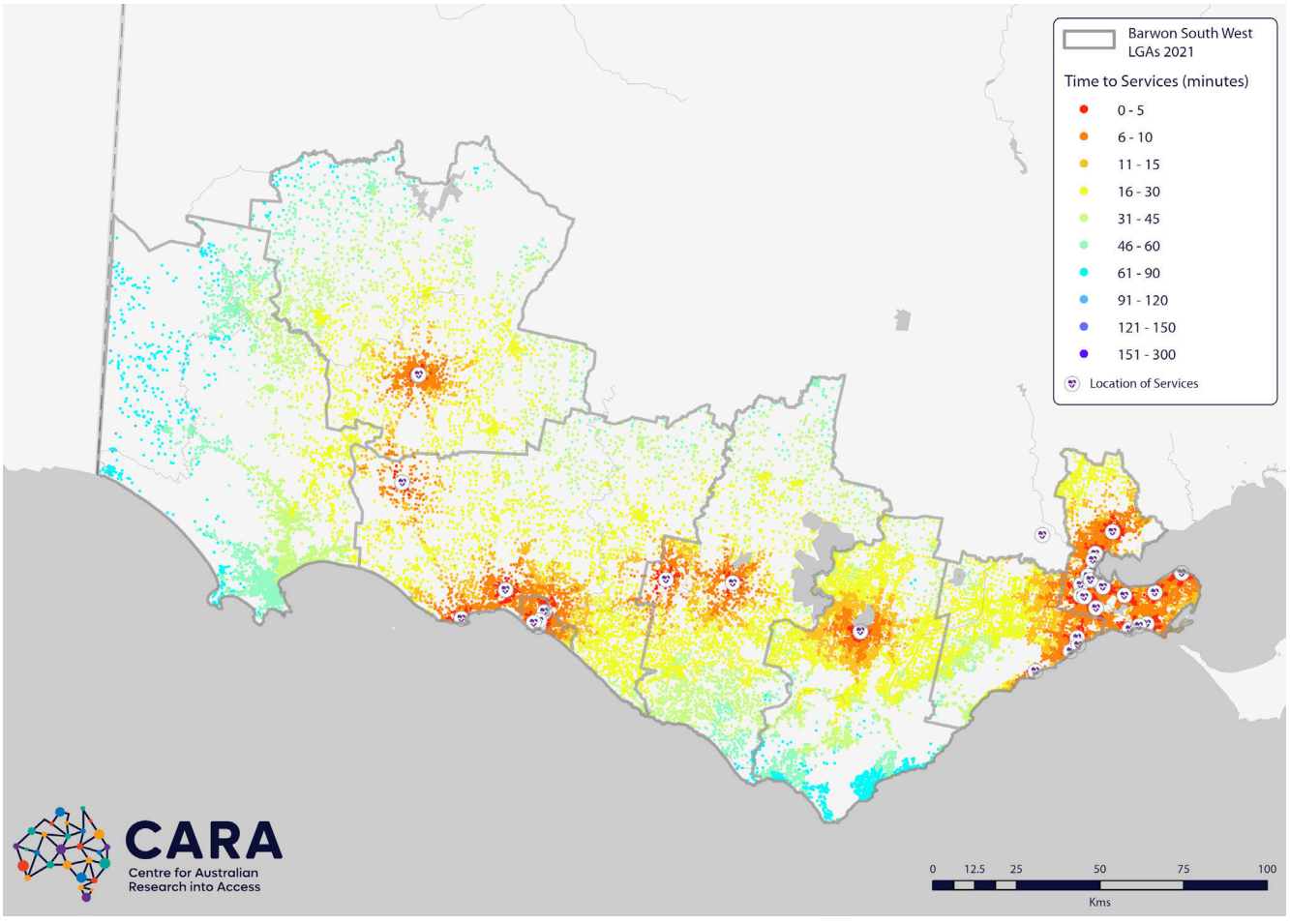

Figure 15. Distribution of implant services across the BSW region

Pharmacy

SRH pharmaceuticals include a wide range of products, such as emergency contraceptive pills (EC), contraceptive implants, IUDs, and MTOP medication. In 2023, the Therapeutic Goods Administration (TGA) amended restrictions on prescribing the MTOP medication MS-2 Step (Mifepristone and Misoprostol). Previously, MS-2 Step could only be dispensed by a registered dispenser pharmacist; however, restrictions on dispensing that limited access to registered pharmacists have been lifted.[22]

Access to services

The average travel time to a pharmacy service in the BSW region was 5 minutes (min 0; max 41) (Figure 16). Despite the low average travel time, there were still areas in Colac Otway Shire where residents would need to travel 68 minutes to access a pharmacy (Table 15).

Table 15. Travel time (minutes) to pharmacy services

LGA	Mean	Med	Min	Max
Colac Otway Shire	7	3	0	68
Corangamite Shire	6	2	0	52
Glenelg Shire	6	3	0	56
City of Greater Geelong	2	2	0	25
Moyne Shire	9	6	0	45
Borough of Queenscliffe	2	2	0	8
Southern Grampians Shire	7	3	0	55
Surf Coast Shire	4	3	0	36
Warrnambool City	2	2	0	20
BSW average	5	3	0	41

* mean travel times may change during CARA sensitivity testing

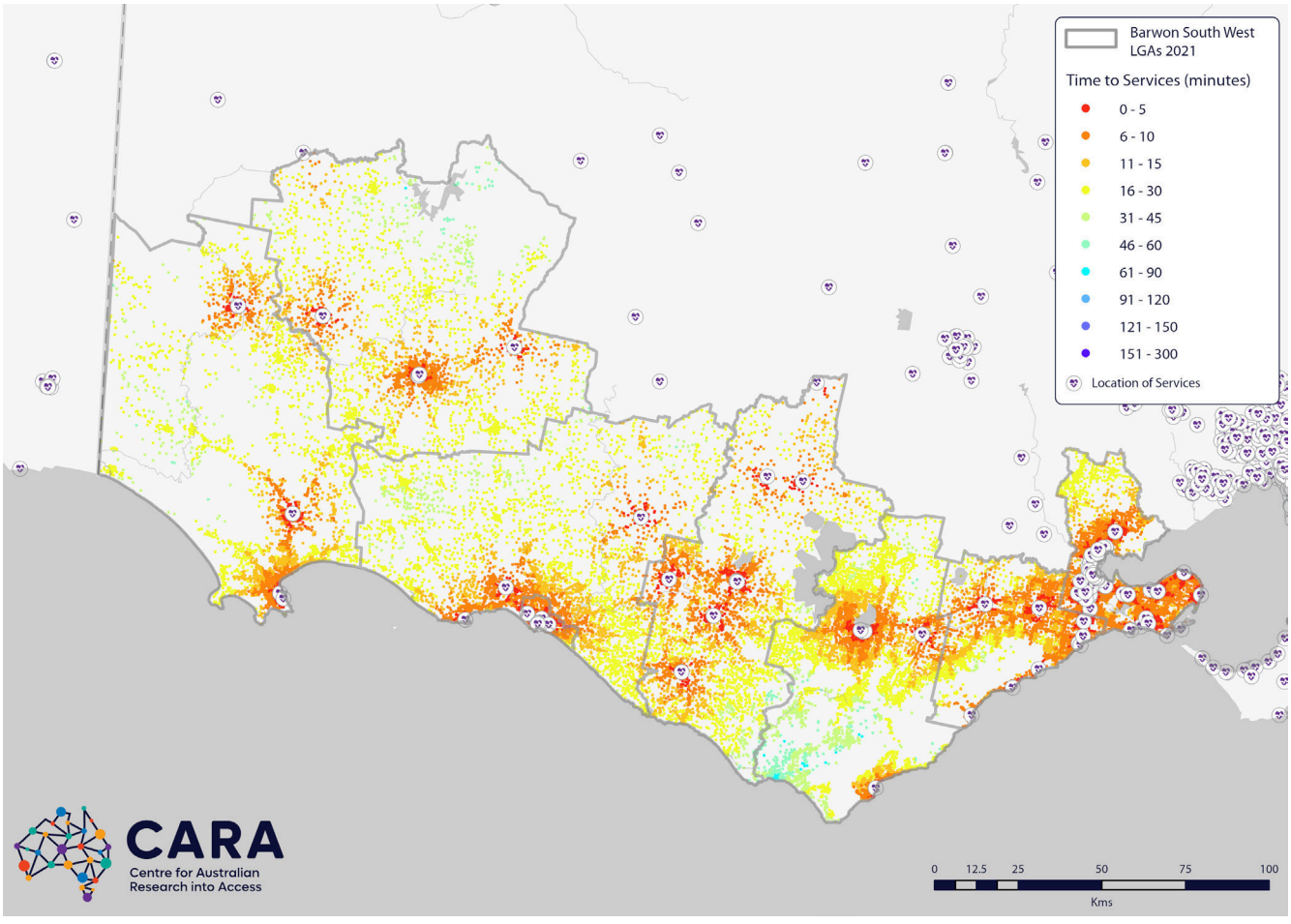

Figure 16. Distribution of pharmacy services across the BSW region

Pelvic floor physiotherapy

Pelvic floor physiotherapy is a branch of physiotherapy that involves internal and external assessment, treatment, and management of pelvic floor dysfunction, including, but not limited to, urinary and faecal incontinence, pelvic organ prolapses, and pelvic girdle pain.

Access to services

Nine publicly listed pelvic floor physiotherapy services were in the BSW (Figure 17). These include a mix of hospital-based and private practice services. The average travel time to pelvic floor physiotherapy services in the BSW region was 24 minutes (min 9; max 69) (Table 16). With a limited number of publicly listed services, some LGAs had significant travel times. For instance, in Colac Otway Shire, there were areas where residents would need to travel 132 minutes to access a service.

Table 16. Travel time (minutes) to pelvic floor physiotherapy services

LGA	Mean	Med	Min	Max
Colac Otway Shire	63	52	32	132
Corangamite Shire	51	51	28	101
Glenelg Shire	16	6	0	92
City of Greater Geelong	9	8	0	41
Moyne Shire	26	24	7	81
Borough of Queenscliffe	16	16	13	21
Southern Grampians Shire	13	5	0	68
Surf Coast Shire	15	9	0	64
Warrnambool City	5	5	1	25
BSW average	24	20	9	69

* mean travel times may change during CARA sensitivity testing

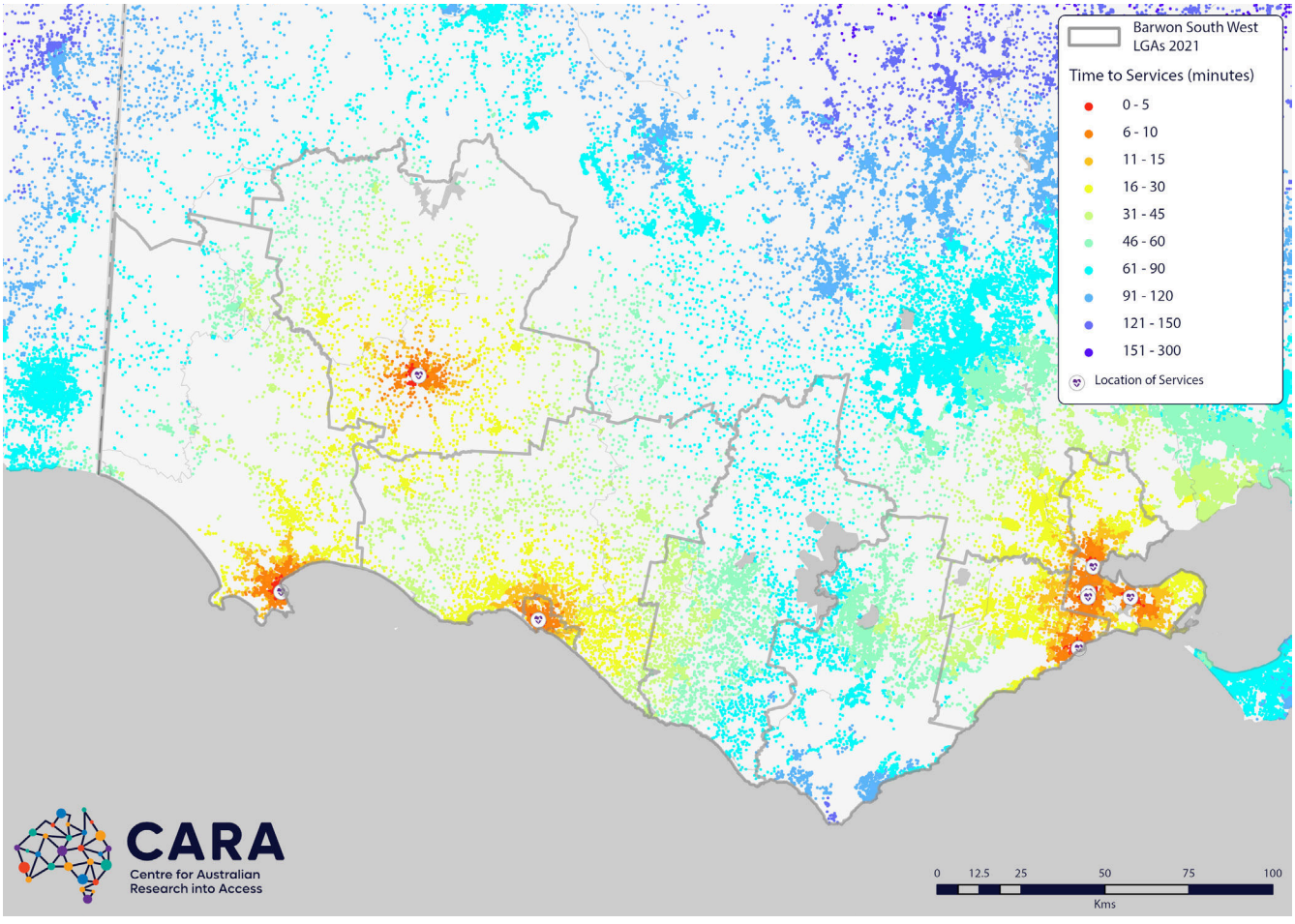

Figure 17. Distribution of pelvic floor physiotherapy services across the BSW region

Maternal child health services

Maternal child health is a health care service provided by maternal and child health nurses to all children from infancy to six years and their parents. The service provides health and developmental checks, parenting groups, immunisation information and assistance, education, health and wellbeing, information and resources, and enhanced Maternal and Child Health Service.

Access to services

The average travel time to maternal child health services in the BSW region was 5 minutes (min 0; max 37) (Figure 18). However, in Colac Otway Shire, there were areas where residents would need to travel over 60 minutes to access a service (Table 17).

Table 17. Travel time (minutes) to maternal child health services

LGA	Mean	Med	Min	Max
Colac Otway Shire	6	3	0	61
Corangamite Shire	6	3	0	38
Glenelg Shire	6	3	0	49
City of Greater Geelong	4	3	0	27
Moyne Shire	8	6	0	41
Borough of Queenscliffe	5	5	0	9
Southern Grampians Shire	5	3	0	47
Surf Coast Shire	5	4	0	36
Warrnambool City	4	4	0	22
BSW average	5	4	0	37

* mean travel times may change during CARA sensitivity testing

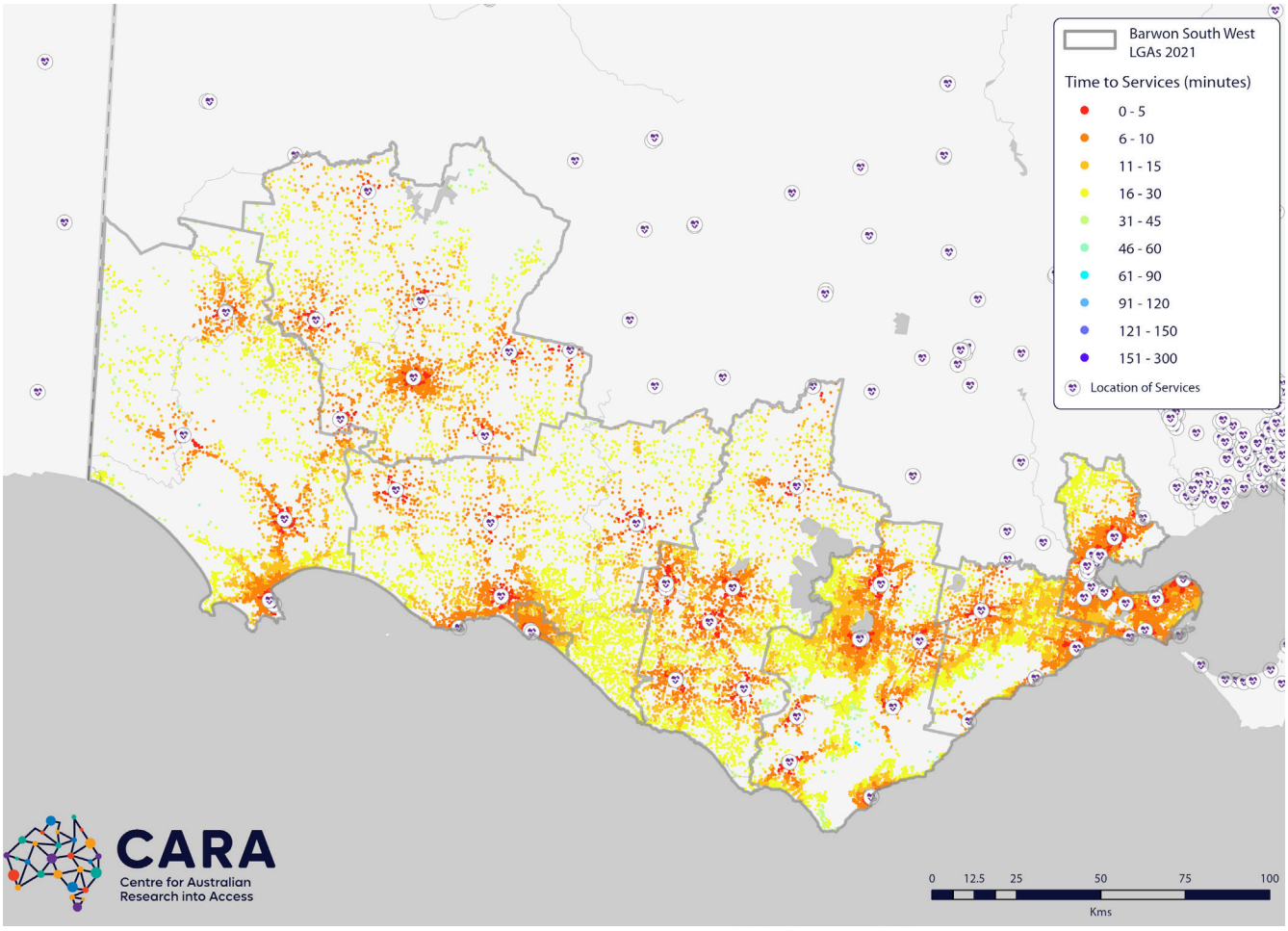

Figure 18. Distribution of maternal child health services across the BSW region

Lactation support services

Lactation support services are health professionals who specialises in helping women to breastfeed their babies.

Access to services

There were 11 publicly listed lactation support services located in the BSW (Figure 19). The average travel time to lactation support services in the BSW region was 29 minutes (min 12; max 81) (Table 18). With a limited number of publicly listed services, some LGAs have considerable travel times. For instance, in Colac Otway Shire, there were areas where residents would need to travel 135 minutes to access a service.

Table 18. Travel time (minutes) to lactation support services

LGA	Mean	Med	Min	Max
Colac-Otway Shire	64	54	33	135
Corangamite Shire	47	47	24	100
Glenelg Shire	21	7	0	112
City of Greater Geelong	10	10	0	58
Moyne Shire	26	24	4	82
Borough of Queenscliffe	10	10	7	19
Southern Grampians Shire	63	60	38	122
Surf Coast Shire	16	8	0	80
Warrnambool City	4	4	0	23
BSW average	29	25	12	81

* mean travel times may change during CARA sensitivity testing

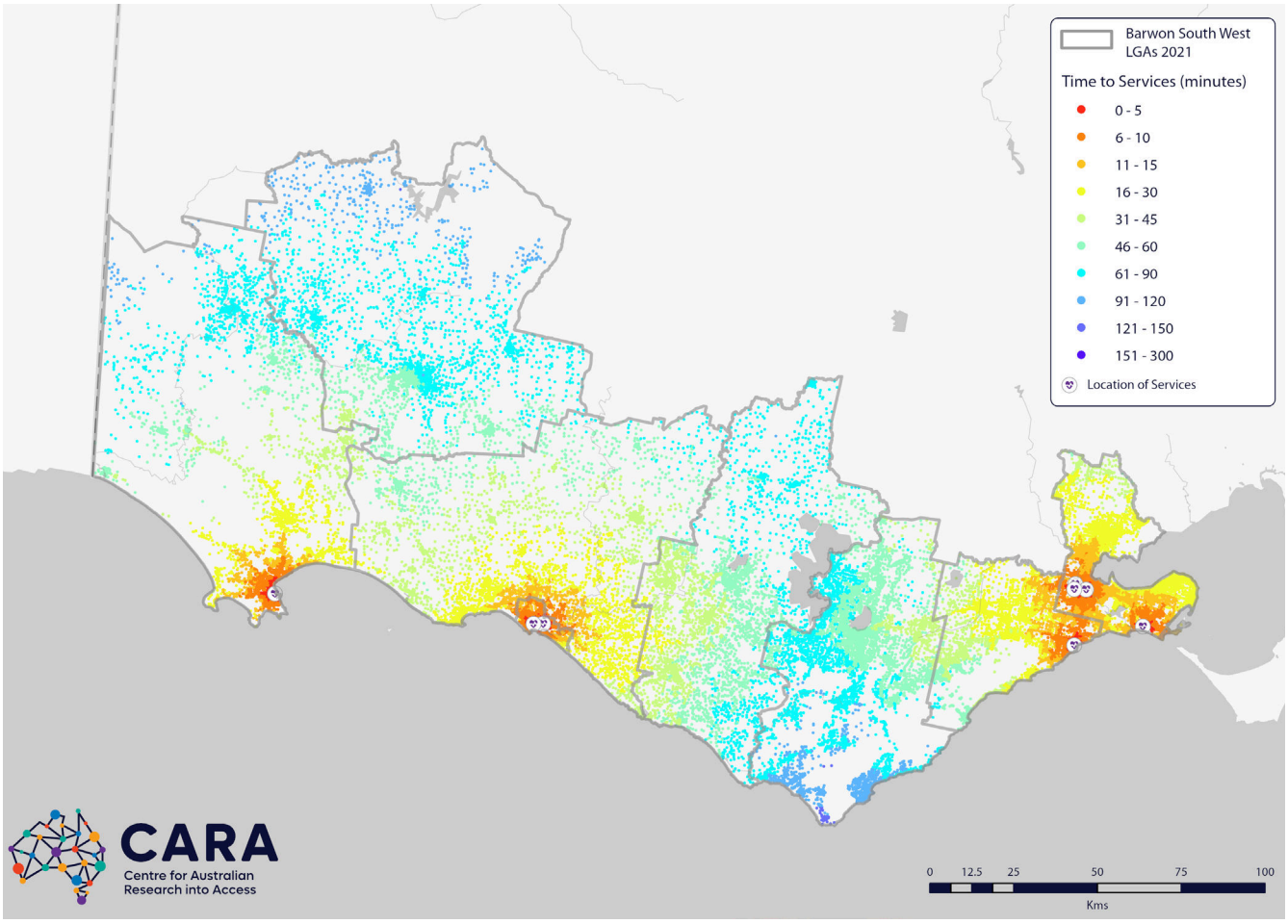

Figure 19. Distribution of lactation support services across the BSW region


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Specialist care

Reproductive endocrinology and infertility

Specialist services focused on medical and surgical treatment of disorders in fertility and reproduction.

Access to services

Four reproductive endocrinology and infertility services were listed in BSW (Figure 20). The average travel time to reproductive endocrinology and infertility services in the BSW region was 41 minutes (min 22; max 86) (Table 19). However, travel times vary within each LGA. For instance, in Glenelg Shire, there were areas where residents would need to travel 150 minutes to access a service.

Table 19. Travel time (minutes) to reproductive endocrinology and infertility services

LGA	Mean	Med	Min	Max
Colac Otway Shire	69	58	38	133
Corangamite Shire	48	48	27	93
Glenelg Shire	78	72	46	150
City of Greater Geelong	12	10	0	46
Moyne Shire	26	22	6	80
Borough of Queenscliffe	27	27	23	31
Southern Grampians Shire	74	70	44	136
Surf Coast Shire	31	24	13	79
Warrnambool City	4	4	0	24
BSW average	41	37	22	86

* mean travel times may change during CARA sensitivity testing

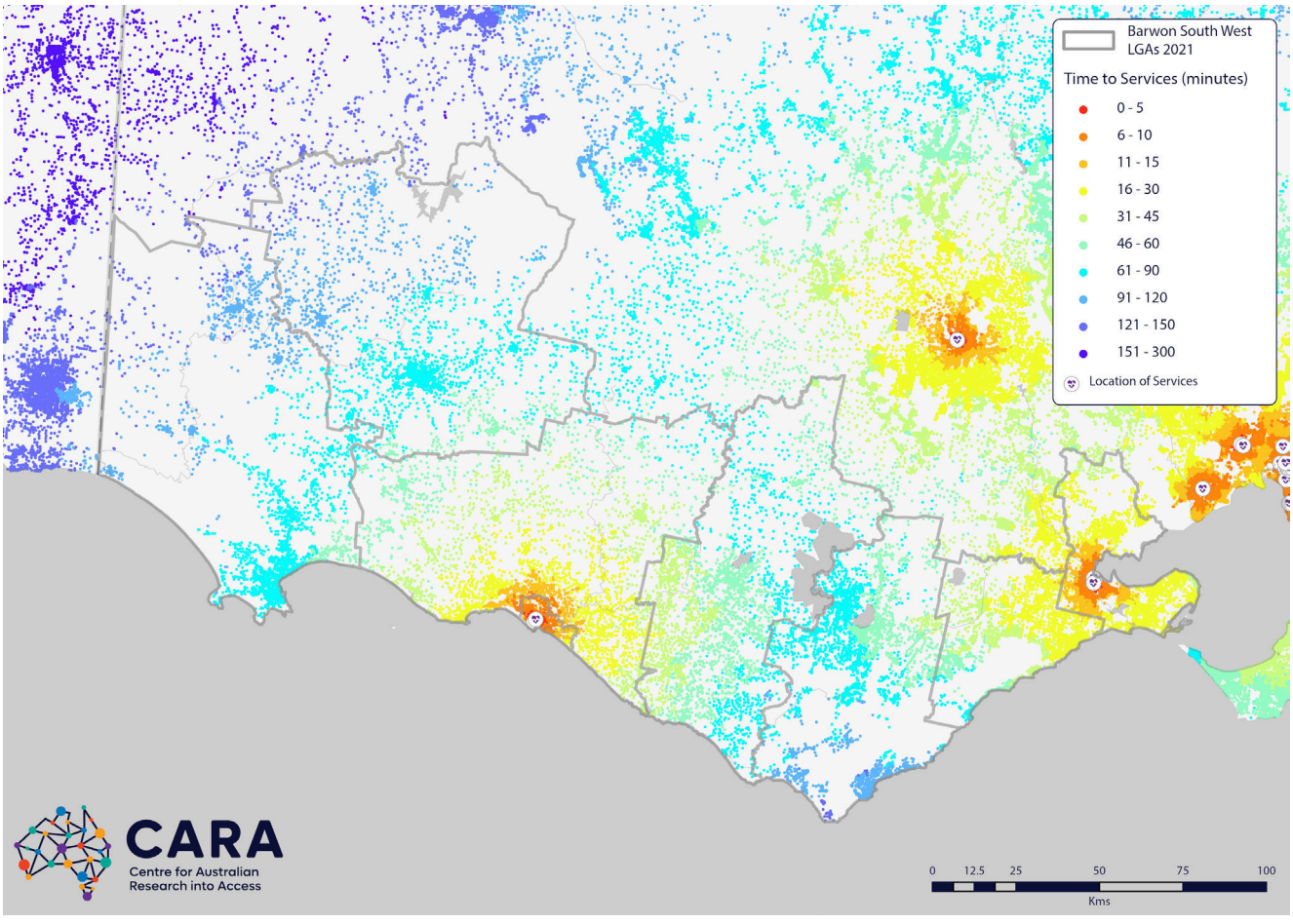

Figure 20. Distribution of reproductive endocrinology and infertility services across the BSW region

Dating ultrasound

Dating ultrasounds are diagnostic tests that may be performed in preparation for a termination of pregnancy (TOP).

Access to services

In the BSW, 16 publicly listed ultrasound service providers offered dating ultrasounds for TOP (Figure 21). The average travel time to a service in the region was 25 minutes (min 9; max 70) (Table 20). There were areas within Glenelg Shire (133 minutes) and Southern Grampians Shire (122 minutes) where residents would need to travel further to access a service.

Table 20. Travel time (minutes) to dating ultrasound services

LGA	Mean	Med	Min	Max
Colac Otway Shire	23	10	0	87
Corangamite Shire	39	36	12	84
Glenelg Shire	57	51	25	133
City of Greater Geelong	6	5	0	37
Moyne Shire	18	15	0	78
Borough of Queenscliffe	11	11	9	16
Southern Grampians Shire	62	58	37	122
Surf Coast Shire	9	5	0	51
Warrnambool City	3	3	0	23
BSW average	25	22	9	70

* mean travel times may change during CARA sensitivity testing

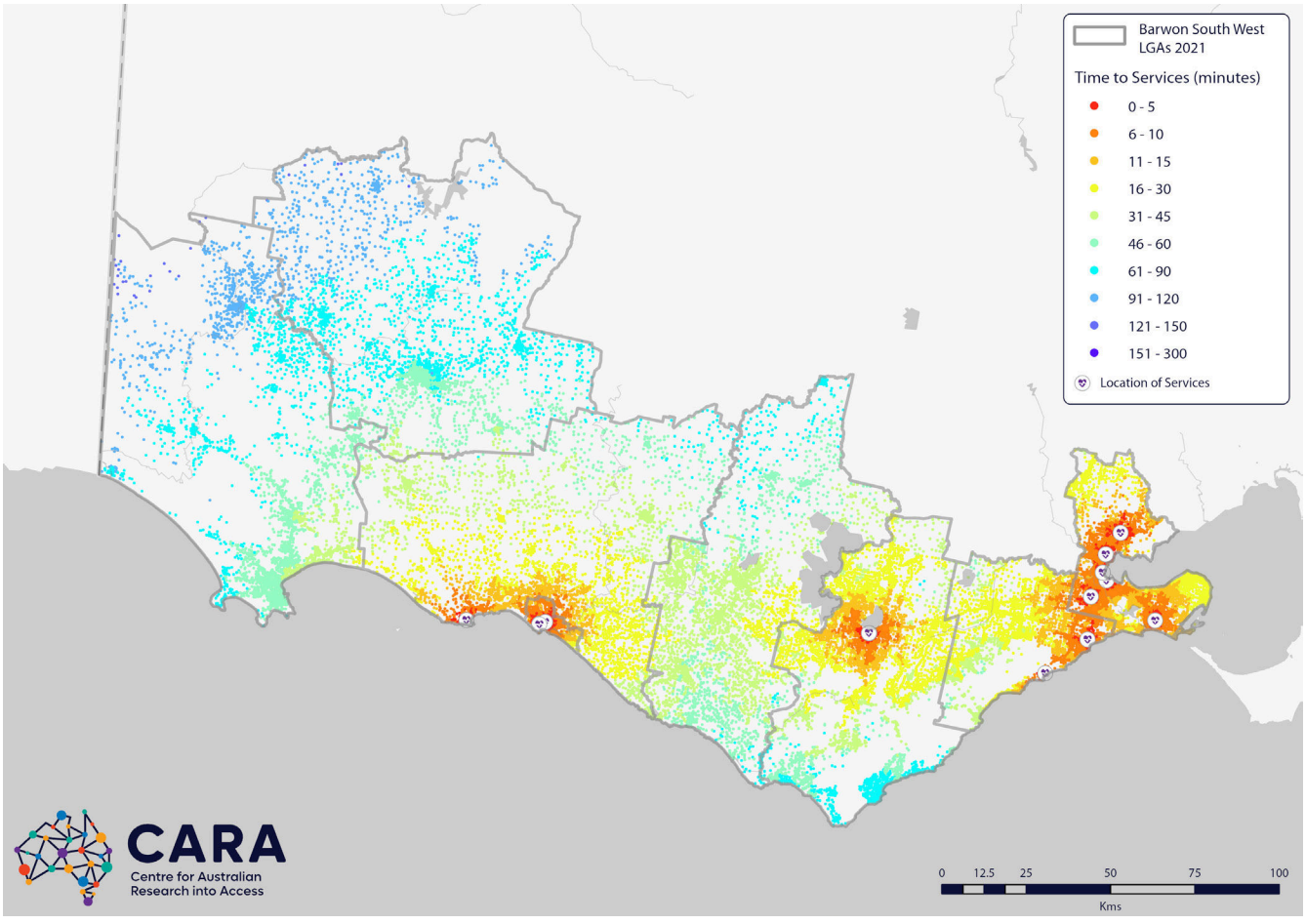

Figure 21. Distribution of dating ultrasound services across the BSW region

Pathology collection centre

Centre for blood collection and other tests, such as the glucose tolerance test (GTT) and noninvasive pre-natal testing (NIPT).

Access to services

There were 96 publicly listed collection centres in the BSW (Figure 22). The average travel time to collection centres in the BSW region was 10 minutes (min 0; max 56) (Table 21). However, there were variations in travel times within each LGA, such as Glenelg Shire where residents would need to travel 96 minutes to access a service. Not all collection centres offered GTT or NIPT.

Table 21. Travel time (minutes) to pathology collection centres

LGA	Mean	Med	Min	Max
Colac-Otway Shire	24	14	0	88
Corangamite Shire	11	5	0	62
Glenelg Shire	15	6	0	96
City of Greater Geelong	3	3	0	42
Moyne Shire	12	9	0	59
Borough of Queenscliffe	3	3	0	11
Southern Grampians Shire	14	5	0	72
Surf Coast Shire	6	3	0	54
Warrnambool City	3	3	0	19
BSW average	10	6	0	56

* mean travel times may change during CARA sensitivity testing

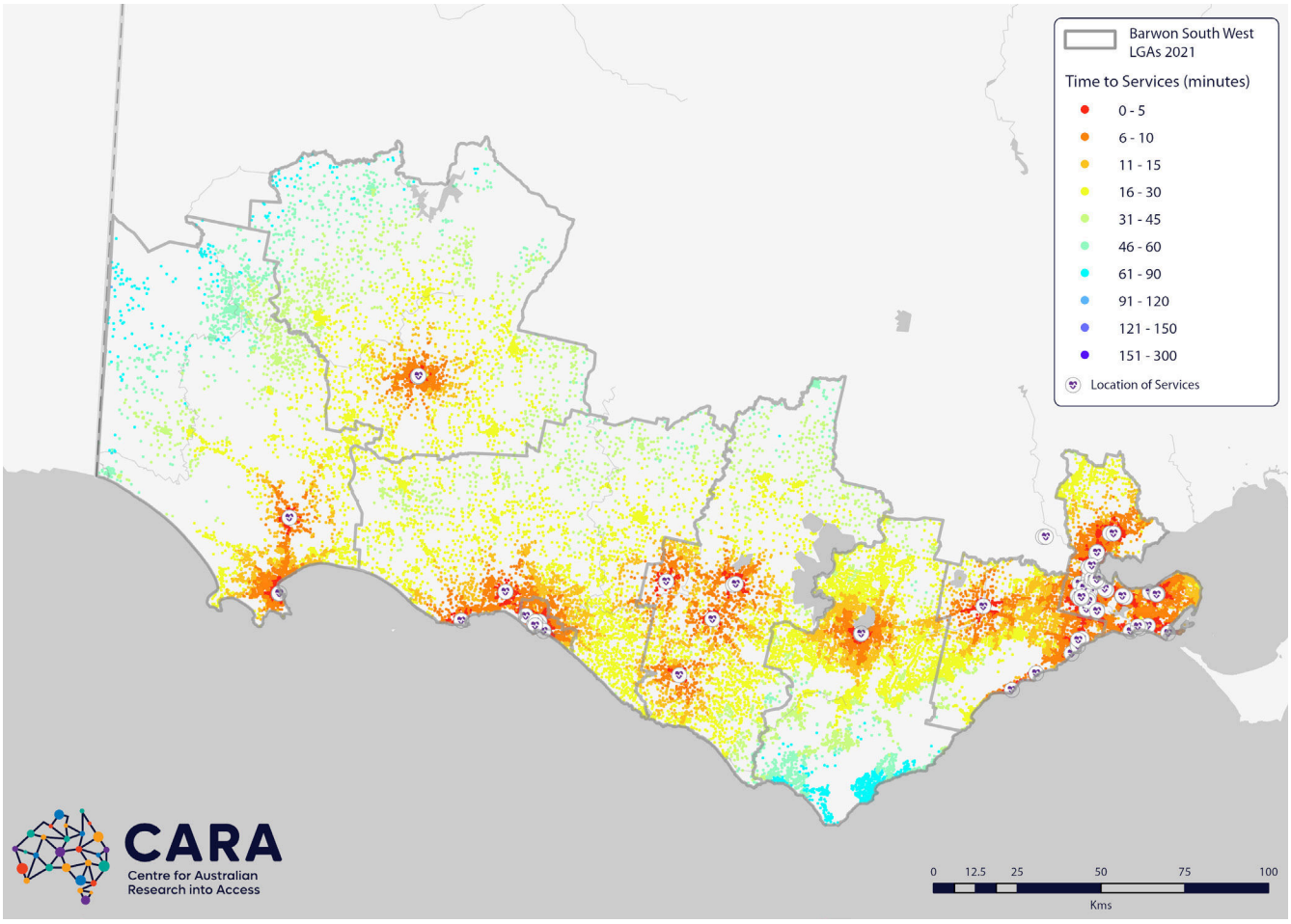

Figure 22. Distribution of pathology collection centres across the BSW region

Hospital services

Surgical termination of pregnancy

Surgical termination of pregnancy (STOP) is a safe, day-surgery procedure done under general anaesthetic. STOP can be carried out for up to 24 weeks in Victoria (in rare circumstances beyond this).

Access to services

There were six publicly listed services for STOP in the BSW (Figure 23). The average travel time to a service in the BSW region was 35 minutes (min 16; max 78) (Table 22). However, in Glenelg Shire, there were areas where residents would need to travel 151 minutes to access a service.

Table 22. Travel time (minutes) to STOP

LGA	Mean	Med	Min	Max
Colac-Otway Shire	24	10	0	95
Corangamite Shire	39	36	12	84
Glenelg Shire	78	73	47	151
City of Greater Geelong	12	11	0	45
Moyne Shire	26	23	4	78
Borough of Queenscliffe	27	27	24	31
Southern Grampians Shire	75	71	45	136
Surf Coast Shire	30	26	13	58
Warrnambool City	3	3	0	23
BSW average	35	31	16	78

* mean travel times may change during CARA sensitivity testing

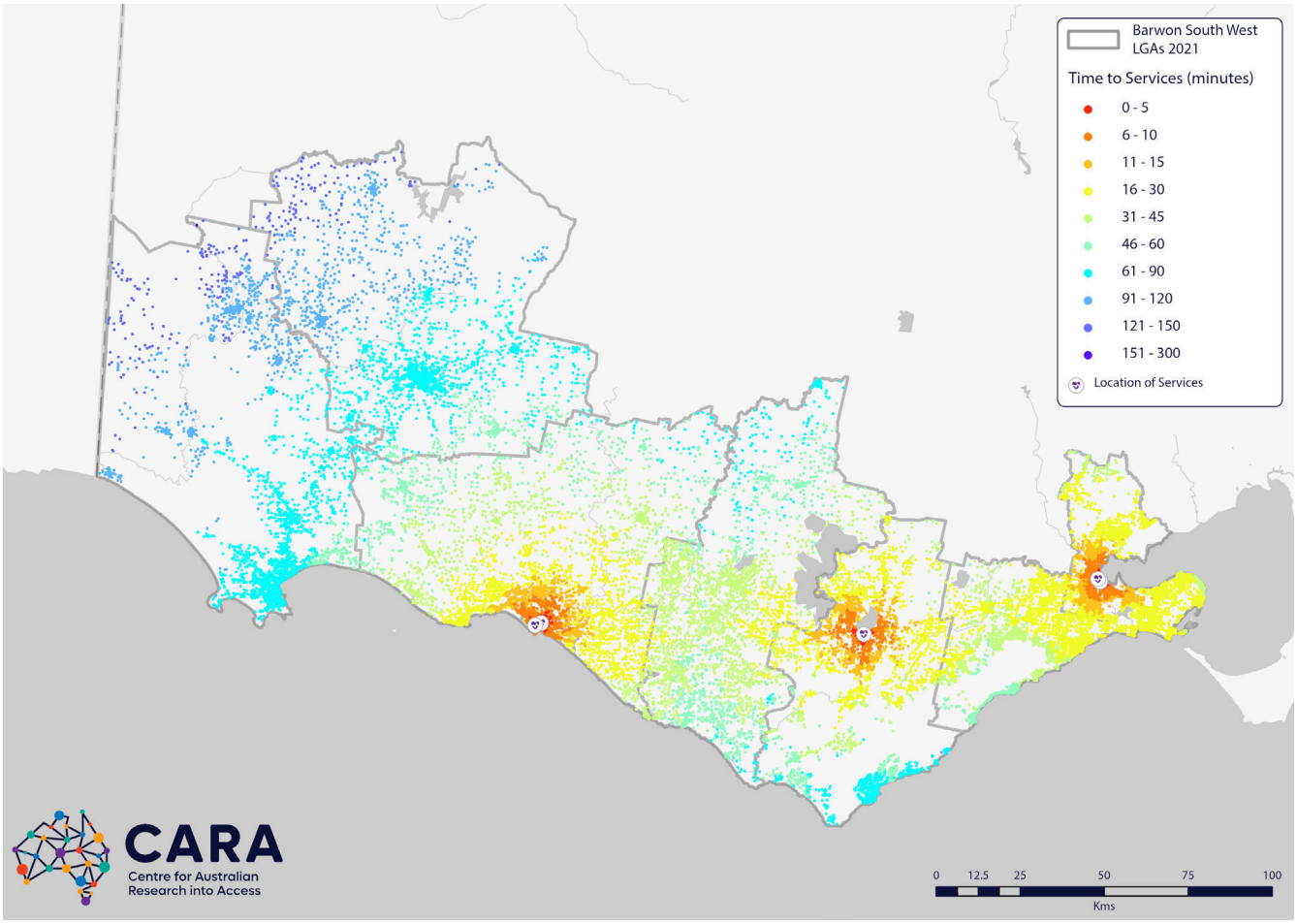

Figure 23. Distribution of STOP across the BSW region

Barriers and facilitators of sexual and reproductive health service access in rural Australia

Women in rural areas have poorer SRH outcomes than those in metropolitan centres. For example, women living in rural areas are 1.4 times more likely to experience an unintended pregnancy[23] and have higher rates of STIs.[24,25]

These outcomes result from a lack of local services and high costs exacerbated by the maldistribution of the healthcare workforce in rural areas.[26,27]

Accessing SRH services presents unique challenges requiring advocacy and targeted intervention strategies to address inequity and inform policy effectively. Examining all dimensions of access to the full spectrum of SRH services is crucial in redressing access inequities in rural Australia.

The following section presents the evidence from a systematic review of the literature on the barriers and facilitators to spatial and aspatial access to women's SRH services in Australia's rural healthcare settings.[28]

Approachability and ability to perceive

Approachability denotes that women with health needs can identify that services exist, can be reached, and can impact their health.[15] Health services can make themselves known to women from different social or geographical groups through transparency, providing information (e.g., about available treatments), and outreach activities. These determinants significantly contribute to making services more approachable. Factors such as health literacy, knowledge and beliefs about health determine the ability to perceive the need for care. The supply and demand determinants are outlined in Table 23.

Table 23. Approachability and ability to perceive determinants

Supply dimension	Supply determinant (systems-based)
Approachability	• Transparency • Outreach • Information • Screening
Demand dimension	**Demand determinants (personal and situational)**
Ability to perceive	• Health literacy • Health beliefs • Trust • Expectations

Our systematic review identified several barriers that impacted approachability and the ability to perceive. These barriers were reported from the perspective of the women and providers included in the studies and will be presented separately.

Barriers from the women's perspective

Women reported gaps in the information provided by GPs regarding maternity care providers[29] and abortion options.[30,31] There was also a lack of information on the available local services and support options, both in person and online. Some women noted that limited internet access was a barrier inhibiting information about various healthcare services, which contributed to restricted awareness and choice of providers.[32]

Women noted fragmented care pathways as an access barrier, mostly related to local maternity care providers and options for unintended pregnancy.[33,34] Women also highlighted difficulties navigating the health system and accessing and coordinating services.

Low health literacy was identified as a barrier predominantly related to cervical screening and STI symptoms, testing, and treatment.[35,36] Limited awareness was identified due to the limited available local and financial support information. One example was the financial support offered with the Patient Assisted Travel Scheme (PATS) for people located in remote areas who were required to relocate for care. Women had limited awareness of the scheme when relocating for maternity care.[34]

Barriers from the provider's perspective

From the provider's perspective, a lack of cultural competency was reported as a barrier. This included cultural and linguistic barriers, such as limited cross-cultural knowledge and communication skills. Studies noted that communicating across languages using biomedical language is inconsistent with traditional Aboriginal knowledge systems.[37]

Gaps in provider knowledge were identified in several studies. This was predominantly regarding GP uncertainty or limited knowledge of abortion and a lack of a clear and defined system for MTOP provision throughout certain states. Some studies showed inconsistencies in knowledge of the law pertaining to abortion, which discouraged GPs from providing the service.[38] Providers noted a lack of training opportunities for GPs to confidently provide early medical abortion.[38–41]

Providers highlighted limited awareness for patients and community. This was specifically regarding patient awareness of cervical screening and self-sampling. Limited community awareness regarding abortions was stated as a barrier within rural communities.

Finally, providers noted inadequate health system navigation and referral pathways as barriers.[37,42,43]

Facilitators from the women's perspective

Multiple facilitators influenced approachability and ability to perceive. From the perspective of women, these include health system improvements, enhanced education and institutional approaches, knowledge and awareness, and culturally appropriate information.

Health system improvements included changes to the health system, such as GPs providing direct referrals to services,[44] making it easier to access breast screening services,[45] and improving health system navigation efficiency.[46]

Enhanced education and institutional approaches included recommendations for comprehensive, culturally respectful, and accessible information about puberty and menstruation within the school health curriculum.[47]

Knowledge and awareness related to numerous points, such as available services, STI symptoms and testing, SRH literacy, and improvements in the dissemination of information. For instance, available relocation subsidies for alleviating the financial burden on women relocating for maternity care.[34]

Culturally appropriate information included recommendations for suitable health promotional material for Aboriginal and Torres Strait Islander women.[45]

Facilitators from the provider's perspective

Providers identified facilitators, such as increased community knowledge and education, which can help to increase community-level knowledge about abortion. One study emphasised education as a primary strategy for change, and knowledge dissemination should include messaging about the safety, commonality, and frequency of abortions.[40]

Education encompassed provider and culturally inclusive education. Provider education related to training and support for GPs to provide MTOP services in primary care, with access to protocols and resources.[40] Similar to those facilitators identified by women, culturally inclusive education pertained to tailored health promotion material. Providers also suggested informal group-based education sessions for pregnant Aboriginal women facilitated by midwives in partnership with AHPs and female community elders.[37,48]

Acceptability and ability to seek

Acceptability relates to cultural and social factors that affect a woman's ability to accept or seek health services or aspects of them. For example, the gender or social group of the provider or the beliefs associated with systems of medicine may reduce the acceptability of seeking care.[15] Table 24 outlines the supply and demand determinants.

Barriers from the women's perspective

Several barriers impacted acceptability and the ability to seek health services. Studies highlighted negative provider attitudes as a significant barrier and were repeatedly reported by women seeking abortion services.[30,31,44,49,50] Reported negative attitudes included judgmental service providers, unwillingness to refer for abortion services or denying care altogether. As a result, women often had to seek out willing providers on their own. Negative provider attitudes were also reported across studies providing STI testing[36] and maternity care for Aboriginal women.[51]

Low-quality care and privacy concerns were identified as barriers by women. Low-quality care was predominantly reported in studies of abortion services and the impact of abortion stigma on the quality of care received in the context of healthcare interactions.[50]

The lack of cultural safety significantly impacted maternity care for Aboriginal and Torres Strait Islander women. Standard maternity care was not considered culturally safe due to limited cross-cultural understanding of medical care.[52] This barrier was closely linked to the negative attitudes experienced by Aboriginal women when accessing labour and birth care in the standard hospital care system.

Community context challenges were highlighted in several studies.[33,49] Women reported fears of stigmatisation for seeking abortion services and the perceived lack of confidentiality associated with living in a small town. In addition to a lack of agency due to limited local resources, resulting in limited choice.[34] Privacy concerns were also highlighted across other services, including family planning[49] and STI testing.[53]

Table 24. Acceptability and ability to seek determinants

Supply dimension	Supply determinant (systems-based)
Acceptability	• Professional values • Norms • Culture • Gender
Demand dimension	**Demand determinants (personal and situational)**
Ability to seek	• Personal and social values • Culture • Gender • Autonomy

Barriers from the provider's perspective

Providers highlighted several barriers, including provider resistance and stigma. One barrier is the negative perception associated with certain services, like abortion, and the potential damage to a family GP practice's reputation for offering these services to women.[39,44] Another barrier is healthcare providers' personal views and reluctance to offer abortion services.[39] Conversely, there was a lack of support from health service management for those healthcare providers who were willing to offer these services.

One study noted poor recognition of SRH care as a barrier. The perceived limited value and need for SRH care at system and service levels negatively affects access and the quality of care provided to

rural residents.[54]

Facilitators from the women's perspective

Women reported inclusive and culturally sensitive practices as facilitators. This encompassed various factors, such as inclusive communication, the use of gender-neutral language, and the incorporation of visual signs of an inclusive environment.[55] Culturally sensitive practices, such as cultural safety and consulting women on their cultural needs around birth, were also highlighted.[52]

Enhanced privacy with flexible service delivery refers to different service delivery models that offer increased privacy, particularly in rural communities where privacy issues are a concern. For example, self-collection cervical screening and telehealth for services, such as MTOP appointments. One study noted that self-collection cervical screening not only increased privacy but also empowered Aboriginal women to be in charge of women's business.[56]

Improved health system practices for family planning and abortion care was identified as a facilitator. Women stressed the importance of normalising services like family planning within the health system. They also highlighted the right to make reproductive decisions,[49] and the need for high-quality abortion care with support from healthcare providers in accessing such care.[50]

Care preferences were highlighted as a facilitator. For instance, birthing in the local community was reported to be a positive experience for rural women.[57] Care preferences also pertained to the communication methods regarding care. For example, some studies found that text messaging assisted in managing appointments and providing information to patients, particularly for younger age groups. On the contrary, older patients preferred receiving a letter in the post.[58,59]

Facilitators from the provider's perspective

The facilitators identified from a provider's perspective include support networks for providers and culturally appropriate support. Provider support networks were mainly related to the provision of MTOP and establishing peer support for GPs who provide MTOP, mentors and a network of GP providers, GP champions, and improving referral pathways through these networks.[39]

Culturally appropriate support was identified as the development of culturally tailored programs that encourage higher rates of antenatal engagement and more employment of AHP, staff and support workers to enable connection with hard-to-reach clients.[48]

Availability and ability to reach

Availability refers to the ability to physically access health services and healthcare providers in a timely manner. Availability means enough health resources to provide services, including the providers' characteristics (e.g., presence of the health professional, qualification) and how services are delivered.[15] The supply and demand determinants are outlined in Table 25.

Table 25. Availability and the ability to reach determinants

Supply dimension	Supply determinant (systems-based)
Availability	• Geographic location • Hours of opening • Appointment mechanisms
Demand dimension	**Demand determinants (personal and situational)**
Ability to reach	• Living environments • Transport • Mobility • Social support

The dimension of 'ability to reach' refers to a woman's personal mobility and access to transportation, as well as their flexibility in terms of work. It also involves having knowledge about health services that can allow a woman to reach a service provider physically. Examples of individuals who may face challenges in reaching service providers include women with disabilities who have limited mobility, those without a driver's license or car, and women with inflexible work schedules that make it difficult to consult medical providers during standard business hours.

Barriers from the women's perspective

Women highlighted many barriers, including poor local access, inadequate health service availability, limited provider availability, and insufficient public transport. Poor local access is connected to the absence of comprehensive local services. For instance, ultrasound or pathology services were unavailable at the same location as the care provider, requiring women to travel long distances between services.[37,51,60] This was particularly problematic for women having to coordinate pre-abortion procedures for an MTOP within the time frame for administering the medication.

Women face significant barriers in accessing health services due to inadequate health service availability and long wait times for appointments.[32,44,49,57,61,62] Women also experienced delays in receiving care or procedures because of lengthy wait times for pre-appointment screenings, such as blood tests or ultrasounds.[30,32,49]

Limited provider availability was especially noted for female doctors, rural GPs, and AHP.[33,49,51,63] Women also reported a lack of available providers for MTOP appointments,[61] pharmacists dispensing MTOP medication, and a low number of rural practitioners willing to provide abortion or obstetric services.[33]

Insufficient transport options in rural areas were a barrier, and a significant problem for women without a driver's licence or car, as they had to depend on public transport or family and friends.[59] One study reported that pregnant women from remote areas were required to travel by public bus overnight for antenatal appointments, as there was only one return bus service per day.[51]

Travelling long distances to access services was commonly reported by women in multiple studies.[30,51,57,57,62,63] Furthermore, women often had to travel further to reach culturally appropriate care.[45]

Barriers from the provider's perspective

Providers emphasised the significant rural workforce challenges as a major barrier. These challenges include inadequate staffing levels due to shortages in the rural health workforce, a lack of GP obstetricians in rural areas, difficulties in recruiting and retaining registered health professionals, a decline in the number of dual-registered midwives, and a decrease in birth numbers in rural and remote areas, affecting the ability to maintain staff skill levels.

Facilitators from the women's perspective

The enhancement of local service provision and capacity was highlighted as a facilitator of availability and accommodation. Strategies to enhance local service provision and capacity involved the optimisation and use of shared maternity care and telehealth,[34] MTOP telehealth availability,[31] and on-site ultrasound services.[32] Reopening local services[34] and rural birthing services[57] were suggested. Early postnatal supports located locally were also highlighted.[57] Finally, increasing the number of pharmacies stocking SRH pharmaceuticals was emphasised, facilitating greater availability and choice of pharmacies.

Increased resource accessibility was predominantly centred on menstrual health and access to sanitary products in rural areas. Facilitators encompassed the provision of free and discreet sanitary products, availability of waste disposal facilities, washing amenities, and pain management in schools. Additionally, improving the availability of environmentally friendly, reusable products in rural locations was recommended.[47]

Telehealth appointments and self-collection methods used in human papillomavirus (HPV) screening were viewed as facilitators, as they reduced the requirement for travel to a physical service location.[56,64]

Local care provision was highlighted as a facilitator, particularly for Aboriginal women in remote areas. Access to an Indigenous midwife or AHP, as well as the provision of maternity home visits for Aboriginal communities, were suggestions.[51,52]

Facilitators from the provider's perspective

Providers highlighted improvements in service delivery and accessibility as key facilitators. These improvements include providing local services for rural women, offering telehealth to reduce travel burden, and using practice nurses for services such as STI testing. Additionally, point-of-care testing and self-collection cervical screening were suggested to increase accessibility to screening services. Other points noted include the provision of ultrasound machines and training for remote staff to conduct onsite ultrasounds, employing community midwives for home visits to limit the burden on women needing to relocate, and utilising pharmacy nurses for postnatal care that offer drop-in services in convenient pharmacy locations.

Affordability and the ability to pay

Affordability pertains to a woman's economic ability to allocate resources and time to necessary health services. The direct costs of services, related expenses, and the potential loss of income influence it. Affordability can differ based on the type of service and relies on the ability to acquire the resources needed to cover care costs.[15] Table 26 outlines the supply and demand determinants.

The ability to pay describes the capacity to generate economic resources through income for healthcare services without suffering catastrophic financial consequences, such as selling a home. Factors such as poverty, social isolation, or debt can restrict a woman's ability to pay for necessary care.

Barriers from the women's perspective

High direct and indirect costs were barriers that inhibited women from affording care. Direct costs were associated with the SRH services, some of which had limited bulk-billing options, especially in rural and remote regions.

Table 26. Affordability and the ability to pay determinants

Supply dimension	Supply determinant (systems-based)
Affordability	• Direct costs • Indirect costs • Opportunity costs
Demand dimension	**Demand determinants (personal and situational)**
Ability to pay	• Income • Assets • Social capital

Local providers were sometimes more expensive than those located further away. Multiple studies reported high indirect costs, predominately related to access to termination services. Indirect costs were those associated with travel to access care, such as transportation, accommodation, childcare, and loss of wages. Significant financial burdens were reported for women who needed to relocate for maternity care.[34,52] For example, one study[34] reported the lack of financial support for partners who also relocated and incurred accommodation expenses while the mother was in the hospital.

Barriers from the provider's perspective

Providers highlighted the barriers they face due to limited financial support. This includes difficulties in funding and the absence of incentives. Limited financial support affects patients who need to travel to access services and the practitioners who provide those services. Providers emphasised the challenges of the Medicare Benefits Schedule (MBS) in providing SRH services[54] and the lack of funding benefits for practice nurses (PN) to expand service provision and increase service availability.[40,65] Studies have also highlighted the challenges in meeting community needs under the current funding conditions and the shortage of alternative services available in the public system.[54]

For GP obstetricians practising in rural areas, barriers are amplified by the impact of high professional indemnity premiums on financial sustainability. The financial burden of significant insurance costs without sufficient financial return is a disincentive to provide these services.[66] Consequently, limitations in funding and incentives may lead to the closure of rural health services, shifting costs within health regions and imposing additional financial responsibilities on service users.[67]

Facilitators from the women's perspective

Cost reduction strategies that women reported include increasing the availability of telehealth services due to the lower associated costs, such as having to travel or take time off work to attend an appointment.[64]

Paid and subsidised local abortion services to reduce the financial burden of travelling were also identified as a facilitator.[30] Financial support for women who relocate for maternity care needs to be extended to their partners who accompany them to reduce the financial burden associated with additional accommodation expenses.[34]

Facilitators from the provider's perspective

Providers highlighted facilitators for policy and incentive support, particularly those funding structures underpinning service delivery. Changes in MBS rebates to enable PN funding, including item numbers for SRH services. Funded positions for rural SRH GPs and access to free or subsidised education and training for rural practitioners.[54] One study highlighted the need for nationally consistent pricing on sanitary products due to the pricing inconsistencies found in remote community stores compared to those in the town and city.[47]

Service affordability pertained to improving access and availability of MTOP appointments and medication in rural areas, as this was found to be much more affordable than accessing STOP.[31] One study reported significant price differences between the two services. For example, the cost of MTOP was around $250-350, compared to STOP at $1500.[31] Increased use of self-collection cervical screening was another facilitator reported in studies, as this was often a no-cost service.[56]

Appropriateness and ability to engage

Appropriateness refers to the overall clinical benefit for the woman and whether the expected health benefits (e.g., improved quality of life, pain relief, and increased life expectancy) outweigh the potential negative consequences (e.g., time, cost, mortality, and morbidity). Appropriateness also includes adequacy, which pertains to the quality of the type and model of services provided and their integrated and continuous nature.[15] The supply and demand determinants are presented in Table 27.

Table 27. Appropriateness and the ability to engage determinants

Supply dimension	Supply determinant (systems-based)
Appropriateness	• Technical and interpersonal • Adequacy • Coordination and continuity
Demand dimension	**Demand determinants (personal and situational)**
Ability to engage	• Empowerment • Information • Adherence • Caregiver support

The ability to engage relates to the participation and involvement of the woman in decision-making and treatment decisions. This is strongly influenced by the woman's capacity and motivation to participate in the care journey to its completion. The ability to engage is also tied to the capacity to communicate, as well as concepts of health literacy, self-efficacy, and self-management, in addition to the importance of receiving care that is truly appropriate for the woman based on available resources and skills.

Barriers from the women's perspective

Barriers from the women's perspective include telehealth limitations, care discontinuities, and a lack of support systems. Limitations in telehealth accessibility were associated with language barriers for non-English-speaking women and the absence of visual cues for the visually impaired.[64] Care discontinuities were documented in several studies relating to maternity care, particularly when women had to travel for care and had limited postnatal care options once returning home after the birth.[33,34,68] Lack of support systems pertained to inadequate caregiver support for women with existing children who relocated to give birth.[52] One study reported that travelling to access abortion services meant leaving crucial support systems.[49]

Barriers from the provider's perspective

Providers stated clinical safety concerns as a barrier, primarily concerning GP-obstetricians, attending after-hours callouts, dealing with emergencies, and managing scheduled patients with on-call deliveries.[69] Other concerns include isolation and managing situations without assistance from a local team. For MTOP providers, concerns were related to insufficient access to after-hour care, such as a 24-hour contact advice service and surgical backup in case of complications.

Studies reported management challenges related to a lack of understanding of the issues involved in providing clinical care, up-skilling staff, and maintaining clinical governance in rural and remote contexts. Other management challenges include a lack of understanding and valuing of SRH work, gaps in knowledge of contemporary evidence-based models of maternity care, and perceptions of risk. The high-risk nature of obstetrics and the consequences of error and medico-legal action are barriers seen to deter the provision of these services.

Several studies reported limited professional development due to a lack of upskilling opportunities for staff in rural areas, training issues, lack of support, and poor succession planning.

Facilitators from the women's perspective

Women in the included studies highlighted several facilitators, including telehealth accessibility and patient-centred care. Increasing telehealth accessibility was a facilitator, as telehealth helped promote relationship-building with a provider before the patient was required to travel.[64] In various studies, patient-centred care, including continuity of care, facilitated maternity care. Knowing the woman's story was especially crucial in improving the experience of Aboriginal women with maternity care.[46]

Facilitators from the provider's perspective

A highlighted facilitator was the provision of innovative care models, which refer to being open to different ways of delivering care in rural contexts. Some recommended models include nurse-led models and continuity in care, collaborative task-sharing arrangements, Aboriginal maternity care, which results in more efficient health system navigation, and onsite ultrasound with online or telehealth support to provide specialist assistance and interpretation.

Professional development and training opportunities include structured training programs for rural GP-obstetricians, efficient succession planning and training pathways, and financial support for training to develop ultrasound skills for onsite service provision.

Finally, strengthening rural networks was identified as a facilitator. Strategies include setting up professional mentoring or support networks, raising awareness about the availability of 24-hour after-care telephone service for MTOP, establishing networks between MTOP providers and pharmacists, partnering with community agencies, and setting up support from other services, such as ultrasound or surgical backup.

Discussion

The report revealed significant disparities in access to SRH services across the BSW region. It presented the key findings, including the geographical and systemic barriers that affect women's health outcomes. The report also identified areas that require targeted interventions by analysing travel times to various SRH services. It offers valuable insights into rural SRH service access, highlighting the barriers and facilitators for women and healthcare providers in accessing these services. The implications of these findings and recommendations for future action is presented in this discussion.

The analysis of travel times to SRH services in the BSW region highlighted significant disparities in access, particularly in primary care services. The average travel time to GP services was 5 minutes, with a range spanning from 0 to 41 minutes. However, access to specific services, such as MTOP or LARC, higher travel times were observed. For instance, the average travel time for MTOP was 20 minutes, varying from 3 to 65 minutes. Notably, Glenelg Shire and Southern Grampians Shire had higher average travel times of 49 and 34 minutes, respectively, with some areas in Glenelg Shire requiring up to 115 minutes of travel. LGAs such as Glenelg Shire already experience relatively higher overall levels of disadvantage and poverty than any other LGA in the BSW, highlighting the compounding challenges faced by these communities.

Access to health services providing IUD insertions showed an average travel time of 16 minutes, ranging from 3 to 59 minutes. Glenelg Shire again had longer travel times, averaging 50 minutes, with some residents requiring travel up to 101 minutes. Access to implant services was somewhat better than access to IUD services, with more health services listed and slightly shorter average travel times. Some individual GPs were listed as providers for implant insertions but not IUD insertions.

The 2024-25 federal budget[70] announcement saw a greater investment in women's health, with the announcement of $56.1 million over four years to improve access to SRH care for women across the life course and $5.2 million over three years to support placement costs for health professionals to undertake training to support access to LARC. With the government's commitment to improving SRH service access, an intersectional examination of areas with the most significant access barriers must be identified to enable equitable resource provision.

The analysis of prevention services such as cervical screening showed disparities in access; however, on average, all LGAs could access a service within 15 minutes. The region had a higher cervical screening participation rate (48.2%) than the state average (47.4%). However, four of the nine LGAs fall below the state average. Southern Grampians Shire (39.3%), Glenelg Shire (40.9%), Colac-Otway Shire (44.9%), and Corangamite Shire (46.7%) all had lower participation rates. The average travel time to a cervical screening service in the region was 8 minutes (ranging from 0 to 51 minutes). Glenelg Shire had the highest average travel time at 14 minutes, followed by Southern Grampians Shire and Corangamite Shire at 12 minutes, corresponding to the LGAs with the lowest participation rates. Strategies identified as access facilitators, such as promoting self collection cervical screening, could be implemented within these areas.

This report summarises the results of our systematic review[28] focused on access barriers and facilitators from the perspectives of women accessing an SRH service and the providers supplying the service. Key themes that emerged as barriers from a women's perspective included limited awareness, fragmented care, lack of cultural safety, increased travel, the financial burden of indirect costs, and lack of support systems when travelling for care. From the provider's perspective, barriers included fragmented healthcare pathways, negative provider attitudes, inadequate health service availability, limited provider availability, high indirect and direct costs, and care discontinuities, providing a comprehensive view of the challenges faced.

Key themes that arose as facilitators from the women's perspective were knowledge and awareness, care preferences, local care, and improving access and availability of telehealth. From the provider perspective, facilitators included health system improvements, inclusive and culturally sensitive practices, enhancement of local service provision and capacity, cost reduction strategies, and patient-centred care. These insights provide a comprehensive understanding of the factors influencing SRH service access and offer a foundation for developing a regional strategy to improve SRH outcomes in the region.

It is important to note that SRH data is fragmented and has limitations. The National Health Service Directory (NHSD) has publicly listed data on GP locations. However, there are data gaps in service offerings, such as understanding what services a GP offers. There is no national list of providers for services, such as MTOP and LARC. Individual agencies collect some data at the state level. For example, 1800 My Options (Victoria), Pregnancy Choices (Tasmania), Children by Choice (Queensland), and Search+ (New South Wales). Providers must self-opt in to be publicly listed as a service provider on these platforms, in addition to the NHSD. Available information is a key facilitator of access identified in the systematic review, as the internet is often the first point of call women go to explore options and contributes to their choice of provider.

Conversely, the stigma associated with being publicly listed as a service provider was a reported barrier from the provider's perspective. Collaboration and advocacy among local, state, and national stakeholders are essential to overcome SRH data limitations, from initiatives to enhance healthcare provider education on SRH issues, particularly addressing negative attitudes and biases, to linking data for targeted resourcing and workforce planning to create a more equitable healthcare system.

Recommendations

The following section outlines two recommendations for action in the BSW. Understanding the specific barriers women encounter when accessing essential SRH services in the local context is an important step in developing a regional strategy that meets the diverse needs of women in the BSW region.

1. Community engagement

Engage in community consultations in regions with limited access to SRH services, such as MTOP and LARC. This will provide deeper insights into the local experiences of accessing services. Two main groups should be involved: local women and healthcare providers. The engagement with local women should focus on social, cultural, economic, and logistical factors women face to thoroughly understand the challenges that hinder their access to SRH care in the BSW. The engagement with local healthcare providers should aim to understand the local context and the specific barriers providers face, including internal and external factors, including being publicly listed as a service provider. The input from healthcare providers will be vital in identifying practical solutions and strategies to improve local access.

2. Capacity building

The second recommendation is to facilitate local training and capacity building for healthcare providers in the region through advocacy or partnership to enhance their knowledge and skills related to SRH. Capacity-building initiatives should also focus on equipping providers with the tools and resources needed to effectively address the diverse SRH needs of women in the region.

Conclusions

Access to SRH services is a critical component of women's sexual and reproductive health outcomes and fundamental to universal health coverage. Failure to ensure equitable access to SRH services has short- and long-term consequences for women, as access barriers disproportionately impact women and contribute to inequities in health across the life course.

This report had two objectives: first, spatial mapping and analysis to identify SRH service gaps and demonstrate inequity that can support strategic planning and advocacy. Critical service gaps were identified across the region, primarily access to MTOP and LARC. Residents of disadvantaged regions like Glenelg Shire consistently had longer travel times than any other LGA, demonstrating inequity in access across the BSW. It is importat to note that this is only one dimension of access. The highlighted inequity across the BSW will require further inquiry at the local level to understand community needs and specific barriers to access.

The second objective was systematically reviewing the peer-reviewed literature to understand SRH service access in a rural context. The systematic review synthesised the evidence identifying the barriers and facilitators to spatial and aspatial access to SRH services. The review highlighted the urgent need for targeted interventions to address SRH service access disparities in rural Australia.

Understanding the barriers and facilitators women face in accessing SRH services within the rural context is necessary for developing comprehensive healthcare policies and interventions informed by a nuanced understanding of rural women's diverse needs. In conjunction with the systematic review findings, the spatial analysis results will be vital in informing strategies at the local level to address disparities, enhance service provision, and ensure comprehensive healthcare for all women living in the BSW.

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Appendix A. Data sources

Data type	Data source	Currency
Chlamydia notifications	Victorian Department of Health, Infectious disease reports	2018-2023
Pregnancy and birth	Public Health Information Development Unit (PHIDU), Torrens University Australia	2019-2021
LARC and MTOP prescriptions	Women's Health Atlas	2019-2022
Breast and cervical screening participation	Public Health Information Development Unit (PHIDU), Torrens University Australia	2018-2020
Health workforce	Public Health Information Development Unit (PHIDU), Torrens University Australia	2022
STI screening services	1800 My Options	2024
Cervical screening services	Cancer Council Victoria	2024
General practices	National Health Service Directory	2024
MTOP and STOP provider locations	1800 My Options, clinic website	2024
MTOP appointment availability < 6 weeks	Hotdoc	2024
LARC (implant, IUD) provider locations	1800 My Options, clinic websites	2024
Maternal health services (MCHN, lactation consultants)	National Health Service Directory, Lactation Consultants Australia and New Zealand	2024
Medical imaging (obstetric ultrasound, ultrasound service, dating scan for ToP)	National Health Service Directory, 1800 My Options	2024
Pathology (clinical pathology, collection centres)	National Health Service Directory, Dorevitch, Australian Clinical Labs, Melbourne Pathology	2024
Pharmacy	National Health Service Directory	2024
Allied health (pelvic floor physiotherapy)	Continence Foundation of Australia, National Health Service Directory	2024
Australian Road Network	Precisely	2024
GNAF locations	Australian Bureau of Statistics	2024
SA1/MB population data	Australian Bureau of Statistics (Census)	2021

Data assumptions and limitations

- Not all providers of contraceptives and MTOP are publicly listed on 1800 My Options.
- Not all providers are publicly listed on the National Health Service Directory.
- Appointment availability under six weeks is a snapshot in time and may change depending on provider availability.
- Hospitals that provide STOP may be limited to specific service catchments.
- Emergency contraception that is dispensed at pharmacies may have age limitations.
- The use of administrative boundaries (e.g., BSW), as women may travel out of the BSW to large regional centres, such as Ballarat, to access services.