

September 2025



**Ngaanyatjarra
Council Group**
Warakurna Community Inc.



MAPPING THE DIGITAL GAP

Measuring Digital Inclusion and Media Use in Remote
Aboriginal and Torres Strait Islander Communities

Warakurna, WA

2025 Community Update Report



Acknowledgement of country

We respectfully acknowledge the Ngaanyatjarra people, the traditional owners for Warakurna, and pay our respect to their Ancestors and Elders, past and present. We also acknowledge the Traditional Custodians and their Ancestors of the lands and waters across Australia where we work, live and undertake our research.

About the Mapping the Digital Gap research project

Mapping the Digital Gap is a 4-year research project working in partnership with local organisations in 12 remote First Nations communities, to generate a detailed account of digital inclusion and uses of digital services including news and media, track changes over time, and inform appropriate local strategies and services enabling informed decision making by remote Aboriginal and Torres Strait Islander people. It is a supplementary project to the Australian Digital Inclusion Index, coordinated within the RMIT University node of the Centre of Excellence for Automated Decision Making and Society in partnership with Telstra.

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Community research partner

Warakurna Community Inc. (member of Ngaanyatjarra Council)

Community Development Advisers: Gina Livesay-Sutton (2023), Donna Payne (2024), Bronte Lamshed (2025)

Community co-researchers 2024-25

2024: Tracey Yates, Bernadette Newberry, and Heston Newberry

2025: Tracey Yates and Christine Meneri

Research participants and stakeholders

Thank you to all the community residents and local agency staff who generously participated in the surveys and interviews, providing the personal experience to make this research meaningful. During our three visits from 2023 to 2025, we conducted 152 surveys with First Nations community residents and 26 interviews with community leaders, residents and stakeholder agencies, including:

- + Warakurna Community Council (part of Ngaanyatjarra Council)
- + Ngaanyatjarra Council Community Development Program
- + Warakurna Clinic (Ngaanyatjarra Health Service)
- + Ngaanyatjarra Health Community Care Centre
- + Warakurna Remote Community School
- + Ngaanyatjarra Lands School / Yarnangu Connections
- + Warakurna Artists
- + Warakurna Roadhouse
- + Ngaanyatjarra Media
- + Warakurna Police

Warakurna research trip dates

11-14 Feb 2025; 25 Feb - March 2024;

27 Feb - 3 March 2023

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Cover: Aerial photo of Warakurna community with Rawlinson Ranges in the background

CONTENTS

1. Executive summary	4
Warakurna at a glance	5
Key survey findings	5
What is digital inclusion? How is it measured?	6
2. Introduction.....	7
3. Media and communications in Warakurna	12
4. Changes in communications in the region.....	14
5. Key findings from data analysis.....	20
Communications access	20
Service delivery and use of online services	28
Access to media and news services.....	39
Affordability	43
Digital ability	45
Local Digital Media Content Production, Archiving and Sharing	49
6. Case study: Community-wide Wi-Fi pilot	51
7. Considerations for local Digital Inclusion Plan	54
Appendix 1: Summary of survey results.....	59
Appendix 2: Community communications audit.....	68
Appendix 3: Photos of research activities	72



Figure 1: 2025 Research team (Left to right): Tracey Yates, Lyndon Ormond-Parker, Christine Meneri, and Daniel Featherstone



1. EXECUTIVE SUMMARY

This report outlines findings from our second and third research visits to Warakurna, situated in the foothills of the majestic Rawlinson Range in the Ngaanyatjarra Lands of Western Australia. Located within the Shire of Ngaanyatjarraku, Warakurna is a key stopover on the mostly unsealed Tjukuraru (Great Central) Road, which links Alice Springs (780 km north-east on Warakurna) to Kalgoorlie (1,130 km south-west of Warakurna). The traditional owners are the Ngaanyatjarra and Ngaatjatjarra people.

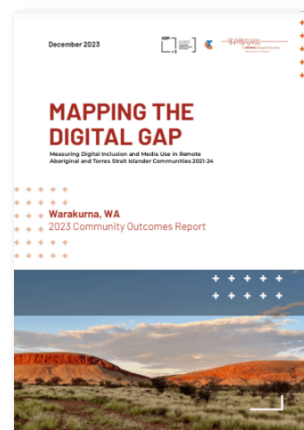
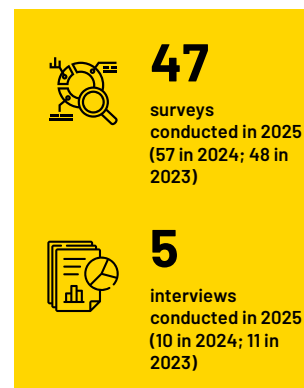
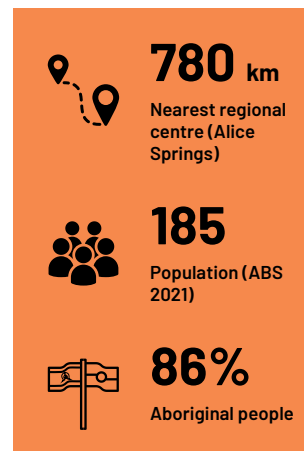
The Ngaanyatjarra Lands span approximately 250,000 square kilometres of the Great Victorian and Gibson Desert regions of Western Australia, adjoining the Northern Territory and South Australian borders. The population of the region is approximately 1,500 people, with most people living in 11 remote communities.

Our second and third research visits to Warakurna were undertaken from 25 Feb–2 March 2024 and 11–14 Feb 2025. The RMIT University team worked with community research partner Warakurna Community Council and co-researchers Tracey Yates, Christine Miner, Bernadette Newberry and Heston Newberry. The research included 57 surveys with residents in 2024 and 47 in 2025, as well as ten interviews with community leaders and agency staff in 2024 and five in 2025. We thank all residents and agency staff who participated in the research and made us feel very welcome.

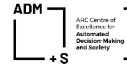
This Outcomes Report presents research findings including survey results, interview analysis, an audit of communications and media services and usage, and suggested strategies for a local Digital Inclusion Plan based on community input. It is intended to assist community agencies, leaders and residents to better understand the barriers to digital inclusion, develop local strategies to address these barriers, and support planning and partnerships with government and industry stakeholders.

This 2025 Update Report seeks to reflect the lived experience and views of Warakurna residents. Building on the previous [2023](#) outcomes report, it presents three-year research findings, comparing 2025 survey results to 2023 findings, outlining changes in communications and media services and usage, and renewing the analysis section with 2024–25 findings and quotes. The full survey results from 2023–25 are included in Appendix 1.

This report is part of our commitment to Indigenous data sovereignty, providing data and research findings to the participating communities to use for their own analysis, planning and advocacy. It is intended to assist local and regional agencies, leaders and residents to better understand the barriers to digital inclusion, develop place-based strategies to address these barriers, and support planning and partnerships with government and industry stakeholders. The proposed Digital Inclusion Plan has been updated based on community input and progress to date, as well as identifying planned activities.



MAPPING THE DIGITAL GAP



Warakurna at a glance

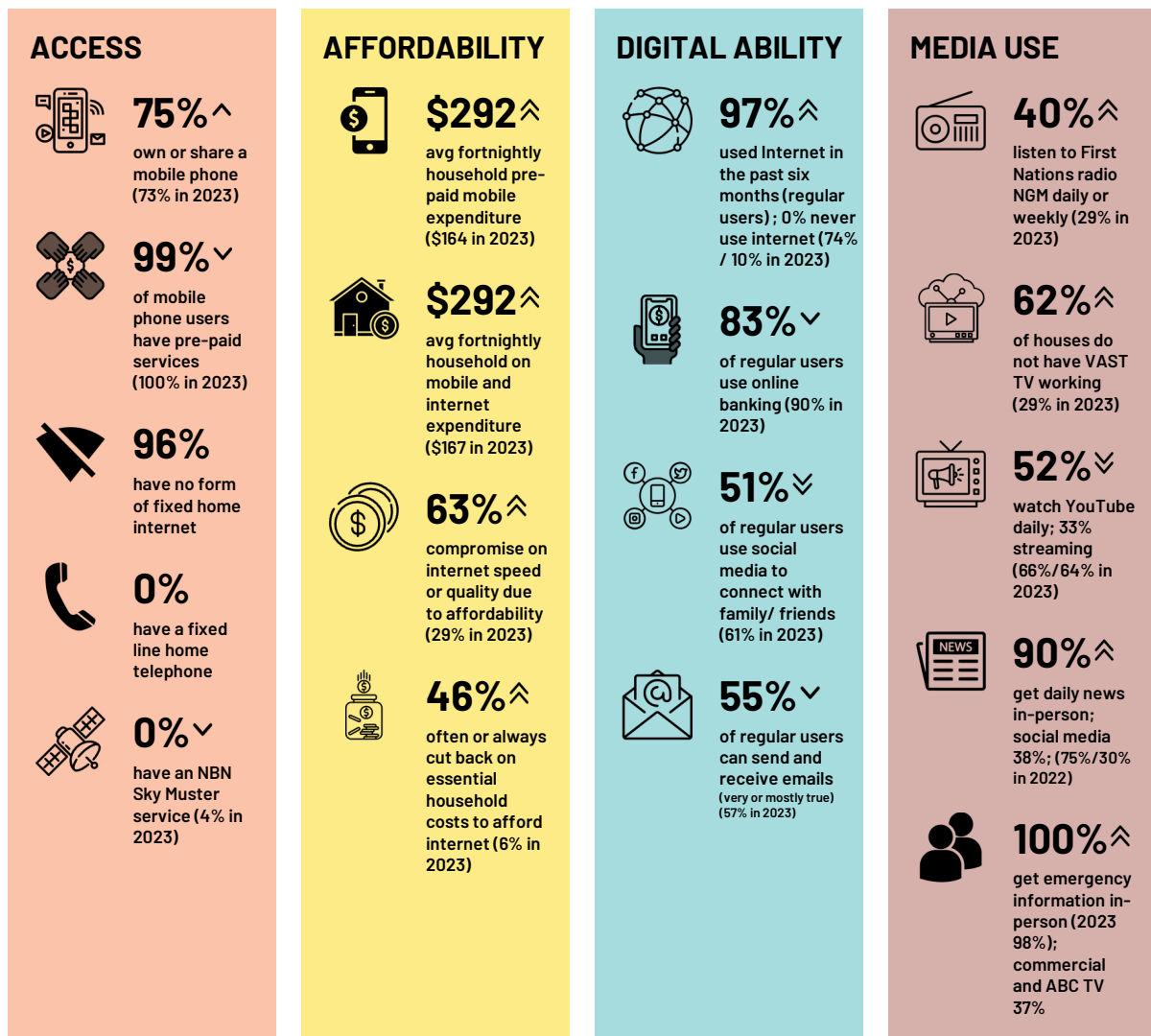
Distance	1,730 km	to nearest capital city (Perth)
Dwellings	69	private dwellings
	2.8	people per ATSI household
Language	85%	speak an Aboriginal language
Income	\$305	median personal ATSI income



Figure 2: Aerial photo of Warakurna community

Key survey findings

Below is a summary of weighted 2025 survey results.



Full 2023-25 survey results are available in Appendix 1. An audit of demographics and communications and media services available in Warakurna is provided in Appendix 2.

What is digital inclusion? How is it measured?

Digital inclusion refers to equitable and reliable access to and use of information and communication technologies for participation in social and economic life.

The Australian Digital Inclusion Index (ADII) is a biennial national survey that measures three dimensions of digital inclusion: Access, Affordability and Digital Ability. ADII scores range from 0 to 100. The higher the score, the greater level of digital inclusion. ADII scores are relative, enabling comparisons across demographic groups and geographic areas over time.

The Mapping the Digital Gap project uses an amended version of the ADII survey to collect digital inclusion data. This enables us to compare results for the participating remote communities, towns and homelands with the national results collected by the ADII, and to track changes in digital inclusion between and within these sites.

In 2021, Closing the Gap Outcome 17 was introduced to ensure First Nations people have “access to information and services enabling participation in informed decision making regarding their own lives.” Target 17 includes a target of equal levels of digital inclusion for Aboriginal and Torres Strait Islander people by 2026.

Combined with ADII data collection, the Mapping the Digital Gap project is helping, for the first time, to track progress towards Target 17 for remote, regional and urban First Nations people.

DIGITAL INCLUSION



ADII First Nations data dashboard

The [First Nations dashboard](#) on the ADII website provides interactive charts and community-specific results from the ten research sites in 2022. The Mapping the Digital Gap [2023 Outcomes Report](#) provides summary findings across all sites. A new First Nations Dashboard is being developed in 2025, with the Remote page including updated Warakurna results.

View dashboard using the QR code below:

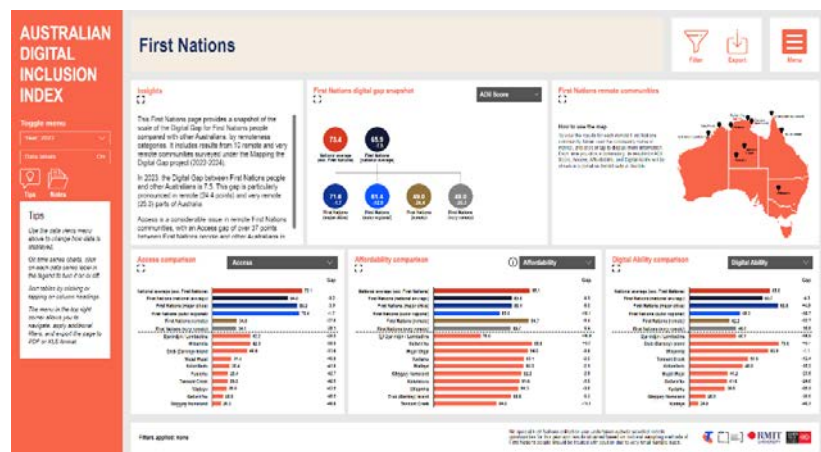


Figure 3: First Nations dashboard on ADII website: digitalinclusionindex.org.au/dashboard/firstnations.aspx

2. INTRODUCTION

The Mapping the Digital Gap project tracks changes in digital inclusion and media and communications use in each research site over three years. This report provides an update from our second and third visits to Warakurna 2024-25, comparing the survey and interview results to our 2023 findings.

Survey data has been updated with weighted results throughout the report to ensure findings are representative of the whole population, with some variation from previous raw data. The report also tracks progress on suggested strategies in the local Digital Inclusion Plan (chapter 7) and includes newly identified strategies and activities.

2023 Findings

Warakurna community, like the other five central communities in the Ngaanyatjarra Lands, has experienced incremental improvements in communications infrastructure over the past 15 years. Since the 2008 fibre optic rollout and the installation of a 3G mobile service in about 2012, connectivity has become more widely available and generally reliable. Warakurna now has a range of communications services available, including 4G mobile, fixed line phone and broadband, Sky Muster and Starlink satellite, public phones and a free community-wide Wi-Fi network. As in other remote communities with mobile services, Yarnangu (Ngaanyatjarra people) are predominantly mobile only users, with 73% owning or sharing a mobile phone at the time and 100% using pre-paid services.

While communications access was no longer a major obstacle to digital inclusion in Warakurna, the next level challenges of affordability and digital ability play a more significant role in determining who can access the internet and what applications and services they use. Affordability played a key role in access and usage, with 43% of respondents having cut back on food or other essentials to afford communications. Being a member of other vulnerable demographic groups was another key factor. The 26% of survey respondents who were low or non-internet users primarily comprised the elderly, people with disability, people with limited English literacy¹ and those who did not complete Year 10 at school.

Across the region, communications services have improved significantly since 2008, when a fibre optic network was rolled out to the six central communities, extending on the network in the neighbouring Anangu Pitjantjatjara Yankunytjatjara (APY) region in South Australia (Featherstone 2011).² This was largely the result of advocacy and coordinated efforts over many years by local agencies, with funding support from the WA and Australian Governments. This network provides the backhaul for all fixed line services including telephony, ADSL and business grade DSL, as well as fibre optic connectivity to key services such as schools, health clinics and multi-function police facilities (located in Warburton, Warakurna and Papulankutja). It also enabled 3G mobile services to be installed in the six communities between 2009 and 2014, with these mostly upgraded to 4G in the late 2010s. There had been a range of digital inclusion programs since the mid 2000s to provide community access computers and IT training, with free Wi-Fi since 2009. These regional changes in communications are outlined in Section 4.

The mobile service in Warakurna is relatively fast and reliable, with strong signal across the community. However, the signal is weaker at the Warakurna Roadhouse and multi-function police facility, located about 5km south of the community near the Tjukuraru (Great Central) Road. NBN Sky Muster satellite services were being used by agencies and staff residences in the community and near the Roadhouse,

¹ 100% of those surveyed speak a language other than English at home

² https://www.researchgate.net/publication/289248976_The_Ngaanyatjarra_Lands_Telecommunications_project_A_quest_for_broadband_in_the_Western_Desert

with initial uptake of Starlink services at the time of our visit. However, few Yarnangu households had home broadband, with Yarnangu primarily using pre-paid mobile for phone and data access.

In October 2022, NBN installed a community-wide Wi-Fi pilot network to provide free Wi-Fi access to residential areas in Warakurna. This was one of four pilot sites to have this service initially, leading to an expanded rollout of community-wide Wi-Fi networks in 23 communities nationally. Wi-Fi access points across the community connect to a central hub at the community office, where three satellite dishes provide Sky Muster Plus Premium backhaul, enabling unlimited download and sufficient broadband speeds for video streaming. This system enables community control over hours of operation and content filtering. A case study in Section 6 provides more details.

A key driver for digital inclusion in Warakurna is the need to access online services such as Centrelink, MyGov, online banking, licensing and bills payment. With no bank, post office or library in Warakurna, and nearly 800 km to the nearest regional centre of Alice Springs, the community office/Centrelink agency is the primary point of access and support for most services and digital support. Office staff assist residents to set up online services but encourage independent use where possible. Other local service providers also reported high demand for digital support.

While digital literacy is relatively high among young people in Warakurna, there was demand for more digital skills training and mentor support, particularly by elders and those needing to improve or develop skills for the workplace. There were also concerns raised about scams, elder fraud, and misinformation and racism on social media, with a need for locally targeted cyber-safety training and awareness.

Another driver for fast, reliable broadband in remote communities is effective delivery of services such as health, education, welfare and employment services, and retail for food, fuel and other essentials. We interviewed local service providers and agency staff in Warakurna to find out about their use of communications and broadband services, and applications such as telehealth and cloud-based systems. While most gave positive feedback on their current services, some were considering upgrading from ADSL or Sky Muster services due to speed, latency or reliability issues. All agency staff talked about the importance of communications for their work and client communications.



“Good communications are vital to be able to get the message out about what we do [using] the various forms of media that we have, such as Facebook, and the phones, and the internet, and making sure that people understand how to use it and to interpret the information.”

– Gina Livesay Sutton, Warakurna Community Development Advisor, 2023

Despite the high cost of data, there is growing demand for broadband data by residents and agencies, with increased use of digital services for telehealth, and online meetings and training during and since the COVID-19 pandemic. Young people are particularly heavy internet users with streaming services (mostly YouTube, Netflix, TikTok and Spotify) and gaming increasing in popularity. Limited access to free-to-air TV services, with VAST direct-to-home satellite services not working in 29% of households, is increasing demand for online streaming and subscription services, and further privatising of entertainment costs.

Residents have access to online computers and support to use digital services at the Centrelink office, along with free Wi-Fi to access government and banking services. Ngaanyatjarra Media was also in the process of re-establishing community access computers and support at the Warakurna Media Centre. Ngaanyatjarra Media was also in the process of re-activating the RIBS radio station to provide local news and information, and shared segments on the regional Radio NGM network. Residents also urged the return of cultural events and media and music production support, as well as access to an archive of local language and cultural heritage recordings.

2024 Findings

Our follow-up research visit to Warakurna in February 2024 found that, while communications and media infrastructure and services remain stable, there are ongoing barriers to improving digital inclusion in terms of digital ability, affordability, and local training and employment pathways.

Overall, residents and local service providers described little change in communications access in Warakurna since our initial 2023 visit. Warakurna remains relatively well-serviced among remote communities, given its inclusion in the NBN community-wide Wi-Fi pilot and reliable mobile service. However, the limits of this infrastructure—particularly the inability to access Wi-Fi signals inside homes, high costs of pre-paid mobile data, and poor coverage at key service sites such as the Roadhouse and Police facility—continue to constrain full digital participation.

We also heard calls for expanded mobile coverage on the Great Central Road after a recent rollover involving a community vehicle just prior to our visit. The loss of the regional UHF repeater network has removed an important safety mechanism, and there are few alternatives aside from satellite phones, which are not readily available for general community use.

The NBN Wi-Fi mesh network was being well used by residents, particularly children and young people, but its current configuration for outdoor access was a point of concern. With daily temperatures of 43°C during our 2024 visit, most residents could only access the Wi-Fi signal from their veranda or yard. While the Wi-Fi network provides an important backup for those out of mobile credit, and supports student use of streaming and online resources, its value remains limited without in-home access. Some residents expressed interest in installing home broadband services like Starlink or Sky Muster, but uptake remains low due to affordability barriers, low connectivity awareness, and challenges to maintain monthly payments. Centrepay contributions may help make these services more sustainable.

Affordability continues to shape how Warakurna residents access and use digital services. All mobile phone users surveyed continue to rely on pre-paid plans, with many spending over \$70 per fortnight. The cost of connectivity competes directly with essential household expenses, with cost of living pressure exacerbated by high cost of food, fuel and other essentials. While the Wi-Fi network and public phones provide alternative means of access, more affordable pre-paid mobile data and in-house broadband are needed to address rising affordability challenges.



“Service providers get free [internet out here, so it should] be free for everyone. Technology’s part of life these days you know, it’s like drinking water They need to make it free.”

– Donna Payne, Acting Community Development Advisor, 2024

Our survey found that average digital ability scores had increased in Warakurna, from an aggregate skills measure of 13.8/30 in 2023 to 17.5/30 in 2024. However, digital ability remains a critical barrier to digital inclusion for many residents, especially the elderly, unemployed and those with limited English literacy. While mobile and internet use is common—especially among younger people for social media, streaming, and gaming—residents generally have very limited usage beyond the basic applications of banking, MyGov and media consumption. Keyboard skills, office software use, email, and information searching are rare among middle-aged and older residents. There was no regular digital skills program available in the community, despite strong demand from elders and CDP participants. Agencies and residents called for a local digital mentor to support hands-on, locally relevant training grounded in everyday tasks.

In this context, the recent re-opening of the Warakurna Media Centre as a community access facility was a welcome development, with a history as a site of informal and supported learning. Ngaanyatjarra Media had installed six community access computers with locally developed resources displayed around the

room, including sample projects like footy photo albums and family collages. Efforts were underway to recruit a Coordinator to run the Media Centre a few days per week. If maintained, this model could reduce the digital support burden on the Community Office, Centrelink staff and other agencies to provide more culturally responsive and locally driven training.

There was strong support for local broadcast media services to be revitalised. 68% of households reported VAST satellite television services not working, particularly due to the cost and complexity of replacing and activating set-top boxes. There was a clear demand for television services—both for news and entertainment—and a desire for a return to local broadcasting from the RIBS radio studio.

There is also an appetite for community archive access and more visibility of local language and cultural resources, particularly in support of education. The Ngaanyatjarra Lands School ‘Yarnangu Connections’ cultural curriculum—featuring multimedia content developed with elders—could be shared via the Wi-Fi network, linked to a locally hosted media server accessible through the login screen. There is strong potential to connect school-based digital activities with broader community engagement including content creation, archiving and multimedia storytelling.

2025 Update

Our 2025 research visit again found little change in communications services available in Warakurna. However, there were further increases in affordability pressures, shifts in patterns of media and online service use and slight improvements in average digital ability levels among residents.

Mobile coverage continues to be relatively reliable in the community, but we again heard about the poor signal at the Roadhouse and Police Facility, with mobile boosters installed in police houses and increased Starlink uptake. There is ongoing community advocacy for an additional mobile booster at the roadhouse as well as free public Wi-Fi. Several other community agencies had installed Starlink or were planning to, with staff describing speed and reliability issues on both ADSL and Sky Muster services.

The nbn community-wide Wi-Fi mesh network remains heavily used, but its outdoor-only coverage continues to be a limiting factor, particularly in extreme heat, and some houses report poor or no signal. Several households have installed Wi-Fi repeaters to improve in-home access, but a whole-of-community solution is needed. Uptake of Starlink or Sky Muster among Yarnangu households remains extremely low (4%) due to having Wi-Fi as well as monthly costs and difficulty in setting up and maintaining services.

Affordability pressures have intensified since 2023, with the average monthly household expenditure on mobile and internet services rising from \$167 to \$292. Nearly half (46%) of survey respondents reported “often or always” cutting back on essentials such as food or power to afford connectivity — a sharp increase from 6% in 2023. While free Wi-Fi remains a valuable fallback when mobile credit runs out, the ongoing reliance on prepaid services (99% of mobile users) is adding to cost of living pressures for many households. More affordable pre-paid options have been released but are not yet available in Warakurna.

Digital ability remains a most significant barrier to full digital participation for many in the community. While internet usage has increased substantially, with 97% of respondents having used the internet in the last three months (up from 74% in 2022), most new users have only basic skills. Across this increased user base, our survey found a decline in other skill areas since 2023, such as opening a browser tab (34%), installing apps (33%), completing online forms (20%), and checking if information is trustworthy (23%). While use of online banking and online services remain relatively consistent with 2023 results (83% and 62% respectively), high turnover of mobile phones, lack of email use and password issues hinder secure and independent use of these services. In-person assistance remains essential for many residents when using MyGov, Centrelink and other government platforms.

Community members and service providers again stressed the need for dedicated digital mentor roles to reduce reliance on the Community Office and to support residents in developing confidence and independence in accessing essential online services. Peer learning, particularly from younger family members, remains the primary source of skill transfer. However, the absence of structured, community-based digital training means that demand for practical, hands-on support remains unmet. Unfortunately, the Warakurna Media Centre, which had been providing this support, was not operating during our 2025 visit. This points to the need for dedicated funding to support the operation of community access centres.

Access to media and news services has shifted further towards online platforms, particularly YouTube, as VAST satellite TV access continues to decline. By 2025, only 38% of households reported having a working VAST service, despite most VAST satellite dishes having been replaced. Set-top box replacement cost and activation remained perennial issues. Smart TVs are now used by 87% of regular internet users, but affordability of devices and data is an ongoing barrier. Local radio remains important, with 40% of respondents listening to First Nations stations daily or weekly, and there is continued interest in reviving local RIBS broadcasting and creating a community media archive.

We heard increasing concerns around cyber safety risks, such as scams, online gambling, social media conflicts, and inappropriate content. Awareness of these issues is growing, with Ngaanyatjarra Media playing Office of eSafety ads on local radio, but there is a clear need for ongoing and culturally safe education. Online gambling is a growing concern, with the ease of online spending an economic drain from the community—an issue less prevalent when Warakurna was a cash-based economy.

While communications infrastructure in Warakurna is among the strongest of the sites visited, the key barriers to digital inclusion now lie in affordability, digital ability, and the availability of culturally grounded support and learning pathways. The Media Centre provides a clear opportunity to address these needs, and the expansion of digital mentor support, technical assistance and community content access should be key considerations in the next phase of Warakurna's Digital Inclusion Plan.

Updates to Proposed Digital Inclusion Plan

The 2023 report included a proposed digital inclusion plan, outlining a list of potential strategies to improve digital inclusion based on input from research participants. An updated Digital Inclusion Plan is provided in Section 7 of this report, which includes new suggestions and a summary of progress or planned activities for each item listed.

While access to communications services is relatively good, provision of in-house Wi-Fi access and improved mobile and Wi-Fi access at the Roadhouse would be welcome improvements. Access to television services is also a key focus, with the upgrade of the VAST satellite dishes showing that the key issue is still with cost and setup of set-top boxes.

Beyond access, the next-level challenges of mobile affordability and digital ability are critical barriers, with a need for ongoing solutions to address these.

We recognise the complexity in trying to implement a local digital inclusion plan, with multiple agencies involved in delivering media, communications and digital support programs. However, Warakurna community, with support from Ngaanyatjarra Council, Shire of Ngaanyatjarraku and Ngaanyatjarra Media, has a strong history of advocating for improved communications and media services. We hope that this draft plan can assist in planning and advocacy for future digital inclusion activities to meet the emerging needs of Warakurna residents and service providers.

While the Mapping the Digital Gap team has now completed research visits to Warakurna, we are happy to continue to assist with development of this plan and options for implementation of strategies.

3. MEDIA AND COMMUNICATIONS IN WARAKURNA

Existing telecommunications services



Mobile coverage

4G mobile coverage to Warakurna is provided from a single mobile tower on the northern side of the community. Initially as 3G only, the mobile service was initially activated on 27 June 2013 as part of the WA Government’s Regional Mobile Communications Program and upgraded to 4G in 2019. See coverage at telstra.com.au/coverage-networks/our-coverage.

As part of a national program, Telstra switched off 3G services in October 2024, with 3G only devices no longer working. Telstra committed to providing equivalent 4G coverage prior to the 3G switch-off.



Figure 4: Warakurna mobile tower



Backhaul to community

There is Telstra fibre optic backhaul to Warakurna, connected to the fibre backbone on the Stuart Highway via the APY lands of South Australia (see Figure 10 in Chapter 4). While the APY network to Wingellina was installed in the late 1990s, the 400km Ngaanyatjarra extension was installed in 2008 as part of the Ngaanyatjarra Lands Telecommunications Project, enabling terrestrial broadband in the region for the first time.



Public phones

There are two public phones in Warakurna community – at the community office and Community Care Centre – and one at Warakurna Roadhouse. Calls are free.



Landlines

Landline connections are available to most agencies and residences. However, no First Nations residents surveyed had landline phones installed at their household in 2025.



Fibre to the premises

There are Telstra fibre connections to the school, police station and health clinic.



ADSL access

A few community agencies and staff residences still have ADSL connections, which is still available in via the copper network in Warakurna.



NBN services

Warakurna is designated as a satellite delivery zone under NBN planning. However, due to having 4G coverage, there is low household uptake of Sky Muster services in the community, with most usage by service providers.



Low Earth Orbit (LEO) satellite

By 2025, a few agencies had installed Starlink services (Warakurna Police, Roadhouse, Ngaanyatjarra Media), as well as agency staff. The Store was about to install a service and the community office and CDP were also planning to get Starlink.



Community Wi-Fi Mesh

NBN installed a free community-wide Wi-Fi network in Warakurna in October 2022, distributed to three access points in residential areas. This was a pilot site to trial the model before expanding to 23 sites in 2024/25 (see Case Study section 6).



Public Wi-Fi hotspots

Warakurna community office also has a public Wi-Fi hotspot available during work hours as well as the DSS Wi-Fi enabling limited services. Previously Ngaanyatjarra Media provided free Wi-Fi from the Media Centre since 2009.

Media services



Radio services

- + Radio NGM 107.7FM (Ngaanyatjarra Media)
- + Warakurna RIBS studio not staffed at time of visits
- + No ABC or other radio services operating



TV services

TV services are only available via VAST direct-to-home satellite, which provides access to all Freeview services and ICTV. However, 62% of those surveyed in 2025 did not have VAST TV working despite replacement of satellite dishes.



Newspapers

There are no newspapers available locally, including Koori Mail.



Figure 5: 2024 research team, NBN satellite dishes for Wi-Fi network on Warakurna Community office behind: Daniel Featherstone, Heston Newberry, Lyndon Ormond-Parker, Bernadette Newberry, Acting CDA Donna Payne, Tracey Yates

4. CHANGES IN COMMUNICATIONS IN THE REGION

About the Ngaanyatjarra lands

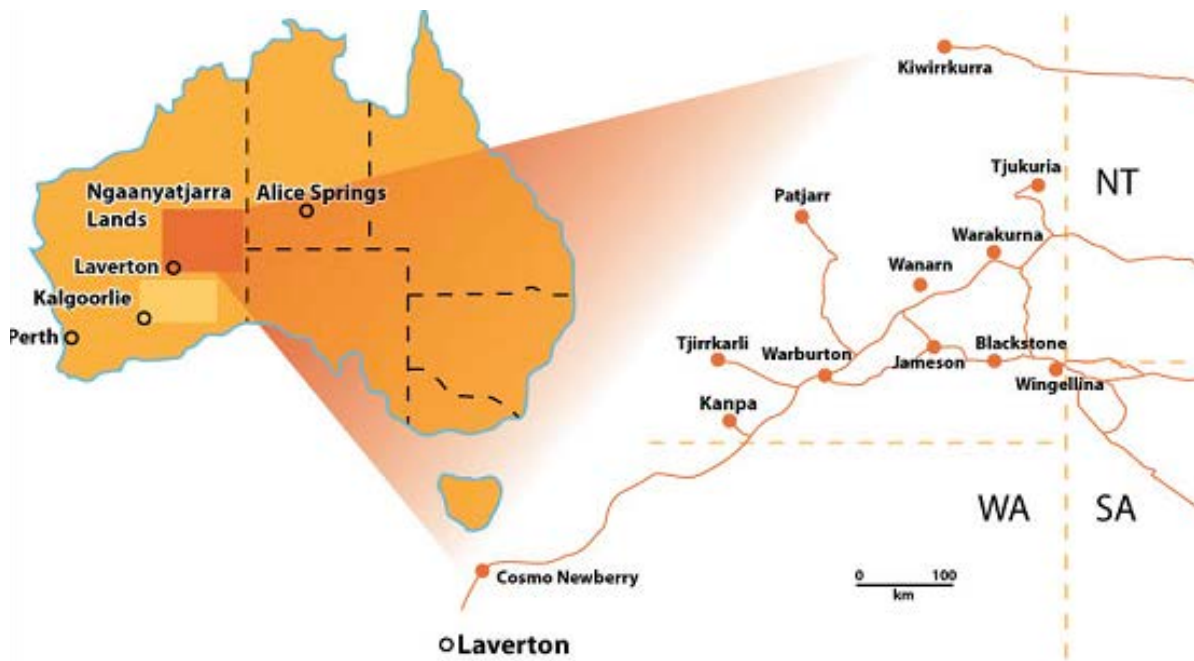


Figure 6: Location of the 12 communities on the Ngaanyatjarra Lands of WA

The region is relatively unique in its coordinated governance and service delivery model through two primary agencies – Ngaanyatjarra Council (based in Alice Springs, which coordinates services including the Ngaanyatjarra health service, Community Development Program (CDP), land management, aged care, transport and buying service, oversight and administrative support of the 12 communities) and the Shire of Ngaanyatjarraku which coordinates municipal programs and youth development programs. Along with Ngaanyatjarra Media, these agencies have been very proactive over the last 25 years in successfully advocating for improved telecommunications in the region, as outlined below.

Changing modes of communications

Traditional modes of communication by *Yarnangu* (Ngaanyatjarra people)³ include oral speech, hand signs, facial gestures, rock and body art, *Turlku* (dance/ song), *Tjukurrpa* (Law/dreaming), *Mirlpa* (sand drawing), smoke signals, message sticks and more. While many of these communications modes remain actively used today, western communications technologies have been rapidly adopted as they have become available. This has facilitated communications and social networking within and beyond the region and with service agencies located in Alice Springs, Laverton, Kalgoorlie, Perth and elsewhere. The traditional and changing nature of communications by Ngaanyatjarra people has been richly documented (See Kral 2012, Kral and Ellis 2020).⁴

³ A collective grouping of people from Western Desert language groups – Ngaanyatjarra, Ngaatjatjara, Manyjilyjarra, Pitjantjatjara, Pintupi, Luritja – as well as neighbouring groups including Martu Wangka and Wongatha.

⁴ Kral, Inge. (2012). *Talk, text and technology : literacy and social practice in a remote indigenous community*. Inge Kral. Bristol ; Buffalo : Multilingual Matters; Kral, I & Ellis, E.M. 2020, *In the Time of Their Lives. Wangka kutjupa-kutjuparringu: How talk has changed in the Western Desert*. Perth WA: UWA Publishers.

The Ngaanyatjarra Lands' remoteness has made telecommunications a challenge since the establishment of the Warburton Mission in 1934 and the Giles Meteorological Station in 1956. HF radio was the primary means of communications from the 1940s to the 1980s, initially facilitated by the Royal Flying Doctor Service as a means of emergency communications. HF Radio was popular among *Yarnangu*, who used it for group conversations in language across the lands, and to arrange cultural business and regional meetings and events. The HF Radphone system (an operator-assisted service connecting HF radio to telephone) had a single channel, with calls public over the network.



Figure 7: Giles Meteorological Station near Warakurna Roadhouse



"[We had HF] radio in a little wiltja [shelter] for talking on the radio. Everyone used to have it in each community ... Then they got the phones started coming in, the public phone, that was the only way people could make a phone call ... Now there are mobile phones which are better."

- Devon Yates, Warakurna Community Chairperson, 2023

Arrival of telephony

In about 1987, Telecom Australia (now Telstra) set up the first telephony system in the region using a Digital Radio Concentrator System (DRCS) solar-powered microwave repeater network. A series of large towers were constructed across the lands at 40–50 km intervals, enabling lines of up to 13 repeaters to extend from the exchange to communities up to 600 km away. The DRCS network provided up to 127 lines for voice and low speed data traffic (maximum 9.6 kbps), with local copper networks installed. This enabled service providers to communicate directly via phone and fax (the primary means of distributing public notices, purchase orders and written information). Public phones were installed for residents' use.

By the mid-1990s the DRCS network was plagued by issues of congestion, an insufficient number of lines, repeater batteries going flat during overcast periods, frequent breakdowns and outages and insufficient speeds for internet or EFTPOS use. Warburton was transferred to an Iterra satellite system to reduce congestion, however this proved to be very slow and highly unreliable. The region continued to struggle with very poor communications services for several years, despite a fibre optic network being rolled out in the neighbouring APY lands in South Australia in 1998 (this was extended to Irrunytju and Blackstone in 2000). Exchanges were overloaded and unable to meet increasing demand. The repeater network was upgraded, with the replacement of DRCS by the new Higher Capacity Radio Concentrator (HCRC) system in 2002. This provided more phone lines and improved reliability, however at a maximum 19.2 kbps, it enabled only very basic dial-up internet or email access.



Figure 8: HCRC tower near Warakurna

Radio and TV services

Warburton community was the first Ngaanyatjarra community to have a TV broadcast service from the late 1980s. Community radio and TV broadcasting was introduced in the region via the Broadcasting for

Remote Aboriginal Communities Scheme (BRACS), initially in three communities (Irrunytju, Tjukurla and Kiwirrkurra) from 1991, before expanding to the other nine communities from 1996. A remote Indigenous media organisation Irrunytju Media was established in 1991 (changed to Ngaanyatjarra Media in 1999) to provide media training and support across the region. A cross-regional radio network 5NPY was established in 1998 with Pitjantjatjara Yankunytjatjara (PY) Media. The lack of effective communications infrastructure and satellite capacity limited the establishment of a dedicated Ngaanyatjarra radio network until 2012. Ngaanyatjarra Media played a key role in supporting Yarnangu access and engagement with media and communications services throughout the 2000s, including production and broadcasting of local community and cultural content (see Featherstone [2011](#), [2013](#), [2015](#)).

Need for improved broadband communications in the region

Internet access was primarily via satellite up until the late 2000s, with the schools, health clinics, police stations, community offices and other agencies paying high rates for broadband satellite services that often did not meet their needs due to speed, latency or reliability issues. Telstra rolled out a subsidized satellite service in 2003,⁵ however this was intended for basic internet use, allowing only 1GB of data per month. There was no residential access to this service.

From the early 2000s, Ngaanyatjarra Council and the Shire of Ngaanyatjarraku advocated for improved telecommunications infrastructure and services in the Ngaanyatjarra Lands, describing existing infrastructure as “grossly inadequate”, further entrenching “welfare dependency” and limiting Yarnangu access to “social and economic opportunities”.⁶ A 2001 report on telecommunications needs in the region outlined the inequity in the region:



‘It is extraordinary that in such a developed nation as Australia that the people of the Ngaanyatjarra Lands have such limited access to basic items as telephones [with existing phones] mainly accessible only to non-Indigenous staff members. With few exceptions, houses occupied by Aboriginal people on the Lands are without residential telephones.’ (Farr et al, 2001)

However, Ngaanyatjarra communities in the region continued to have had very poor connectivity until the late 2000s, with no mobile services in the region until 2009.

UHF radio network 2003

A UHF radio repeater network was installed by the Shire of Ngaanyatjarraku in 2003, using Networking the Nation funding. This was highly utilised by Yarnangu, enabling free communications throughout the region on shared channels, often with multiple concurrent conversations underway in language. Having communications access in cars when travelling on roads and bush tracks provided improved safety and the ability to call for support if broken down. This resulted in reduced burning of bushland, the previous means of signalling a need for assistance. Despite its popularity, the UHF radio network fell into disrepair after a few years due to wind damage to some towers and a lack of recurrent funding to maintain the batteries on repeaters, mostly located at the tops of hills.

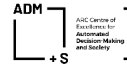
Ngaanyatjarra Lands Telecommunications Project

Due to advocacy by Ngaanyatjarra Council, Shire of Ngaanyatjarraku, Ngaanyatjarra Health Service and Ngaanyatjarra Media, as well as the need by the WA Government for broadband services for schools and police stations in the region, a collaborative approach was taken to establish a regional communications

⁵ Two-way satellite services were rolled out under the Extended Zones program.

⁶ Thurtell, J. 2002. Submission to the Regional Telecommunications Inquiry. Perth, Shire of Ngaanyatjarraku and Ngaanyatjarra Council.

MAPPING THE DIGITAL GAP



network. After five years of planning and development, and with co-funding from WA Government, Australian Government, Shire of Ngaanyatjarraku and the winning tenderer Telstra, the \$5.8million Ngaanyatjarra Lands Telecommunications Project (NLTP) was officially launched in April 2008.

The Project included the rollout of 400km of fibre optic cable connecting the six larger communities in the region – Warburton, Warakurna, Wanarn, Mantamaru (Jameson), Papulankutja (Blackstone) and Irrunytju (Wingellina).



Figure 9: The fibre optic cable being laid near Blackstone community

This extended on the

existing fibre optic cable network installed in the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands in South Australia in the late 1990s, originating at the Stuart Highway near Indulkana and ending at Blackstone. Local exchanges were upgraded at each of the six sites enabling fibre connections to schools and multi-function police facilities in Warburton, Warakurna and Blackstone, along with business-grade DSL services to health clinics, community offices and Shire facilities. ADSL services were also available to other agencies and residential houses via the existing copper network in communities. This enabled reliable broadband access for the first time in these communities, replacing reliance on satellite services. The HCRC microwave repeater network became redundant for delivery of phone services to these sites but was still required for the smaller communities.

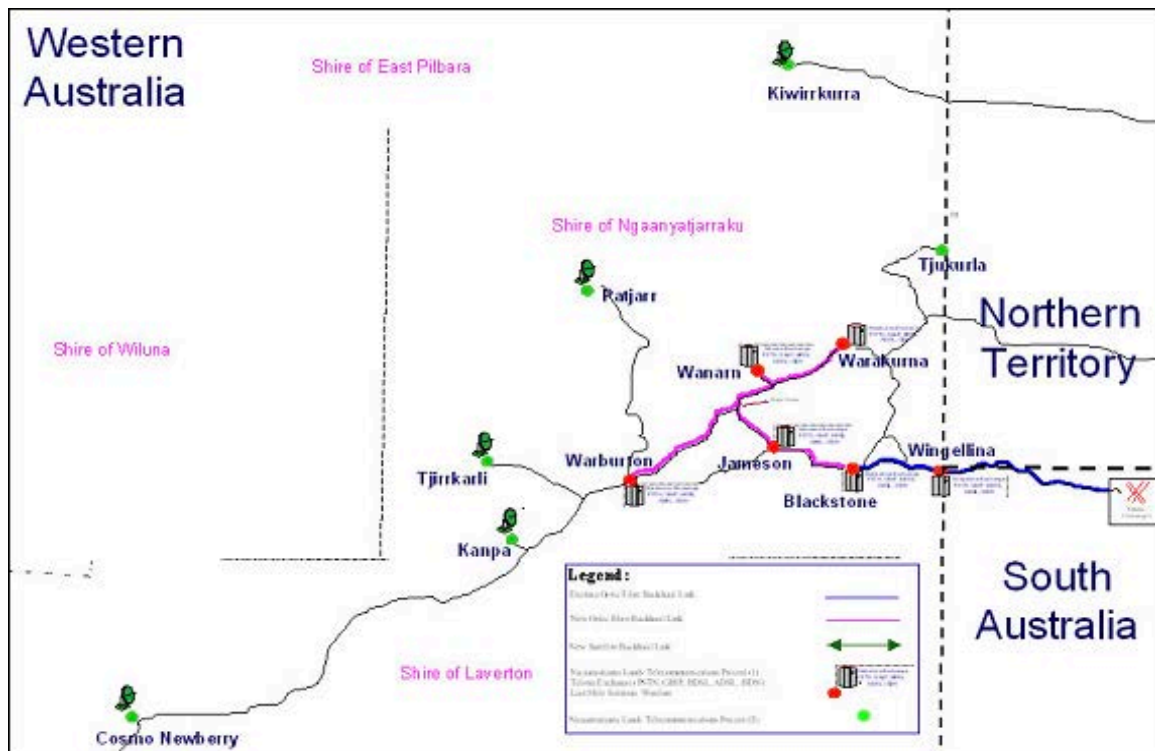


Figure 10: Map showing fibre path of optic rollout (in pink) to six communities, with satellite solution for remaining six communities under NLTP Stage 2 (Courtesy of WA Government, 2006)

In 2010, Ngaanyatjarra Media completed Stage 2 of the NLTP project, providing a broadband satellite service to the remaining six smaller communities – Tjukurla, Tjurrkarli, Patjarr, Cosmo Newberry, Kiwirrkurra and Kanpa, and free public Wi-Fi hotspots in all twelve communities. Concurrent with this

project, Ngaanyatjarra Media established the regional Media and Communications Centre in Irrunytju as a hub for supporting twelve on-line media centres in the region, which was opened in September 2008.

A journal article outlines the rollout and impact of the Ngaanyatjarra Lands Telecommunications Project, along with communications access initiatives for the 12 Ngaanyatjarra communities (Featherstone [2011](#)).

Mobile services in the Ngaanyatjarra region

The fibre backhaul enabled 3G mobile services to be installed in the region, initially in Warburton in 2009 and later to the other five communities in 2012–14 under WA Governments’ Regional Mobile Communications Project.⁷ This led to immediate uptake of mobile services across the region, with Yarnangu (Ngaanyatjarra people) primarily choosing pre-paid services. In 2019, the mobile services were upgraded to 4G in five communities, addressing speed and congestion issues, with Wanarn upgraded to 4G in 2024. All Telstra 3G services were switched off nationally in October 2024.

The rollout of the fibre optic network and mobile services have greatly improved the quality and range of communications services across the region.

- + *“We had no mobile phones [12 years ago]. They came in [about] eight years ago. [That changed things] massively because I was on dialup internet which was useless.” (Kim Seamons, Ngaanyatjarra Health Community Care, 2023)*



Figure 11: Warakurna resident Simon Butler using his mobile phone



“When I first started [working at Warburton in 2008] there was no mobile coverage. [3G came in 2009 and now it’s 4G]. It definitely helps [with working] from home. The internet at the school is a lot faster [now. We] used to have to wait like 40 minutes for log ons for the computers in the morning. [Now we have good Wi-Fi], it’s a lot easier these days in the classroom.”

– *Craig Alexander, Principal, Warakurna School, 2023*

In recent years there has been small cell mobile coverage rolled out in most of the other communities in the region, including some due for completion in 2023. These have mostly been funded under the Australian Government’s Mobile Black Spot Program (MBSP) funding, with WA Government co-investment. Kiwirrkurra community, to the north of Warakurna and 200km west of Kintore, had a satellite small cell service installed in June 2021. Based on community request, this service has content filtering.⁸

Cosmo Newberry community to the south of the Ngaanyatjarra Lands along the Tjukuraru Road, had a Telstra mobile small cell installed in September 2020, with an Optus small cell installed at nearby Tjukayirla roadhouse in December 2020. To the south, Optus received funding to upgrade the 3G small cell at Ilkurlka Roadhouse to 4G, completed in October 2023⁹ (Source: Penny Griffin, WA Government).



Figure 12: Optus small cell at Tjukayirla Roadhouse (Source: Facebook page)

⁷ https://www.commerce.wa.gov.au/sites/default/files/atoms/files/rmcp_newsletter_aug_2014_0.pdf

⁸ To the authors’ knowledge, this is the only Telstra mobile site with content filtering in Australia. Mobile services typically do not have any content filtering, though Optus has put content filtering on small cell services in some sites.

⁹ Ilkurlka was upgraded to 4G in April 2023 but an overheating issue impacted performance until resolved in October 2023.

Also under MBSP Round 4 was funding for Telstra 4G small cells to be established in the small communities of Tjukurla, Kanpa and Patjarr. According to the ACMA licenses map, Kanpa and Patjarr were activated in January 2015. However, at the time of writing this report, the Tjukurla small cell was awaiting land tenure approval through Aboriginal Affairs Planning Authority (Source: Samone Newberry, WA Government, 22/8/25).

Satellite services

NBN provided improved and relatively affordable satellite services from July 2011 with the Interim Satellite Solution, and later the availability of NBN Sky Muster services from 2016. Residents still rely primarily on pre-paid mobile access and pay premium rates to use online services.

The introduction of Starlink low earth orbit satellite service since 2022 provides an alternate high-speed, low-latency broadband service, with increasing uptake in the region by agencies and staff houses, but few Yarnangu households. WA Police were in the process of rolling out Starlink enterprise grade services to all Multi-Function Police Facilities (MFPFs), police stations and police vehicles in very remote areas.



Figure 13: The Rawlinson Range is the backdrop to Warakurna community

5. KEY FINDINGS FROM DATA ANALYSIS

This section provides key findings from the 26 interviews undertaken with community members and stakeholders during our three visits from 2023-25, as well as observational data and survey results.

See Appendix 1 for the full set of comparative survey results for 2023, 2024 and 2025, following data cleaning and weighting against ABS data. The survey results in this report differ slightly from the [2023](#) report which provided raw survey results prior to weighting.

Communications access

The mobile service is relatively fast in Warakurna, but the roadhouse has a weak signal

The Telstra 4G mobile service provides a strong signal in the vicinity of the Warakurna community and the service relatively reliable. Our speed tests of the 4G service showed reasonably fast speeds of 50-70Mbps download and 30-50Mbps upload during the day, but slower during peak times in the evenings.

However, there was a relatively weak signal at the Warakurna Roadhouse and surrounding facilities five kilometres south, including the Multi-Function Police facility and staff houses, Giles Meteorological Station, Ngaanyatjarra Council training facility and the airstrip. There were calls for a booster to be set up at the Roadhouse to service these facilities and the flow of visitors and service providers who pass through or stay at the Roadhouse.



“[The mobile service is OK] within a couple of square kilometres of Warakurna [but] outside of Warakurna, the communication is non-existent, unless you’ve got a sat phone or an iPhone 15 [with] satellite capabilities ... The roadhouse needs to be upgraded [with a mobile] booster.”

– Bronte Lamshed, Warakurna Community Development Advisor, 2025

- + “The [signal at the] roadhouse is terrible. If you’re down there and you need to transfer money or something, you’re stuck; you need to ask them for the Wi-Fi.” (Chloe Anderson, CDP Case Officer, Ngaanyatjarra Council, 2025)
- + “The network is quite weak. It’s important for tourists to phone home [and] network coverage would save a lot of angst amongst emergency providers.” (Colin Johnston, Officer in Charge, Warakurna Multi-Function Police Facility, 2024)



Figure 14: Warakurna Roadhouse is about 5km south of Warakurna community, opposite the multi-function police facility

The Warakurna Police have installed a mobile booster on the station and on staff houses due to the poor reception inside the houses.

- + We’re about five kilometres from the tower [in] the community. [To get a mobile signal] in this building we have to use a booster otherwise we get one bar and you receive the call, then the call cuts out. [We’ve also installed] mobile Telstra boosters in the two police houses to ensure that we get [emergency] phone calls.” (Colin Johnston, as above, 2024)

Mobile and video communications connects dispersed families and can save lives

Before mobile services were available in Warakurna, communication was primarily via public phones and phones in community offices or other public spaces, or via travel. In some Ngaanyatjarra communities videoconferencing facilities were used to connect with family away from the community at boarding school, in prison or in hospital. While these sessions were appreciated, access to videoconferencing facilities was limited, lack of privacy was an issue, equipment was costly and arranging sessions was often challenging.

Mobile telephony has changed all of that, making face to face communication with family members available via a smartphone. Video calls are now a widely used means of conversing especially among young people.

For patients requiring dialysis, it is common to be in Alice Springs or Perth away from family, as dialysis support in Warburton and Wanarn is limited. The mobile phone service has made it easier for families to stay connected from home using personal devices.

- + “[Some people] have to permanently move out of the community. It is very hard [to stay connected with family]. [One lady was flown out, to Perth where] they had to put her on dialysis. [Before we would] help family ring her [but now they can do it] with their own cell phones using Facebook [or] Messenger.” (Karen Higgins, Remote Area Nurse, Warakurna Clinic, 2023)

The ability to connect with family can significantly impact a person’s physical and mental health, and in some cases, their will to live.



“With [Ngaanyatjarra] people the connection to the land and their families [and] community is massive ... It’s probably 90% of [maintaining] mental health. [Without that contact] they are just going to pass away because they get sad and [lose hope]. When [an elderly resident had a] heart operation, she was five weeks in ICU [but] every time [they removed the breather tube] she flatlined [pulse stopped]. [So I helped gather] her family to talk to her [on the phone]. Three hours later [the ICU nurse] rang back and said, “We’ve taken [the tube] out and she’s fine”. [That connection to family is] massively important.”

– Kim Seamons, Ngaanyatjarra Health Community Care, 2023

We heard of many families leaving small communities, such as Tjukurla or Karilywara (Patjarr), in recent years due to lack of reliable communication. This is due to the need to access online services and reporting, maintain connection with family and friends, and reach emergency services when needed. However, this can run counter to family and cultural obligations to maintain connection to country.



“It’s just so important, the communication and having accessibility and opportunity [so] people don’t leave the communities. They come back so often because they get homesick so to be able to access everything in the world at their fingertips is really important.”

– Kathy Anderson, General Manager, Ngaanyatjarra Media, 2024

Pre-paid mobile is the primary means of home phone and internet access

Our 2025 weighted survey results found that 75% of Warakurna respondents own or share a mobile phone (up slightly from 73% in 2023), of which 100% were smartphones and 99% used pre-paid services. 93% of people said they use their smartphone as their primary means of internet access. 17%

used a tablet for internet access at home, but only 1% used a desktop computer (down from 14% in 2023) and 1% used a laptop.

100% of survey respondents in 2025 said they use a mobile phone for making phone calls (up from 82% in 2023), with 22% also using the public phone and 42% using a phone in the community office or a workplace (up from 9% in 2023) (multiple choice question). No respondents had a fixed phone in their home.



Figure 15: Renisha Yates using the public phone near the women's centre

There are three Telstra public phones in Warakurna community, located at the community office, by the women's centre and at the Roadhouse. All provide free calls. 62% of respondents said the public phone is reliable (up from 36% in 2023) and only 29% said they never use it (down from 57% in 2023). This indicates increased use of the public phones, particularly by elderly people, those without mobile phone credit and at the roadhouse where there is limited mobile service.

Of respondents using pre-paid mobile phones, some need assistance from a family or staff member to activate a new SIM due to not having a driver's license or email address.

- + *"People with ID or a license, they activate [the SIM for] their families. [Sometimes people have to] go Alice Springs and do it." (Jeannie Pegg, Co-researcher, 2023)*

The NBN Wi-Fi network provides community-wide Wi-Fi but is limited to exterior access

Warakurna is one of four pilot communities to have a community-wide Wi-Fi pilot project installed by NBN as part of a trial to provide free broadband access. While NBN also installed 112 Wi-Fi hotspots in 99 communities (Source: Sam Di Marco, NBN Co, 2023), the community-wide Wi-Fi model is designed to address demand for connectivity near homes in residential areas rather than at a central hotspot. The design and usage of the Community-wide Wi-Fi project is outlined as a case study in Section 6.

The Wi-Fi service is getting high use by Warakurna residents, as shown in the usage report (Section 6).

- + *"They do rely on it a lot ... a lot of them are into the social media, [streaming] and buying things online as well." (Donna Payne, Acting Warakurna Community Development Advisor, 2023)*

This is helping people reduce high costs of pre-paid mobile data.

- + *"I connect to this community Wi-Fi instead of wasting money on [mobile] credit, but sometimes I [buy] credit from the shop." (Tracey Yates, Co-researcher, 2024)*

The design allows for exterior access, with very limited in-house access. With daily temperatures averaging 43 degrees during both our 2024 and 2025 visits, residents regularly raised a desire to have in-house access to the Wi-Fi service where air-conditioning is available¹⁰.



"Every day, [we have to] go outside, sit down in the heat, and then go back inside when we're trying to get cool. [But we can't] get the connection inside, it just goes off."

- Bernadette Newberry, Co-researcher, 2024

¹⁰ This model is adopted in other WA communities we have visited – see case study in Kalumburu [2023 report](#).

- + *“My sister can sit in the yard or on the veranda [to use] the community [Wi-Fi]. I’ve been trying to use the Wi-Fi [inside my house] but it’s a very poor signal ... It keeps dropping out.” (Elizabeth Ellis, Curriculum Coordinator, Ngaanyatjarra Lands School, 2024)*

Some residents have tried using Wi-Fi repeaters to enable in-house access. This is one of the proposed strategies in the Digital inclusion Plan in our 2023 report, with NBN Co also exploring options to support in-house Wi-Fi access.

The Wi-Fi network uses Sky Muster satellite backhaul, which can be impacted by rain or heavy cloud cover. Network outages can last for hours or even days. As the Wi-Fi is now a primary service for residents, these outages can have an impact.

- + *“If there’s storms coming through, the community gets a bit nervous because we worry about our Wi-Fi, because that’s all we have.” (Donna Payne, Acting Warakurna Community Development Advisor, 2023)*

In 2025, some households reported a very low Wi-Fi signal or none at all.

- + *“Some people [said] the community Wi-Fi is not working full service and they’re not getting [any signal at their house. They] go to the office [for Wi-Fi].” (Tracey Yates, Warakurna Resident and Co-researcher, Warakurna, 2024)*

Section 6 provides more detail about the Wi-Fi network, including recent funding approval for upgrades to the network to enable in-house access, as well as a W-Fi mesh network to be installed in Warburton.

There is no fixed broadband in First Nations households other than community Wi-Fi (2025)

In previous visits we found very low household broadband uptake, with 4% having NBN Sky Muster services in 2023 and 4% having Starlink in 2024. However, by 2025, our survey found that no Warakurna households had any form of satellite or ADSL internet service, with 82% reporting having another form of household access, presumably community Wi-Fi. With the community Wi-Fi being exterior access only in most households due to low Wi-Fi penetration, the primary interior access is via 4G mobile.

Previously we heard that reasons for reluctance to sign up for Sky Muster services were primarily due to affordability of monthly bills on low incomes and challenges in the application process. The one First Nations household that previously had a Starlink service in 2024 had struggled to meet the \$139 per month payments on low income and reluctantly ceased the service. However, the high cost of pre-paid data and increased data use means that households are paying higher monthly data rates despite the free Wi-Fi (see Affordability section on page 43).

Sky Muster services are still being used by some agencies but have reliability issues

During our first visit in 2023, most local agencies and staff residences were primarily using NBN Sky Muster. While this was meeting basic needs, we heard calls for more speed and data limits, with 4G providing better speed and lower latency.



“[Sky Muster is] reliable but it’s slow. [For Zoom meetings] we opt for just using the mobile hotspot, it is generally quicker [and a] bit more reliable ... I think when there are better options we’ll probably take them.”

– *Lara Smith and Jacob Gerrard-Brown, Warakurna Artists, 2023*

- + “[Sky Muster] was pretty slow. When I tried to play video games on it, it was just unplayable. I couldn’t play video games at all. The search time was super slow.” (Nathaniel Rosenberg, Warakurna Roadhouse Assistant, 2023)

In July 2023, NBN Co released the new Sky Muster Plus Premium product to address speed and data limitations. The Premium services has unlimited downloads and speeds of up to 100 Mbps.

However, community staff continue to report reliability issues with Sky Muster services, especially dropouts during rain or cloud cover. We also heard about the impact of technical failures, with challenges in accessing technical support.

- + “[Our Sky Muster was out] for a week here. [We were] waiting for the NBN to respond back and IT got back to us. It wasn’t the router that we thought, so I fixed it over the phone. I was talked through it all, got up and fixed it ... You can’t [operate an office without internet]. It’s so, so horrible. [If you’re applying] for funding, there’s always a deadline and [if] the WI-FI’s down, you’re going to miss out.” (Donna Payne, Acting Warakurna Community Development Advisor, 2023)

There was increased uptake of Starlink satellite services by agencies and staff

Starlink Low-earth orbit (LEO) satellite services have been available in Warakurna since late 2021, providing an option of high-speed, low latency broadband with unlimited data caps. LEO satellite services can provide improved experience for cloud-based IT systems and gaming, which require reliable high speed and low latency, as well as two-way applications such as videoconferencing.

There was limited uptake of Starlink at the time of our 2023 visit, however the Warakurna Roadhouse had installed a Starlink service, as had staff at the adjacent police station and Warakurna Roadhouse. One staff member gave a glowing review of the Starlink service he had recently installed at his house.

- + “It’s the fastest internet I’ve ever had. [My city NBN service was] 60 megabytes per second but [Starlink is about] 170 megabytes per second. It’s completely blown it out of the water. It’s been an overall great experience. [Now] I can play videogames online with my mates again, I can get that social fix ... while working remotely.” (Nathaniel Rosenberg, Warakurna Roadhouse, 2023)



Figure 16: Starlink dish

By 2025 the majority of staff residences had taken up Starlink, including police, school, clinic and community council staff, with several citing frustration with former ADSL and Sky Muster services.

Starlink was also being taken up or being considered by most agencies, with the Warakurna community office about to get Starlink. We heard that Ngaanyatjarra Council was in the process rolling Starlink out to offices regionally, including the CDP office in Warakurna. The store had purchased a Starlink unit and was waiting to install it. The Ngaanyatjarra Lands School was also exploring it as an option in some campuses.

- + “Starlink ... seems to be the one dependable [form of broadband] at the moment. [We will] be trialling one of the campuses with it.” (Scott Fatnowna, Executive Principal, Ngaanyatjarra Lands School, 2024)

However, the fixed post-paid cost of \$139/month, as well as up-front equipment costs¹¹ was a barrier to further uptake, especially by Yarnangu households with no uptake reported in 2023. However, during our

¹¹ At the time of our 2023 visit, the up-front equipment cost of \$900 was being discounted by Starlink to \$450. Discount rates have varied since, with equipment now free if the account is maintained for at least 12 months.

2024 visit, one resident had recently installed Starlink at her house, citing the high temperatures and limited access to the Wi-Fi network as a key factor.



"It's been too hot, you know, 43 degrees every day. That's why I got this Starlink so I can be inside using it [where it's air conditioned. Also because my] kids always humbug me for hotspot [so now] I don't have to spend money on [mobile] credit."

- Tracey Yates, Resident, Coresearcher, 2024

By the time of our visit in 2025, this Starlink service was no longer active due to challenges with maintaining the monthly \$139/month payments. The impact of losing a much-needed household broadband service can also cause issues.

- + "\$35 a week, that's a lot out of their Centrelink. [But] when they can't maintain [the broadband] they've got no streaming services [which can cause] a lot of problems in the household." (Donna Payne, Acting Community Development Advisor, 2024)

This led to repeated calls for the Wi-Fi network to be available inside homes to reduce household costs and ensure continuity of services.

Social media remains a primary means of communication, with limited use of email

Social media is a primary means of communications and accessing news and information for most residents, however usage has decreased in recent years. 51% of those surveyed in 2025 use social media to keep in touch with family or friends and 42% made new friends or reconnected with old friends via social media, down from 61% in 2023 for both questions. The primary platforms used are Facebook, TikTok (preferred choice for younger people) and Instagram.

Co-researcher Renisha Yates described the primary means of communication for young people.

- + "Mobile phone, social media, message each other, [and] talking to each other. [And I'm] on a WhatsApp group for my church group. [I also use group chat on Facebook Messenger] and Facebook Live. [Mostly social media is how] we contact people." (Renisha Yates, Co-researcher/resident, 2023)



Figure 17: Co-researcher Renisha Yates using her mobile phone

The reason for the drop in social media is not clear, however anecdotally we have heard about reduced use following toxic online racism in the lead up to the Referendum on the Voice to Parliament in 2023 as well as conflict arising from negative Yarnangu comments or cyber-bullying.

Email is not commonly used by Yarnangu other than for work purposes or to set up online services (55% expressed confidence in using email in 2025).

- + "Some [have email for work or to] contact white people. [We mostly] use text [or Messenger] rather than email. Only white people use the emails." (Jeannie Pegg, Co-researcher/resident, 2023)

Dropouts and outages can have significant impact on services, with backup systems needed

While the mobile service is mostly reliable, there were reports of occasional dropouts and outages, requiring backup connectivity options.

- + “[Mobile can sometimes go off] maybe a couple of days, then it came back on. [When it goes off, people] use the Wi-Fi, Warakurna free Wi-Fi.” (Jeannie Pegg, Co-researcher/resident, 2023)
- + “Earlier in the year we had an outage, and that lasted I think almost a whole day, if not two. [But] we haven't had an outage [recently].” (Chloe Anderson, CDP Case worker, Ngaanyatjarra Council, 2025)

While the Warakurna Community office still has internet access via NBN Sky Muster service during Telstra outages, several facilities are reliant on ADSL, including the Warakurna store. Regular dropouts in the ADSL service have been an ongoing issue for the Store during each of our visits, impacting on sales and food security. During our 2025 visit, the storekeeper reported daily dropouts during EFTPOS transactions.



Figure 18: Warakurna store



“There's been some terrible outages with the EFTPOS just in my short time here... you're halfway through a \$200 purchase with the customer and the thing drops out and then you've got to advise them to get the cash out of an ATM machine.”

- Bronte Lamshed, Warakurna Community Development Advisor, 2025

A Starlink satellite service had been purchased for the store and was awaiting installation in 2025 to help reduce the regularity of dropouts and provide redundancy in the case of ADSL outages.

Outages have impacted on operations at the Warakurna Remote Community School, which is fully reliant on fixed line connectivity, as well as delivery of classes.

- + “[We had] a week where we've been without any internet or phone coverage. [It makes it hard] to engage the students ... because a lot of [the curriculum] is digital now.” (Craig Alexander, Principal, Warakurna School, 2023)

Warakurna Police also reported regular minor outages on their fibre optic connection, as well as a four-day network outage in 2023 caused by damage to Telstra's fibre optic cable in South Australia.

- + “The network's been down [on] the day of the court ... twice in two years. [We have] outages about once to twice a month, [lasting] from about 45 minutes to the longest being four days that I've experienced last year. [Telstra said there was] damage done to the fibre optic network [in] the APY Lands.” (Colin Johnston, Officer in Charge, Warakurna Multi-Function Police Facility, 2024)

Previously we heard reports of a similar network wide outage in 2021, which lasted three weeks.

- + “We had an outage for three weeks [in 2021 which left us without] internet or mobile ... It was because there was diggings around cables over on the APY Lands and they couldn't pinpoint exactly where it was. So they were looking for where this one piece of wire was not linked and it was over in Kanpi [in SA].” (Gina Livesay Sutton, Warakurna Community Development Advisor, 2023)

Power outages also impact on connectivity

Power outages also impact on connectivity, with all power supply in Warakurna provided by a local diesel generator. Satellite services and Wi-Fi are reliant on mains power, usually without battery backup. Mobile and fixed line phone services continue through short outages due to battery backup at the exchange, with batteries now upgraded to 12-hour capacity. Some outages can also last for days or weeks due to waits for parts or technical support.

During power outages, the Warakurna Store closes due to a lack of power and internet backup. However, Warakurna Roadhouse has a backup generator to continue providing food and fuel supplies when the community power or internet is out. It also has a Sky Muster satellite service which is not impacted by Telstra outages.

There were calls for mobile coverage along the highway

During each visit, we heard calls for more mobile coverage along the Tjukuraru Road (Great Central Road), a popular tourist route which is unsealed for most of the 1100 km from Kaltukatjara (Docker River) to Laverton.¹² There is only limited mobile access in the vicinity of the communities along the way—Kaltukatjara, Warakurna, Warburton and Tjukuyirla Roadhouse—with no mobile service in between.

- + *“There’s not that much range at all. [You drive] out of Warakurna and it stops working.” (Lara Smith and Jacob Gerrard-Brown, Warakurna Artists, 2023)*

There have been a number of accidents on the unsealed Tjukuraru Road, with police and clinic staff often the first responders, reliant primarily on satellite phones for communications.

- + *“[We carry] satellite phones in the cars ... In an emergency like that, all you can do is provide first aid, pack them up and come to a clinic.” (Karen Higgins, Remote Area Nurse, Warakurna Clinic, 2023)*



Figure 19: Vast distances separate communities on Tjukuraru Road

Just prior to our 2024 visit there had been a vehicle rollover on the Tjukuraru Road about 35km west of Warakurna, well beyond the reach of the mobile service. Fortunately, Warakurna Police were travelling on the road and were able to release a trapped passenger and arrange medical evacuations. The rapid response likely saved lives due to temperatures being over 43 degrees.



“That was just on the cusp [of mobile coverage], so occasionally my phone would ring, but I [couldn’t] answer the call. [I had to borrow a] satellite phone [to advise other agencies] about the job, the severity of the injuries. It was just not feasible to [communicate by mobile] which was disappointing.”

– *Colin Johnston, Officer in Charge, Warakurna Multi-Function Police Facility, 2024*

While some mobile phones are now able to send texts or emergency messages via low-earth orbit satellite, this is yet to be rolled out as a universal service¹³, leaving a lack of emergency communications along the Tjukuraru Road. Warakurna Police called for improved mobile coverage along the Tjukuraru

¹² The Tjukuraru Road will be fully sealed in coming years as part of plans for the 2700 km Outback Way tourist route from Winton in Queensland to Laverton in WA (<https://www.outbackway.org.au/>). The section from Kata Tjuta to the NT border has been mostly sealed in the last decade as the first stage of this upgrade.

¹³ The Australian Government is implementing a Universal Outdoor Mobile Obligation, to ensure that all telco providers and phone types can send emergency text messages via satellite, however this will not be in place until 2027.

Road due to the regularity of accidents and breakdowns, which can potentially lead to fatalities, especially during extreme temperatures in summer.

- + *"I would ... like more cell towers placed along Great Central Road. Motor vehicle accidents regularly happen because of [the single lane] gravel [and vast] distances. [That would] increase the safety of the road users." (Colin Johnston, Officer in Charge, Warakurna Multifunctional Police Facility, 2024)*

WA Police have been installing Starlink satellite equipment on police vehicles to enable reliable communication outside of mobile coverage areas, however this had not yet been implemented in Warakurna at the time of our 2025 visit.

Lack of local technical support increases maintenance cost and repair times

With no local technicians based in the Ngaanyatjarra Lands, calls for IT support from technical contractors in Alice Springs, Kalgoorlie, or further afield typically involve high costs and time delays. For Telstra faults or outages, the closest technician is based in Yulara, about four hours' drive east of Warakurna.

- + *"We need a [Telstra] tech [based] on the Lands ... And we need equipment based out here so they're [not] having to wonder what to bring with them. [Often they say] 'now we've got to wait for the diggers [or] wait for this'. If you had it all somewhere in a central point, it'd be a lot quicker." (Gina Livesay Sutton, Warakurna Community Development Advisor, 2023)*

Service delivery and use of online services

The community office provides regular support in the use of online services

Since the introduction of online banking and government services over the last decade, most residents have become familiar with using online services and apps. However, there are still regular requests for support, particularly from elderly people, for assistance from community office and local agency staff with daily digital challenges.

- + *"We tend to [get requests from the] elderly and where English is very, very limited [or] where people may have mental health issues. [We help them with] their banking [or] Medicare [or] myGov, it could be 'can you ring up and check when my licence is due' ... anything at all that we take for granted [but] it's such a challenge for a lot of people." (Gina Livesay Sutton, Warakurna Community Development Advisor, 2023)*
- + *"The older generation aren't great at computers [so they ask us] us to help them log into banking, MyGov, all that sort of stuff. [Most younger people] know the basics, they know how to log into their banking, they know how to log into the MyGov, TikTok, social media. [But] the ones that usually come in and ask me to log in and keep their details are usually the older Yarnangu." (Chloe Anderson, CDP Case worker, Ngaanyatjarra Council, 2025)*



Figure 20: Access computers in Centrelink agency

However, agency staff have time constraints with busy workloads, leaving people to 'shop around' for support.



“[If people need] help [with MyGov or] internet banking [they go to] the community office, CDP office [or] down to the school or the art centre to get help, or just come and ask young people who knows how to do that ... learn them so they know how to do it themself.”

– Bernadette Newberry, Co-researcher, 2024

In 2023, co-researcher Jenelle Mitchell was working in the community office, assisting people with Centrelink needs, use of MyGov and internet banking. She told us that elderly people often need support to use online accounts, with most younger people able to use online services independently on their phones. There was no Yarnangu support worker in place during our 2025 visit despite many elderly people requiring ongoing digital support.

- + “[Older people need help] to utilise their finances and being able to contact Westpac or Commonwealth or any bank to download information to them. [While younger children in the community are quite savvy with computers and mobile phones, the older generation from 55 onwards have a hard time in adjusting and trying to learn things on computer.” (Bronte Lamshed, Warakurna Community Development Advisor, 2025)

Digital mentor support would reduce pressure on service providers

A dedicated digital mentor model has proven to be effective for providing ‘just-in-time’ digital support in the Ngaanyatjarra Lands, with mentors supported by roving trainers. Gender-specific training and support is required for cultural protocols, so male and female mentor roles would be preferable.

We heard how people gain confidence through peer learning.

- + “I got used to [doing online banking] by looking [at others] using internet banking, myGov, anything on the phone ... Then I used to just try it, like do anything like Facebook, or internet banking, myGov ... YouTube, and I download games, then music.” (Marika Cooke, Warakurna Resident, 2024)

Interviewees expressed interest in having a digital mentor role in Warakurna to provide peer support when needed, if funding was allocated to support this.



“[It would be good to have] someone working with [residents on] digital literacy and helping them with online stuff like their banking [and Centrelink] so they can do [it] online rather than having to ring up ... A bit of support might make it easier for them. [Community staff] work really hard to help community members but ... they’re doing other jobs. [It requires a] specific [program] to support Yarnangu people to build that digital literacy.”

– Craig Alexander, Principal, Warakurna School, 2023

- + “If there was something in the budget for [digital mentors from] the WA Government or [another source] that would be great. So that they’re wholly and solely just doing education around digital media.” (Gina Livesay Sutton, Warakurna Community Development Advisor, 2023)
- + “[We need] to get somebody in the community [who can help people use] email [or] set up of the MyGov [app, to help people overcome] the thing[s] that are frustrating for them.” (Service provider, 2023)

Workplace digital skills development is mostly via on-the-job training

While digital skills are required for many of the jobs in the community, currently there is limited workplace readiness training in use of computers and digital applications. The CDP staff have found that even young people do not have the digital skills needed for some roles, creating a barrier to employment.

- + *"Looking at the jobs in Warakurna, my sister [works] in the office on the computer helping people, [but] in the clinic, we don't have a person there. At the shop, we don't have people there. We [want] to get some people working [in those roles]." (Elizabeth Ellis, Cultural Curriculum Coordinator, Ngaanyatjarra Lands School, 2023)*

While most young people are very proficient with mobile phone applications, there is a need for support to develop workplace digital skills and work culture.



"[Since coming back to Warakurna] I've seen that there's a lot of young people [who are] very savvy with the phone ... We just have to give them [job] opportunities [and say], 'You do the work and if you need help we'll be here' ... You can't just throw a person in the deep end ... You have to teach them to swim first."

- Elizabeth Ellis, as above, 2024

Ngaanyatjarra Health Service provides basic community nurse training at Alice Springs, which includes use of the Communicare online patient records system.

- + *"[Aboriginal nurses] get a day or two [induction], usually in [the] Alice Springs office. [This is mainly] to learn how to run the Communicare [system], everything else is [learnt on the job]." (Karen Higgins, Remote Area Nurse, Warakurna Clinic, 2023)*

Similarly, Warakurna Artists do on-the-job training in use of the SAM database and taking and uploading digital photographs of artworks. There is also online training provided by peak body Desart.

The Warakurna School has set up a learning hub with computers for use by Yarnangu staff and recent graduates for their learning and personal digital needs.

- + *"We [set up] learning hubs [on each campus] called Yarnangu language training centres. [They have computer workstations so that] every Yarnangu staff member [can] do their business on it, so check accounts and pay bills, or do a whole bunch of different things. [We also support Year 12 graduates who have moved] into the work [or CDP] path [to use workstations near] the Yarnangu staff." (Scott Fatnowna, Executive Principal, Ngaanyatjarra Lands School, 2024)*

Ngaanyatjarra Council CDP provide workplace training, however this has traditionally been focussed on technical roles and equipment use. Digital skills have been introduced in more recent training programs.

- + *"[We ran] two [IT training workshops using] PowerPoint, they used Google, internet. Everything that they needed was available on their laptop. [Next] I want to put together a bit of a just a cheat sheet thing for the ladies [to get] familiar with the keyboard itself." (Sina Tibble, CDP Training and Employment Coordinator, Ngaanyatjarra Council, 2024)*



Figure 21: Workplace training is run from the Warakurna Learning Centre near the roadhouse

Community members were cautious not to see low-use of office applications as a deficit, but to ensure applications being taught are relevant and interesting.

- + *“You can guarantee that everybody [here] knows how to use a phone [and] internet. Everybody knows how to use TikTok [and Facebook]. So I think the level of digital awareness [and use is] absolutely there. But [we shouldn’t expect people to be interested in Excel]. If I put up a spreadsheet with numbers and dollars, they’ll just walk away [but] if [I have an activity] about going bush, they will [get involved].” (Service provider, 2023)*

More cyber-security awareness is needed in use of banking and online services

The survey results indicate a relatively low level of online safety and cyber-security awareness. Our 2025 survey found that only 45% of survey respondents were able to set or manage secure passwords for their online services or device (responded very true or mostly true), down from 74% in 2023. Only 28% knew how to set privacy settings (said ‘very true’ or ‘mostly true’) with low levels of confidence in identifying which apps are safe to download (31%), deciding what personal information to share online (30%), or checking if information is trustworthy (23%).

In 2023 interviews, local agencies identified a range of online safety issues prevalent in the community, from online bullying and harassment, accessing inappropriate content, grooming, scams and social media posts causing family disputes. This is causing some people to avoid social media.

- + *“A couple of weeks ago, we had an issue with [people] coming over from different communities for payback because they’ve read something about their family members or themselves on Facebook ... that was misinterpreted, or said the wrong way ... It’s quite challenging trying to educate people into the power of social media and how far it can be spread.” (Gina Livesay Sutton, Warakurna Community Development Advisor, 2023)*

Password security has also been identified as a challenge, with no safe place within shared households, or on shared devices, to keep passwords or banking details secure.



“Phones are shared within families, so details aren’t safe and secure ... There’s [overcrowded] houses [and] no privacy to be able to do those things. The internet coverage for the Wi-Fi is not in the house, it’s outside of the houses ... There is limited money in the house for people to buy phone cards and to be able to top up their internet on their phones. The phone, the Wi-Fi going down, the powerhouse going down, which happens a great deal. [Some people don’t have an email address or] they’re unaware of how to use it.”

- *Gina Livesay Sutton, as above, 2023*

This can lead to issues where family members or others may be able to access bank accounts, social media accounts or other online services. Some residents seek support from agencies for privacy or security reasons, to avoid log-in details being shared with family members.

- + *“A lot of people still come into the office to do their banking ... I say to them, ‘You can do this online.’ ‘Oh, yeah, but can you help me out?’ [Some people worry about humbug from family members so it’s safer to say] ‘I have to go back to the office to check all that’.” (Gina Livesay Sutton, as above, 2023)*

There were local efforts to build cyber-safety awareness, including advice to not share bank cards.

- + “[We want] people educated [about] cyber security because people also share bank cards. If somebody [loses] their bank card or it doesn’t work for whatever reason ... they’ll just get their money transferred into their sister’s or brother’s or aunty’s bank card and they’ll use that, but [that] compromises the bank card.” (Gina Livesay Sutton, Warakurna Community Development Advisor, 2023)

There were calls for locally targeted media resources to help build awareness of online safety.

- + “I would like a USB drive [of e-safety video content] so when people come into the office and they’re waiting, they can see something in their language [on a TV. Not] just a bit of paper [but regular] messages running [in the office, the shop and] on radio with NG Media.” (Gina Livesay Sutton, as above, 2023)

Elder financial abuse was described as an issue in Warakurna

Elder financial abuse was reported as an ongoing issue, with family members transferring money from elders’ bank accounts or using their debit card. This builds on an already high incidence of financial abuse and ‘humbugging’ (making unreasonable or excessive demands from one’s family or other connections) for money has been further enabled by the shift to online banking.

- + “[Family members are always] humbugging for money. [For one lady, on] pay-day it will start from 9 o’clock in the morning [to] all day the next day, she’ll get that many phone calls wanting money. [Now] kids are way above adults [with using online banking] and [they] know how to transfer money from accounts and all of that” (Kim Seamons, Ngaanyatjarra Health Community Care, 2023)

As outlined in the section on password security above, there is often sharing of devices and bank details between family members, including for support with online banking. This enables easy transfer of funds.

- + “People come up to me and say, ‘I’ve got money missing’. I’ll say, well, you’ve handed out your bank details ... so there’s nothing the bank can do to reimburse you.” (Gina Livesay Sutton, Warakurna Community Development Advisor, 2023)

Warakurna Artists reported elder abuse as an issue but said that artists are becoming more aware of how to manage the issue.

- + “[The artists are aware that others have their bank account details so] they’ve got to be strategic about working around that ... If they have money from a painting, sometimes the ladies will say ‘don’t transfer now’ and will specify a time that they want the money to go in because then they know they can access it then.” (Lara Smith and Jacob Gerrard-Brown, Warakurna Artists, 2023)

There were calls for more digital support for elders to help reduce issues of elder abuse, improve scam and cyber-safety awareness, and build confidence in use of online services.



“[We] need to [teach elders about] online security and being conned. [I taught my co-worker how to do] banking online. Now she can [move her money] and hide it so people couldn’t see and all of that as they do with the slip at the ATM. So I think we need to be teaching more of it.”

—Kim Seamons, Ngaanyatjarra Health Community Care, 2023



Figure 22: Sign in office

Lack of identification documents is a key barrier, but Digital ID may not be the solution (2025)

A key requirement in setting up most accounts for government or banking services is to provide at least 100 points of identification, such as a birth certificate or passport (70 points), driver's license or Medicare card (40 points) or other identifying documents. For Yarnangu, this can be a significant barrier as they typically do not have sufficient documents and no local service is set up to source or retain these records. Sourcing ID documents needed to set up online services is an ongoing challenge and a time-consuming task for local agency staff.

- + “[We help people with] filling out forms to get employment, so Working with Children’s check, but before that stuff they also need to have ID, so we help with getting Medicare cards, birth certificates, copies of ID and that sort of thing.” (Chloe Anderson, CDP Case worker, Ngaanyatjarra Council, 2025)

Two-factor authentication needed for logging into many services also creates challenges for users due to high turnover of mobile phones and replacement numbers.



“[A female resident] comes in, no phone, wants to get into MyGov, can’t do any of that. She’s spent all of her money on that phone and a recharge [but it’s gone]. MyGov alerts go to her phone when she’s signing in [but] she’s got no phone.”

– Donna Payne, Acting Community Development Advisor, 2024

There is also limited use of email, with retention of passwords also a challenge. Our 2025 survey found that only 55% of Warakurna residents were confident in using email.

- + “A lot of people, they’ll set up an email account for their banking. They don’t ever look at it again [and] forget their passwords. Like everything’s double handled.” (Donna Payne, Acting Community Development Advisor, 2024)

The Australian Parliament passed a Digital ID Bill in 2024¹⁴ to establish a single secure form of ID and reduce privacy issues with multiple agencies storing clients’ ID records. In theory, this would reduce the time and effort that Yarnangu and support agencies spend sourcing identification to set up multiple online accounts. However, we heard that this is still likely to have challenges in a remote community context, especially if reliant on a mobile phone.

- + “[Digital ID systems] won’t work out here [if it is on a phone]. Phones get broken [and people] swap them, they swap SIM cards all the time [when] they’re out of money.” (Donna Payne, Acting Community Development Advisor, 2024)

The Centrelink agency has community access computers as well as the media centre

The Centrelink agency, located in the Warakurna Community office, is open weekdays and has two computers available for accessing Centrelink, banking and other government services. These computers are supported by Ngaanyatjarra Council in partnership with Money Mob and Westpac, who have been doing financial literacy training in the lands.

Services Australia also provides free Wi-Fi for use by Centrelink clients. However, there is currently limited access to computers for other purposes, including learning or creative projects.

¹⁴ https://www.aph.gov.au/Parliamentary_Business/Bills_LEGislation/Bills_Search_Results/Result?bld=s1404

- + “[The Centrelink] computers are for Centrelink and MyGov and banking. [We need some] computers here that would allow people to go in and use it just for training themselves.” (Service provider, 2023)

At the the time of our 2023 visit, Ngaanyatjarra Media (NG Media) was re-establishing the Warakurna Media Centre as a community access facility, equipped with six online computers and free Wi-Fi. A Starlink satellite service was installed to enable reliable internet connectivity. NG Media’s Community Resource Centre Coordinator was based in Warakurna during 2024 and supported access to the facility on most weekdays.

- + “The kids come in after school and the community members come in throughout the day and [download] music that they love listening to. They love watching the footy.” (Kathy Anderson, General Manager, Ngaanyatjarra Media, 2024)



Figure 23: The Warakurna Media Centre had six new access computers installed in 2024

There was enthusiasm by residents about the facility being re-opened as well as by other agencies, due to having a dedicated space for digital support. The CDP provider was keen to work with Ngaanyatjarra Media to provide digital skills training.

- + “NG Media [has] set up of a suite of computers [so I want to] see if we can use some of those [for CDP participants to learn on] even if it’s a couple of hours in the morning.” (Service provider, 2023)

The Media Centre was also suggested as an ideal location for community use of videoconferencing.

- + “It would be [great] if the Media Centre [had] a video-link room [for community use. People] could do their Centrelink, banking, like a bank representative could show, ‘This is what you need to have on your phone,’ [and explain how to use] their banking sites. [People attending court] could speak to ALS [Aboriginal Legal Services] prior to coming up here [for court].” (Colin Johnston, Officer in Charge, Warakurna Multi-Function Police Facility, 2024)
- + “[The media centre] can have all of those things here, like doing video conference with the prisons [so inmates] can get in touch with their families.” (Heston Newberry, Co-researcher, 2024)

Despite these aspirations, by the time of our 2025 visit, the centre had been closed for several months due to limited funding and lack of staff housing, with the computers remove to avoid break-ins. The Coordinator had since taken up another role in Warakurna.



“NG Media bought all new computers, and we got a new printer [and] all the virus things, and it was great ... Every day we would open up. [It was] mostly the kids that would come in [and use] games and music, and that sort of thing. So it was being used [a lot. But] then it just shut down [because] there’s no housing for [staff].”

– Chloe Anderson, CDP Case worker, Ngaanyatjarra Council, 2025

Sustainability of community access facilities is a critical issue with no dedicated national funding program to support these facilities and staffing to provide digital skills support.

Telehealth is regularly used at the clinic but connectivity has slowed

The Warakurna Clinic is managed by the regional Ngaanyatjarra Health Service (NHS) and provides primary health and emergency care. The clinic has fibre optic connectivity, with reliable broadband needed for telehealth consultations and to access patient records. Remote Area Nurse Karen Higgins described the importance of connectivity.

- + “[Without] communication we won’t be able to work ... The phone is our lifeline, internet as well.” (Karen Higgins, Remote Area Nurse, Warakurna Clinic, 2023)



Figure 24: Warakurna clinic has old satellite dishes on the roof, since replaced by fibre connectivity

We were unable to arrange an interview clinic staff during our 2024 and 2025 visits due to heavy workloads. However, we were told that there had been no change to communications systems since 2023. We heard however that there had been ongoing issues with slow broadband speeds affecting use of the online patient database and other systems. We also heard that the clinic had no internet for several weeks prior to Christmas 2024 and into January 2025 due to an internal networking issue. Clinic staff had to hotspot from mobile phones during this time while awaiting a technician to rectify the issue.

Telehealth is being used regularly at Warakurna Clinic, with increased use since COVID restrictions in 2020–21 when WA’s border closure limited access by visiting specialists.

- + “During COVID, we were doing a lot more [telehealth]. We were having to because we couldn’t get anyone in and out, we were closed by a security zone. We are starting to use it more now ... they’ve done a roll-out [of equipment] at Warburton and [will upgrade Warakurna soon].” (Kim Seamons, Ngaanyatjarra Health Community Care, 2023)

Telehealth can improve health outcomes through more immediate diagnosis and treatment, reduce patient travel costs to regional centres for consultations, reduce emergency evacuation flights and provide expert support to clinic staff.



“We do a lot of telehealth phone calls [and] are starting to do a lot more [via videoconference]. [We can send a photo of a wound] to RFDS or to a doctor [to] get advice [or] take a photo of the ECG [and] send it straight off to the RFDS. So it’s been massive having all of this.”

– Kim Seamons, as above

The use of telehealth consultations was described as reasonably user-friendly.

- + “We do a lot of video consults with the doctors because it’s [best] if the doctor can see the patient directly and talk to them, that just makes everything so much easier ... So the doctor sends us an email with a link, [we] click on the link and then we both come up on the camera and we look at each other, so usually it’s very straightforward ... We have [several] outpatient appointments here [from] the hospital [but the main] challenge is to get the patient in [to the clinic].” (Karen Higgins, as above, 2023)

Patients have become more familiar with using Telehealth, with most preferring this option over travelling 800 km to Alice Springs for a consultation. Patients are more likely to feel comfortable doing a telehealth consultation with one of the NHS doctors who is familiar to most patients in the community.

- + *“Aboriginal people seem to like the face to face an awful lot more than just talking [on the phone. They] like to see who [they]’re talking with, there’s no cultural issues really. The [NHS doctors] have been here very long-term and they know [the] patients very well.” (Karen Higgins, as above, 2023)*

While telehealth reduces some travel, emergency evacuation travel is still needed for procedures which cannot be undertaken at a remote clinic. This is often the result of people waiting too long before visiting the clinic for treatment, causing the situation to become chronic.

- + *“Even if the doctor sees the patient face-to-face [they] still need to be flown out [for] procedures or emergencies.” (Karen Higgins, as above, 2023)*

Communication with residents via mobile has significantly improved client support. However, it also means staff are always contactable, even when on leave.

- + *“[Having mobile now is] very good, except sometimes I wish people wouldn’t ring me ... when I was in Melbourne over Christmas for five weeks, everyone was ringing me constantly.” (Kim Seamons, Ngaanyatjarra Health Community Care, Warakurna 2023)*

The Communicare patient records system is working effectively

Clinic staff reported that the Communicare patient records system used by Ngaanyatjarra Health Service works well via the fibre optic connectivity. Prior to the fibre rollout in the 2000s, the inability of clinics to use Communicare reliably due to latency and slow speeds of satellite services was a key driver for demand for upgraded terrestrial telecommunications in the region.

The Community Care nurse also has access to the Communicare system at her house courtesy of a high-speed microwave link from the clinic.

- + *“It’s so much better [now] because I have full access to Communicare which [contains our] Health records. [Now] I can access it at any time which is great.” (Kim Seamons, Ngaanyatjarra Health Community Care, 2023)*

Education outcomes and student engagement have improved with digital tools and access

Warakurna Campus is one of eight campuses included in the Ngaanyatjarra Lands School¹⁵, with communications infrastructure centrally coordinated by the WA Department of Education. Executive Principal Scott Fatnowna outlined the development in communications since the 1980s.



“[Communications services have evolved a lot since] School of the Air [operated here in the 1980s]. Then the landlines came in and faxes [became] central to operations. [Connectivity] gathered momentum when the mobile phone journey started. [Before] that technology came, we used a lot of dishes and satellite, and then we got the fibre [connectivity to the school, improving] the ability to send information backwards and forwards. [This has provided] as an opportunity to expand and to bring information and data [into] each school.”

- Scott Fatnowna, Executive Principal, Ngaanyatjarra Lands School, 2024

¹⁵ <https://www.nglandschool.wa.edu.au/>

The Warakurna Remote Community School has a high-speed fibre optic connection with local networking to all classrooms. This enables use of IT equipment and applications by all age groups within the school. Digital technologies and application had been integrated into all aspects of the curriculum by 2025.

- + *“We have a complete curriculum section [on digital skills, including] the use of the technology in all its different forms from phone to hardware, desktop, iPad. [So if they’re learning about] leadership [or] literacy or numeracy, [they will use] technology [to work on that topic].” (Scott Fatnowna, Executive Principal, Ngaanyatjarra Lands School, 2024)*

Warakurna school recently purchased 20 new iPads to enable one iPad for each lower primary student.

- + *“The kids seem very aware of how the iPads work and they’re right into [using] Google Maps. They know how to search something [and use] YouTube as well.” (Lesley Brown, Principal, Warakurna Campus, 2024)*



Figure 25: Ngaanyatjarra Lands School hub in Warakurna

The high school students have access to four Apple Mac computers for projects and media applications.

- + *“[They use Apple Macs] for their research in their big picture projects but also for reward time and to edit videos [using images from] their drones and the [remote control] cars that have cameras.” (Lesley Brown, as above, 2024)*

Warakurna school also moderates a Warakurna Facebook page, on which some girls at the school run a social enterprise to sell artwork and jewellery. This generates skills development opportunities for students. Former student Renisha Yates told us that she helped post news stories on the Facebook page while doing work experience with Ngaanyatjarra Media, along with other the digital applications at school.

- + *“We used Procreate [to] create art [and] make shirt designs. [We also learnt to use iMovie to produce] videos.” (Renisha Yates, Warakurna Co-researcher/ resident, 2023)*

While students have access to iPads and laptops at school, there is very limited home computer access.

- + *“People [mostly use] mobile phones, there’s not many laptops at home. [Students are] tech savvy when it comes to TikTok or any of those applications, a lot more than I am. [But] using Word and PowerPoint and educational apps, that’s all done pretty much at school.” (Craig Alexander, Principal, Warakurna School, 2023)*
- + *“It’s good to put a computer in somebody’s house so that the kids can learn [and] do work [at home]. That’s forward thinking.” (Elizabeth Ellis, Cultural Curriculum Coordinator, Ngaanyatjarra Lands School, 2023)*

In 2023, we heard that the COVID-19 restrictions had impacted on learning outcomes during the restriction period, due to increased use of online applications. The increased focus on digital technologies in the school curriculum was also leading to improved digital literacy.

- + *“I think COVID [helped improve digital literacy of students] because we had to be a bit more tech savvy. [Digital learning in school increases with] staff who are really tech savvy, it helps with the students a lot more. [But] it depends on the reliability of the network and also depends on what school resources there are as well.” (Craig Alexander, as above, 2023)*

In contrast to some sites visited, Warakurna school students are able to use the online NAPLAN tests, however we heard about challenges in downloading the new version. Challenges remain with some students having limited keyboard skills or English literacy.

- + *"We are slowly getting better and better at using the [online NAPLAN] software. [This is] the third or fourth year [we've used it]. We use iPad pros with the typing keyboard with the kids. [We still] have to build up the typing skills of the students, we find that part challenging ... It is also harder in an ESL context because [for] a lot of the kids, English is their second language so NAPLAN can be quite challenging for them."*
(Craig Alexander, as above, 2023)

The Lands School has developed the Yarnangu Connections cultural curriculum

Elizabeth Ellis, the Cultural Curriculum Coordinator for the Ngaanyatjarra Lands School, has played a key role in developing the Yarnangu Connections curriculum. She describes the program as an inverted version of the standard curriculum taught within the classroom, instead having lessons delivered out bush with elders and using emotions and all the senses as part of experiential learning.



"We need to teach the children to be able to do that deep thinking so that they can learn to [use] descriptive language, to be able to describe what they saw ... that's what we learnt as children in the bush with our parents."

- Elizabeth Ellis, Cultural Curriculum Coordinator, Ngaanyatjarra Lands School, 2023

The Yarnangu Connections curriculum is having a profound impact through two-way learning.

- + *[Yarnangu Connections is a] two-way learning model ... between community language keepers and the way English is working in our campuses. [Combined with use of] technology, [it leads to] a high order understanding."* (Scott Fatnowna, Executive Principal, Ngaanyatjarra Lands School, 2024)

Digital technologies – cameras, video cameras, drones and 360 cameras – are used to document bush activities. These digital materials are then used in follow-up classroom activities to consolidate the learning and encourage discussion. Digital technologies are also used in the two-way science elements of the school curriculum.

- + *"We're looking for more interesting ways to engage the students in two-way science [and] engaging on country with the elders [using tech within] the integrated curriculum and the Yarnangu Connections. [Elders are passing on knowledge] to the kids at the school [and on] bush trips, [making learning] more engaging for the high school students. [And] they like using [the] digital cameras [to photograph] animals or using drone footage to map areas. We've got a 3D camera that can capture [footage in country and then] re-experience it in the classroom [using VR]."* (Craig Alexander, as above, 2023)

The art centre uses a cloud-based database for art cataloguing and sales

Warakurna Artists is an Aboriginal owned and governed art centre based in Warakurna and also supporting artists in Wanarn community and Patjarr. Staff use the Story Arts Money (SAM) cloud-based database to catalogue the artworks, document artist biographies and stories, and record sales. While the system works over the art centre's Sky Muster service, uploading of large files can be challenging.

- + “For most of what we need it for, [like] invoices and consignments and stuff, [Sky Muster] works fine. [But] it is very slow when we’re uploading images [of paintings and artists for] cataloguing.” (Lara Smith and Jacob Gerrard-Brown, Warakurna Artists, 2023)



Figure 26: Warakurna Artists studio

Training in use of the SAM database has been provided for arts workers by peak body Desart, but currently most data entry is undertaken by the Art Centre coordinators.

Warakurna Artists was in the process of developing a new website in 2023.

- + “Our website is desperately in need of overhauling [to] have a more direct point of sale here. [So] we are working on a new website. [It will] be good to have [our sales] automated and online if we are going to do more point of sale in the future.” (Lara Smith and Jacob Gerrard-Brown, as above, 2023)

The new website (www.warakurnaartists.com.au) provides profiles of each artist to promote their work, a showcase of recent exhibitions and an online store for direct online sales which links to the SAM database. Previously Warakurna Artists relied primarily on works being sold at exhibitions or by arts dealers.

Access to media and news services

Despite VAST satellite dish upgrades most households are still without TV services

Our research has found a reduction in household access to free-to-air television services in most remote communities across Australia over the last three years due to a range of issues with VAST direct-to-home satellite television equipment (Featherstone et al 2023)¹⁶. Our 2025 survey found that VAST TV services were not working in about 62% of Warakurna households despite the upgrades, up significantly from 29% in 2023. 100% of respondents cited set-top box issues as the reason for VAST TV service not working.

VAST TV services were installed in remote communities in 2013 under a federal government digital switchover program, replacing previous local analog TV broadcasting. No funding was allocated for coordinated VAST maintenance programs in remote communities, with maintenance deemed a householder responsibility. However, the cost of technicians, including travel from Alice Springs, is prohibitive for individual households.

When we visited Warakurna in 2025, we found that VAST satellite dishes had been replaced on many households, presumably an initiative of the Shire of Ngaanyatjarraku as part of a regional upgrade. However, VAST set-top boxes were not replaced as part of household upgrades, which is the primary point of failure.

We again heard frustration from residents at the lack of TV services and the high cost of regularly replacing set top boxes, which cost \$390 at the local store.



Figure 27: There were new VAST satellite dishes on most houses in 2025 (Wi-Fi repeater in background)

¹⁶ <https://apo.org.au/node/324397>. TV case study on page 51.

- + *“TV [is] supposed to be all working, but it’s not. [We just keep] on spending more money to buy a little set top... We’re just wasting money [because] they break down, all those [set top boxes], and we have to go around to the shop. The shop’s making a lot of money [but we still don’t have TV working].” (Heston Newberry, Co-researcher, 2024)*
- + *“The VAST has never actually worked for us properly ... We had to connect through the internet to log on and then if [someone removed the] Smartcard, then you couldn’t hook into your TV. So, you had a TV sitting there that didn’t do anything.” (Kathy Anderson, General Manager, Ngaanyatjarra Media, 2024)*
- + *“The high replacement cost of set-top-boxes has made theft an issue in Warakurna. [People return home and] the VAST set box is no longer there, [so] a lot of them won’t have TVs. [We have had] Board members asking if we can put a cage around the VAST boxes so that it’s locked up somewhere and up high.” (Gina Livesay Sutton, Warakurna Community Development Advisor, 2023)*

With TV services not working, some households have managed to access the free external Wi-Fi to enable video streaming. However, most rely on pre-paid mobile for streaming services, adding significantly to household costs.

- + *“For TV, [I] connect it from phone to TV [by hotspot] to watch anything, movies or whatever.” (Marika Cooke, Resident, 2024)*

While remote communities have followed the trend towards increased use of streaming and on-demand services, there is still community demand for free-to-air TV services, especially for news and live sports.

- + *“The main pressure [for TV] is the football season, accessing the AFL and being able to watch it live.” (Scott Fatnowna, Executive Principal, Ngaanyatjarra Lands School, 2024)*

There is also demand for First Nations services ICTV and NITV, as well as the return of local programming as previously possible under the Broadcasting for Aboriginal Communities Scheme (BRACS).

- + *“[We want] ICTV, NITV and Ngaanyatjarra Lands channel ... That’s what I’d like to see so that we can be like the Ngaanyatjarra Land Schools, all the different agencies, organisations in the NPY Lands that can be contributing content, educational, social, recreational.” (Elizabeth Ellis, Cultural Curriculum Coordinator, Ngaanyatjarra Lands School, 2024)*



Figure 28: RIBS broadcast tower at Warakurna media centre could be used for digital TV broadcast



Figure 29: Warakurna RIBS radio studio

Community staff and Council members expressed interest in re-establishing television broadcast services if this was a funded option, as it would save household maintenance and mobile data costs for residents. This would enable free-to-air TV access as well as a local content channel if desired.

The Ngaanyatjarra region has two communities— Warburton and Blackstone (Papulankutja)—which have had digital broadcast television services operating since digital switchover. The Shire of Ngaanyatjarraku recently paid for these to be upgraded with new transmitters in 2024, with a third site Jameson (Mantamaru) also being switched to digital broadcasting. With reduced broadcast equipment costs, this was seen as more cost-effective than replacing all household satellite dishes. It is unclear why Warakurna was not included in the upgrade with calls for a nationally coordinated program.



“It needs [a national upgrade] to be funded across the board. [Right now] each agency is trying to help [fix up TV services]. [A coordinated program is needed] instead of getting someone out one at a time.”

– Kathy Anderson, General Manager, Ng Media, 2024

Local news and information is mostly shared via community channels and in-person

Local news and information in Warakurna is primarily shared through community-based channels and face to face communication, rather than through mainstream broadcast or print media. The 2025 survey shows that direct, in-person communication remains the dominant source of news (90%), up from 75% in 2023. Other sources include social media beyond Facebook (24%), commercial television (20%), Radio NGM (19%, up from 8%), local noticeboards or posters (16%), ABC Radio (14%), ICTV (13%), Facebook (13%, down from 39% in 2023) and ABC TV (12%).

Radio NGM, operated by Ngaanyatjarra Media, continues to provide trusted regional news, weather, and community information. In 2025, 40% of respondents reported listening to Radio NGM each week, compared with just 6% for ABC Radio. However, radio listening patterns are changing: only 11% of respondents reported listening at home (down from 20% in 2023), while 84% listen in cars and 35% said they never listen to the radio at all. To extend its reach, Ngaanyatjarra Media also uses Facebook, Instagram and TikTok to share stories and updates.

- + “We got such uptake on Facebook, [as] most of the people are on Facebook and Instagram. [And] our Tik Tok is another big thing.” (Kathy Anderson, General Manager, Ngaanyatjarra Media, 2024)

The Warakurna Remote Indigenous Broadcasting Service (RIBS) radio studio previously provided regular local programs in language, with trained broadcasters playing music and taking community requests.

- + “I was doing broadcasting in the radio up there ... I give them number, and they ring up to me and say, ‘put my request’, [so I] put the music for them.” (Rocky Porter, Co-researcher, 2024)

Despite efforts by Ngaanyatjarra Media to re-activate the RIBS radio studio, with a full-time staff member based in Warakurna in 2023, the centre and radio studio was inactive by the time of our 2025 visit. We heard strong community interest in having local radio again.



“[We want to] start the media again [to hear Warakurna stories on radio and across the region]. And recording the Tjukurrpa [Law/cultural stories] for the kids to learn.”

– Devon Yates, Warakurna Community Chairperson, 2023

- + “I want to see Ng Media going strong again to help keep our culture and language going.” (Survey comment, 2023)

Ngaanyatjarra Media has also partnered with the Warakurna School to introduce students to radio and video production. These programs have engaged students in creating short radio segments, music recordings, and school-based media projects.

- + *"We've taken kids over to the media centre [and] did little radio segments, played some music. [And] we have worked with NG Media [to make] movies at each of the campuses which was really cool and that really engaged the students as well. And last year [they] did music with the kids [and] worked with some of the high school kids and recording drums and stuff like that." (Craig Alexander, Principal, Warakurna School, 2023)*

In 2025, youth involvement remains strong, with two young women from Warakurna joining the Ngaanyatjarra Media delegation to attend the Remote Indigenous Media Festival in Bidyadanga. Their participation reflects an ongoing interest in training and pathways in broadcasting and digital storytelling.

Overall, while word of mouth remains the most trusted and used news source, radio and digital platforms provide important complementary channels. Revitalising the local RIBS studio and continuing youth media training are clear community priorities to ensure Warakurna stories are told by local voices.

There was interest in having more regional news content

Due to its remoteness, the Ngaanyatjarra region is rarely represented in mainstream media, except when there are negative stories following tragic incidents. Community members expressed frustration at this absence, wanting more opportunities to highlight positive achievements, culture and local perspectives.



"When I hear all these stories on news, [I wonder] why isn't the Ngaanyatjarra Lands mentioned? ... It's always talking about the coastal towns, Kimberleys, and they talk about Northern Territory, and not us. We aren't recognised."

- *Daisy Ward, Community Leader/Elder, Warakurna 2023*

Local news and information is currently shared by broadcasters over Radio NGM and through Ngaanyatjarra Media's social media channels. However, residents and service providers consistently emphasised the need for more structured news reporting capacity, particularly to share stories of community life, youth achievements and cultural events with wider audiences.

- + *"Also, with our media we got such uptake on Facebook, all the young people, actually most of the people are on Facebook and Instagram. We just touch our Tik Tok is another big thing." (Kathy Anderson, General Manager, Ngaanyatjarra Media, 2024)*

Having trusted news sources is as a way of addressing misinformation through online sources.



"Misinformation comes from [the internet] and it spreads like wildfire ... It's difficult for us to say, 'no that's not right' ... Out here people get scared really quickly, so we need the right information coming in."

- *Scott Fatnowna, Executive Principal, Ngaanyatjarra Lands School, 2024*

Ngaanyatjarra Media has participated in the First Nations Media Australia news reporting project, but there were calls for further investment to employ and train local journalists who can develop the skills to report consistently from the region.

Community members also suggested developing more regional platforms for local stories, possibly linked to ICTV and other First Nations broadcasting networks, to ensure Ngaanyatjarra voices are represented alongside those of other desert regions. With strong engagement by young people in digital platforms, and continuing interest in community-based storytelling, there is significant potential to expand regional news production if adequate resources, staff and training are provided.

Affordability

Affordability is a significant concern, with high costs of living

Cost of living has always been a challenge for Warakurna residents, however this has increased in recent years with higher freight costs raising the cost of food, fuel and other essentials.



“Here in the store, everything is so expensive for us ... The closest town is Alice Springs, but we still have to get things from the city, from Perth, and it takes three days [for] the truck come in from the coast with our stores. [So] it’s really hard to keep our money.”

– Daisy Ward, Community leader/elder, Warakurna 2023

- + “[People even go without power because they can’t afford the power cards]. Or in winter they go without heating to keep their phone alive. Then they’re making a fire in confined spaces [and] getting smoke inhalation.” (Donna Payne, Acting Community Development Advisor, 2024)

With the average weekly personal income in Warakurna of \$305 (ABS 2021), the cost of internet access and digital devices are a significant burden. 100% of those with a mobile phone are on pre-paid rather than post-paid services, with most using one to two \$39 recharge vouchers per fortnight. **The average household expenditure on pre-paid mobile has increased from \$164 per month in 2023 to \$292 per month in 2025.** With no household broadband among those surveyed, total household expenditure on mobile and internet was the same amount.

- + “[The cost of mobile] recharging is a very big problem out here.” (Donna Payne, as above, 2024)

Pre-paid mobile credit is a valued commodity in the community with demand by young people on parents and grandparents to buy smartphones and pre-paid vouchers or share data via hotspots, to enable access to online content including social media, streaming and games. However, with data-use increasing, we found a lack of awareness or public information on how to reduce pre-paid data costs by opting for higher value vouchers or a household broadband plan.



Figure 30: \$35 recharge increased to \$39 in 2024

- + “People are complaining about spending money on [pre-paid] credit. [They’ve got] Wi-Fi but they still have to pay money every month [for mobile].” (Bernadette Newberry, Co-researcher, 2024)

Yarnangu have to make decisions between food and other essentials and communications, with **46% of those surveyed in 2025 saying they often or always cut back on essential household costs to afford internet and 31% sometimes cutting back. This is a significant rise from 6% and 37% respectively in 2023.** 64% said they compromise on internet speed and/or quality to prioritise affordability, up from 29% in 2023. 38% of low internet users said one of the reasons they do not use the internet is ‘the internet is too expensive for me’.

There is also demand from children for a mobile phone and data, adding to cost pressures.



“Children and grandchildren are crying for the phone because they don't all have a phone each... they're all on the phone all the time.”

- Elizabeth Ellis, Cultural Curriculum Coordinator, Ngaanyatjarra Lands School, 2024

The community Wi-Fi now provides a backup service when people run out of pre-paid mobile data.

- + “If my credit run out ... then I turn on the Wi-Fi on, and it just come on.” (Marika Cooke, Resident, 2024)

Additionally, since July 2024 Telstra have introduced a low-cost Pre-paid Community Mobile plan, which provides 25GB of data for \$25 over a 14-day period.¹⁷ The Ngaanyatjarra postcodes are eligible for the sale of these plans, however there was no awareness of the new plan during our 2025 visit to Warakurna.

The cost of purchasing mobile phones was also raised as a significant burden with high turnover of devices. We heard of how a recent phone purchase impacted a resident during our 2024 visit.

- + “She paid I think about \$400. It's something that you could buy for probably \$100 elsewhere, \$150. She went without food, her buying that phone.” (Donna Payne, Acting Community Development Advisor, 2024)



Figure 31: There is high turnover of mobile phones due to damage

There is a regional financial counselling service but limited visits by 2025

Expensive bills for vehicle registration, fines or other services can be difficult to pay for remote residents on low incomes and without savings. As a result, there has been increased take-up of high-interest loan plans, such as Afterpay, which exacerbates the financial issues as people struggle to maintain these repayments. Limited English literacy can also result in bills not being paid.

- + “They open up their bills here and it's very rare that people understand what the bill is for. I'll try to go through it with them. Some [ask for help to] ring up and [arrange] a payment bit by bit. Others will [say they're] not interested.” (Gina Livesay Sutton, Warakurna Community Development Advisor, 2023)

Some residents had previously set up post-paid plans for mobile phones or home internet services, but found it difficult to continue to pay monthly bills. Non-payment of bills can result in fines, people being restricted from accessing services or loans, and potential jail time if fines remain unpaid.

- + “A few of those [non-payments] then end up with people going to prison for time ... Because there is no education about what if I fail to pay, what are the consequences?” (Gina Livesay Sutton, as above, 2023)



Figure 32: Mani Wangka program supports financial literacy in the region

To address these issues, Ngaanyatjarra Council established the regional *Mani Wangka* (Money Talk) financial capability program to provide training and support in financial management, such as managing income, superannuation and debt repayment. However, in 2025 we

¹⁷ <https://www.telstra.com.au/mobile-phones/prepaid-mobiles/prepaid-community-plan>

heard that the service had not visited Warakurna for some time, with calls by the CDA for a financial counsellor based in Warakurna.

- + *“I think the financial counsellor is vital for this area. [We need someone here] the whole time.” (Bronte Lamshed, Community Development Advisor, 2025)*

The Ngaanyatjarra School has introduced financial literacy into the curriculum, to help Yarnangu families learn how to do budgeting.



“In our culture [we] don’t do budgeting. [We have] Ngapartji reciprocity and relying on family for help, but now we to update. [So we show] families what they spent [their income] on, like power card, food, mobile phone ... fuel [and] things for the house. [and how to make up a weekly budget].”

– Elizabeth Ellis, Cultural Curriculum Coordinator, Ng Lands School, 2024

Digital ability

Digital ability levels are relatively high, but limited by mobile-only use and English literacy

Digital ability remains the most persistent and complex barrier to digital inclusion in Warakurna. While there is almost universal use of smartphones, social media and content streaming, especially among younger people, residents continue to face significant challenges in developing broader digital skills such as computer-based tasks, internet searching, form completion, online safety and privacy management.

Based on analysis of our 2024 survey results, Warakurna residents had an average digital ability score of 17.4 out of 30. This was higher than the 15.5 out of 30 average across the 11 sites visited in 2024 and an improvement on the 2023 result of 13.6.

Skill type (/5)	Basic Skills	Advanced skills	Information Navigation	Social media skills	Creative skills	Smart device skills	Total (/30)
2023	2.69	2.52	2.34	2.33	1.70	2.02	13.6
2024	3.22	2.99	2.85	2.88	2.42	2.99	17.4

However, there are a range of obstacles preventing development of higher-level digital skills such as office applications, content creation and online learning. There is primary reliance on mobile devices for internet access, with our 2025 survey finding that 93% of those who used internet in the last six months used a mobile device, compared with 1% who used a desktop computer (95% and 14% in 2023). There are also low levels of English text literacy among Warakurna residents, with 99% of respondents speak a language other than English at home in 2025, with 71% said they understand written English very or quite well and 84% understood spoken English very or quite well. Education levels are also a factor, with 19% of survey respondents having attained Year 11/12 or higher certificates in schooling in 2025 and 82% attaining Year 10 or below.

Current digital skills primarily relate to use of mobile devices and applications that are of interest to Yarnangu, such as social media, online entertainment, online banking and games, rather than office-based applications. Our 2025 survey found that 86% reported using online banking in the last six months (down from 90% in 2023), and 69% had accessed government services online (up from 62% in 2023). 91% of regular internet users had used online entertainment in the last six months such as streaming or gaming, and 51% had used social media to keep in touch with family and friends.

With the improved internet access via the community Wi-Fi network, we had expected to see improvements in other digital skills, however our 2025 survey found a reduction in more advanced digital skills. Only 55% were confident in sending and receiving emails (responded very true or mostly true of me, 57% in 2023), 20% were able to complete online forms (down from 52%), 33% were able to download and install mobile apps (down from 72% in 2023) and 34% were able to open a new browser tab (down from 46%). While there are variations in the sample group of residents that engage in surveys each year, the impact on results is reduced by the weighting process.

These findings point to the need for more digital training and support, with targeted support needed for the elderly, people with disability, people with low English literacy and low levels of education.

There is a history of digital training but demand for ongoing support

The introduction of accessible internet in Ngaanyatjarra communities since 2009, including free Wi-Fi in 12 communities and mobile services in the six larger communities, has resulted in rapid uptake of mobile devices and development of skills in using online services and applications. Alongside the improved access, Ngaanyatjarra Media delivered a series of IT training programs between 2005 and 2013, along with community access computer facilities (see Featherstone 2011, 2015, 2012). Combined with other training programs and peer support, these initiatives helped to establish basic digital literacy in Warakurna and across the region.

- ✦ “[Since the 2000s] there’s a lot more digital literacy for the community people and also the students, they’re becoming a bit more tech savvy.” (Craig Alexander, Principal, Warakurna School, 2023)

However, as outlined in the Service Delivery section above, there is ongoing demand for digital support and training in use of online services. To address this, we heard calls for targeted digital skills workshops, particularly for the elderly, people with disability, and those with low English literacy.

Digital skills development is typically driven by the need to undertake an often time sensitive task such as accessing myGov, activating a SIM, doing online banking, completing a form or paying a bill online, and there is demand for training available when these needs arise, rather than ‘just in case’ training. As such, having a digital mentor available to provide support when it is needed would be a more effective solution and help reduce the demand on local service provider. This is outlined in the Service Delivery section and as a proposed strategy in the Digital Inclusion Plan.

Elders called for responsible social media use and cultural governance in the digital space

Elders raised concerns about the cultural impact of social media on the behaviour of young people.

- ✦ “We are living in two worlds, [Ngaanyatjarra and] Western culture. And we still need to keep our culture strong, because [the] phones, TikTok, [make young people act] like somebody else ... That culture comes in from some other countries. [That’s] been happening in towns [like Alice Springs] and you see all the problems[from] introduced [culture]. When I see it, it makes me really sad.” (Daisy Ward, Community Leader/Elder, 2023)



Figure 33: Learning resources in the Warakurna Media Centre

We heard reports of young people using memes to insult one another resulting in fights. We also heard reports of sexting, sharing of pornographic images and online bullying. Elders raised concerns about what young people are sharing online, with limited ability to intervene.

- + *“People swear [at] each other on Facebook, makes trouble and families fighting. That is wrong way for culture. We need the community to have a meeting about it, to stop it. Fight videos are no good too. Young people use Facebook, not the old people. We want to close the Facebook out here.” (Survey comment, 2023)*
- + *“[There has been some] nasty stuff where girls are getting bullied online [and they get] really upset ... They cop it online.” (Lesley Brown, Principal, Warakurna School, 2024)*

With most children now using mobile phones for entertainment, often with limited parental controls or supervision, we heard of increased risk of access to inappropriate content as well as grooming. The school delivers some formal lessons on safe internet use, and has resources to promote cyber-safety awareness and protective behaviours for young people.

- + *“[We are] teaching cyber safety [to] the little ones [so they] know about bullying and not giving their name and password and where they live and don’t meet people.” (Lesley Brown, as above, 2024)*

In addition, Radio NGM has run online campaigns to build cyber-safety awareness. There were also calls by Elders for more community-led guidance for young people in behaving responsibly on social media and avoiding negative messages and conflict.

- + *“We need to be doing cyber education and teaching Yarnangu [about safe social media use. When people] read something bad about themselves [online], they attack the other one [and] it escalates. [They need to learn to] be emotionally intelligent [and] ignore that and say, ‘No, I’m not going to respond’ ... There’s always a space between stimuli and response. Just use your space sensibly.” (Elizabeth Ellis, Curriculum Coordinator, Ngaanyatjarra Lands School, 2025)*

The Australian Government passed legislation in July 2025 to restrict access to social media platforms for children under 16, beginning on 10 December 2025¹⁸. We heard questions about how this restriction will be enforced in a remote community context. Elizabeth Ellis has argued that education is the key.



“You can’t say, ‘We don’t want Facebook or TikTok.’ [It’s] part of the world. So we have to teach young people how to be safe with Facebook and [other platforms], to be strong in themselves.”

– Elizabeth Ellis, as above, 2024

We heard reports of posting of sensitive cultural information, including by young men going through initiation business, which led to phones being removed by elders. Elizabeth Ellis suggested that there needed to be governance by Elders in the digital space, as there is in other aspects of community life.

- + *“We need the Elders’ council, especially in the Ngaanyatjarra region. Men’s side, women’s side, so young people can give a complaint to the Elders’ council [to mediate]. If a young person does or says something wrong way [online] about a different family they can put a report and the Elders’ council can talk to that person.” (Elizabeth Ellis, as above, 2023)*

In 2025, Elizabeth Ellis told us she was preparing to set up the senior women’s committee.

¹⁸ For more information, see: <https://www.esafety.gov.au/about-us/industry-regulation/social-media-age-restrictions>

Scams are increasingly prevalent via text or social media

Scam calls, texts and online messages are becoming more commonplace, with more sophisticated scams now deliberately targeting remote First Nations people. These include financial scams such as offers of bank loans or compensation payments, romance scams, lotteries or prize scams.

- + *"People will [come in and] say, "Oh, if I send this person my details, then they'll give me \$100,000". [There's lots of] scams. And so there's got to be more and better information out there and especially in the local language that we can display to assist people in how we can get around all these challenges." (Gina Livesay Sutton, Warakurna Community Development Advisor, 2023)*

There is also increased impersonation of banking, telco or government services, such as Centrelink or the Australian Taxation Office, seeking urgent payments or bank details.



"These scammers are just so clever in the tactics they use. And you look at an email and it says the ATO with everything else and with the correct numbers and ABNs and everything on it, but it's not the ATO ... So, that is a major concern."

- *Bronte Lamshed, Warakurna Community Development Advisor, 2025*

Yarnangu awareness of scams is increasing, with service providers reporting regular requests to check if messages are legitimate. However, many still do not know how to discern or avoid scams, with several residents having been scammed for thousands of dollars.

- + *"Scamming is a big thing, especially for older people out here. It seems to be a big thing Australia wide. [Increased] education on that would be good. I think some people are more vulnerable than others and [elderly artists are] quite vulnerable to some of that stuff." (Lara Smith and Jacob Gerrard-Brown, Warakurna Artists, 2023)*

The regional *Mani Wangka (Money Talk)* financial counsellor previously provided advice on scams, but visits to Warakurna had become rare by 2025. The Warakurna community office provided a range of brochures from the Office of e-Safety, including on scams. However, brochures typically have limited effect in remote communities. Face-to-face communications, visual posters and radio messages in language are more effective. Regular updates are also needed as scams constantly change.

The WA Government has established a dedicated Senior Aboriginal Community Education Officer role at Consumer Protection WA focused on raising awareness of scams and consumer issues. CPWA has created simple English posters and videos as well as a scam webpage www.scamnet.wa.gov.au. The ACCC has also set up the Scamwatch website for reporting of scams and updates on latest scams.

Online gambling has emerged as a major issue (2025)

In 2025, online gambling had become one of the most concerning digital harms in Warakurna. Despite gambling sites being filtered out on the Wi-Fi network, residents could easily access a range of gambling sites using the unfiltered mobile network. As a result, a growing proportion of household income is being spent on gambling often at the expense of food and other essentials. Community leaders and service providers expressed deep concern about the impact on families, especially children.

- + *"My fear is that children of the families suffer as a result of the money being spent on online gambling and not on food. [The Wi-Fi network can block] gambling [sites] but people can still access it on the mobile." (Bronte Lamshed, Warakurna Community Development Advisor, 2025)*

Police and community staff report a spike in online gambling since mobile coverage expanded, linking it to family violence and community disharmony.



“The gambling reduces their disposable income. [It] has a dramatic social impact where kids are getting hungry and people are getting angry [leading to] family violence and disharmony in the community.”

- Colin Johnston, Officer in Charge, Warakurna Police Facility, 2024

Unlike traditional card games, online gambling removes the physical reminder of cash spending.

- + *“[With card games] they actually get a physical indication of the cash they’re spending, [but] with digital bank transfers, bang, it’s gone very quickly.”*
(Colin Johnston, as above, 2024)

The addictive nature of mobile devices compounds the issue.

- + *“[Mobile devices] are addictive ... Now we’ve got phone addiction, gambling addiction and other addictions.”* (Elizabeth Ellis, Curriculum Coordinator, Ngaanyatjarra Lands School, 2024)

The need for effective intervention is urgent. Financial counselling, strengthening education about online harms, and addressing access to gambling platforms are seen as critical to community wellbeing.

Local Digital Media Content Production, Archiving and Sharing

There is a long history of cultural media production in the Ngaanyatjarra and APY regions

There is a strong history of the use of media and digital technologies to document and preserve language and culture in the Ngaanyatjarra region. Since the 1980s, hundreds of videos have been recorded by EVTV and PY Media in the APY Lands, and by Ngaanyatjarra Media (formerly Irrunytju Media) since 1991. These recordings form a valuable regional archive of cultural performances, oral histories and events.

- + *“Good things used to happen with media, with recording Ngaanyatjarra culture, dancing, songs ... teaching kids about the dance [and] the Tjukurrpa, that was passed down from our old people.”* (Daisy Ward, Community Leader/Elder, 2023)



“They did fantastic work [at] EVTV and Irrunytju Media and all those recordings are just gems, they’re treasures. I’m sure they’re kept somewhere safe [so they can] be brought out at the right time for the right people to see and learn from.”

- Elizabeth Ellis, Cultural Curriculum Coordinator, Ngaanyatjarra Lands School, 2023

For more than 30 years, Ngaanyatjarra Media have documented *Turlku* (cultural dance events), re-enactments of *Tjukurrpa* stories, oral histories, and community information videos in partnership with local agencies. Their extensive collection of video, audio, and photographs is stored at Irrunytju, with digitisation underway to ensure long-term access, subject to cultural protocols.

Community involvement in media production has a long history in Warakurna. Community Chairperson Devon Yates recalled working as a media worker in the 1990s.

- + *“I was BRACS worker before, long time. I was training at Batchelor college, making video [and making stories from cultural side]. They’ve got [those videos] at Ngaanyatjarra Media.”* (DY, Warakurna Community Chairperson, 2023)

Ngaanyatjarra Media continues to coordinate events and productions across the region, including concerts, youth projects, and cultural recordings. In 2024, the Warakurna Media Centre was providing training cameras and editing equipment for school students, encouraging youth participation in photography, video, and storytelling projects linked to bush trips and cultural lessons at the local school.

- + *"The kids love using [cameras]. They are always either taking photos when we give them a camera, so they take photos and they record a story ... from a child's perspective." (Kathy Anderson, General Manager, Ngaanyatjarra Media, 2024)*

While enthusiasm is high, sustained staffing, funding, and infrastructure are essential to support media centres as hubs for cultural continuity, youth engagement, and digital learning. Recent projects have brought new energy. The innovative *i-Tjuma* project, led by Elizabeth Ellis and Dr Inge Kral, used iPads to record sand drawing stories, ensuring that cultural practices could be carried forward with new methods.

- + *"[This approach] made sure that our custom, our cultural practice, wasn't lost. We kept it alive in the new methodology of that iPad. We kept that sand story alive. By doing the split camera, we kept the story telling on the ground alive." (Elizabeth Ellis, as above, 2023)*

Community archives are used for preserving and sharing local history and cultural knowledge

Elders and educators are seeking to develop a local archive containing genealogies, language recordings and multimedia resources. This allows schools, families, and community members to access and share knowledge securely within the community.

Ngaanyatjarra Council's *Tjumlampatju* archive continues to hold important historic collections, with the schools providing a means of access to and engagement with the archive as part of cultural learning.

- + *"We link into [the Tjumlampatju archive and] each site creates their own [collection]. Inside that archive there's a genealogy [section, so from] Year 10 [students are] placing themselves in that genealogy tree, and where they fit. And then we bring in the Yarnangu skin teachings through the language." (Scott Fatnowna, Executive Principal, Ngaanyatjarra Lands School, 2024)*

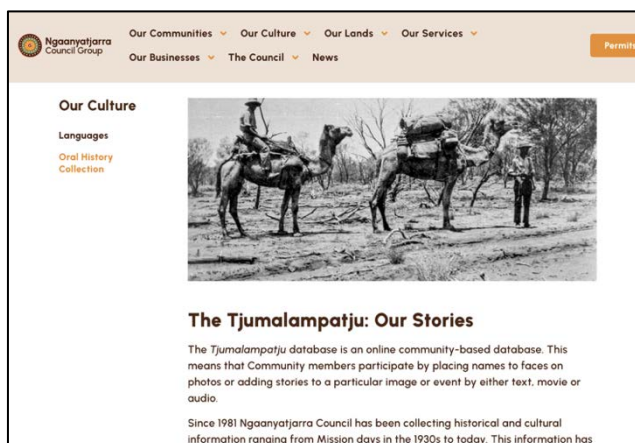


Figure 34: *Tjumlampatju* archive is used in schools

Across the Lands, there is a consistent call for more accessible and community-controlled archives to preserve knowledge for future generations. The School is encouraging conversations around cultural protocols in use of the archive, including access to deceased content.



"We're working through how [to bring back deceased content] because of the importance ...the technology and the communication is giving us an opportunity to actually stimulate those discussions as Yarnangu contend with being present and active in the 21st century."

- *Scott Fatnowna, Executive Principal, Ngaanyatjarra Lands School, 2024*

6. CASE STUDY: COMMUNITY-WIDE WI-FI PILOT

Warakurna is one of four sites that were part of an NBN trial of community-wide Wi-Fi since June 2022. The other three sites are Coonibba and Indulkana in SA, and Aurukun in Cape York, Queensland. This initiative builds upon the NBN ‘Communities in Isolation’ Wi-Fi project, which provides 112 Wi-Fi hotspots to 99 remote communities across Australia. It aimed to address concerns that free Wi-Fi was only available in a central site in the community rather than close to homes.

Network Design

The Wi-Fi mesh network consists of a hub site, with three satellite dishes on the roof of the Warakurna community office providing six Sky Muster services as backhaul, and a small tower with microwave links to 13 Access Points in residential and high-traffic areas around the community. While data usage on the systems was previously limited to 900 GB per month during peak periods, in June 2023 the backhaul was upgraded to the new Sky Muster Plus Premium product, providing unlimited data and higher speeds, enabling minimum speeds of 4 Mbps per user.

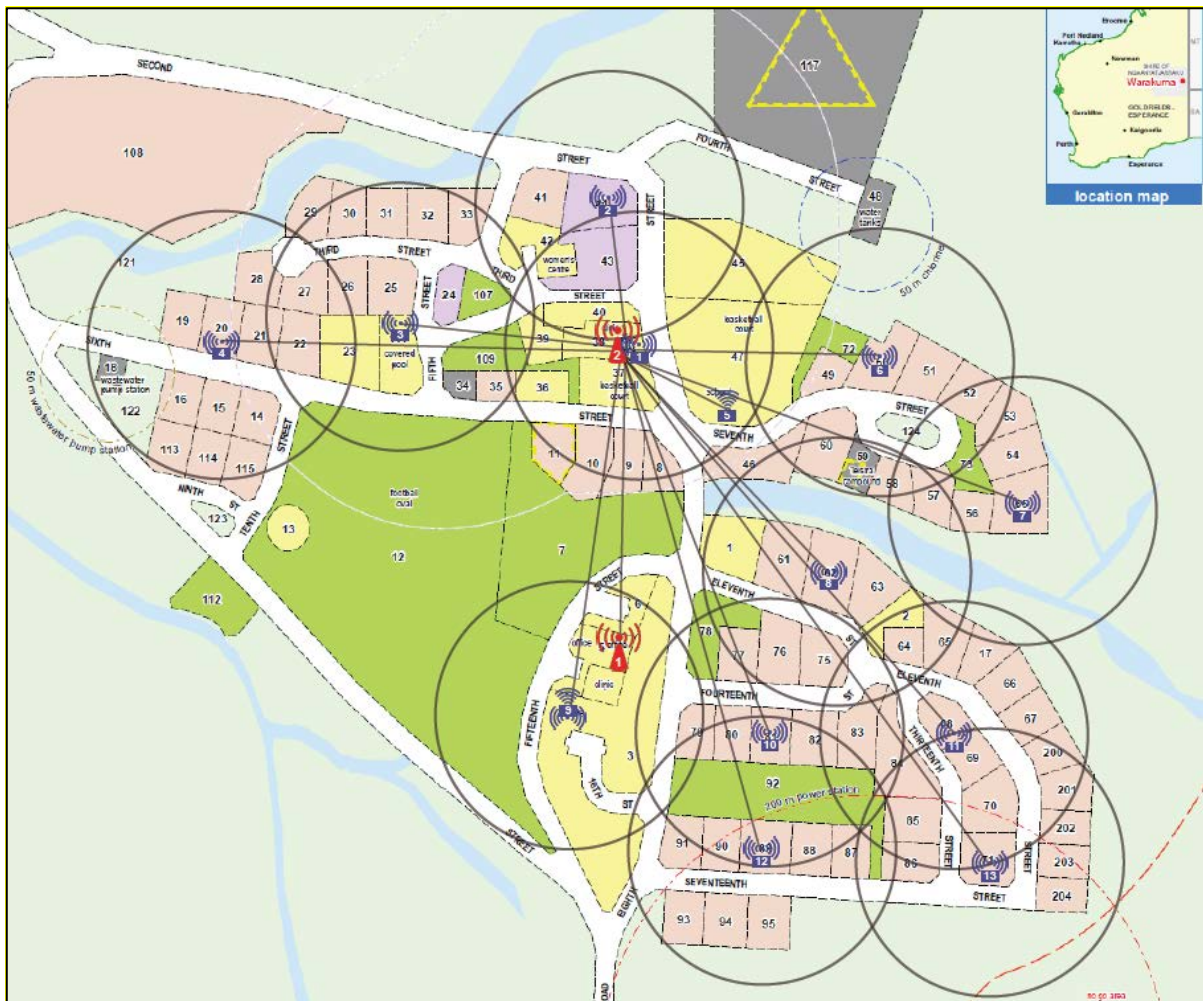


Figure 35: Community-wide Wi-Fi network map showing 13 Access Points connected to central hub

The service is provided free of charge to users, helping to address affordability challenges with increasing expenditure on pre-paid mobile data.



“[This is] a pilot program for the Ngaanyatjarra Lands and it's free Wi-Fi. [It] doesn't actually go into their houses [but] can be reached from the outside of the houses or on their porch.”

- Gina Livesay Sutton, Warakurna Community Development Advisor, 2023

- + [It's] good for them kids ... Now they [can] get free internet, makes it easy for them [instead of paying for mobile data].” (Devon Yates, Warakurna Community Chairperson, 2023)

Community access

Two locations in the community have been configured with internal wireless access points to provide in-building coverage: the School Library and the Community Hall. Beyond that, the system is primarily designed for access in outdoor spaces. Due to Wi-Fi frequencies having limited penetration through the walls of most houses, residential usage is primarily outside of houses or on verandahs within line of sight of the access points.

The limited internal household access is a point of difference from other Wi-Fi mesh networks established in other remote communities in WA (Tjuntjuntjara, Kalumburu, Mowanjum, Jigalong and Bidyandanga), funded by Regional Connectivity Program and WA Government, which include a local repeater and and VoIP phone at each premise. (See case study in the [2022 Kalumburu Community Outcomes Report](#)).



Figure 36: Access points are distributed on rooftops

A Wi-Fi repeater could be used to help share the service inside houses, with NBN looking into options for a suitable model. This would help to address demand for home internet connectivity.



“It will be good if the houses get internet connections ... I wouldn't mind having a connection because at the moment I just tether my phone to the laptop.”

- Elizabeth Ellis, Cultural Curriculum Coordinator, 2023

Community control

NBN Co have designed the system to enable several aspects of community control in the setup and daily operations. This includes the ability to run off the whole network or any of the 13 Access Points.

- + “[Recently] we had an issue with the social media, with people coming over to do payback, [so] our chairperson [asked to] turn off the free Wi-Fi ... ‘It's making people upset [so] give people a chance to cool down and then turn it back on tomorrow.’ We can also turn it on and off into the various spots [to ensure] that the kids are safe.” (Gina Livesay Sutton, Warakurna Community Development Advisor, 2023)
- + “[We] can switch the Wi-Fi off if there's a problem. [We] have a meeting before they switch it back on.” (Elizabeth Ellis, as above, 2023)

This is a point of difference to the mobile tower, which is unable to be switched off. At the time of our visit, the Wi-Fi was on fulltime, however some Council members had asked for a curfew time to be set.

- + “[We should] turn the Wi-Fi off at a certain time so the kids can go to sleep and [not stay up late] on TikTok. [We can turn it back] on in the morning, [then] the kids have a sleep [and] come to school.” (Elizabeth Ellis, as above, 2023)

The system also enables content filtering to block access to content deemed illegal, inappropriate, or objectionable, such as pornography, liquor e-commerce, and gambling sites. The community are able to choose the types of content they want blocked.

- + “If the Board [say] they don't want gambling sites or any other sites [we can] put their bans on certain things.” (Gina Livesay Sutton, as above, 2023)
- + “Local Wi-Fi is beneficial through [being able to] restrict access to certain sites and certain content, where [mobile] towers can't [do that]” (Colin Johnston, Officer in Charge, Warakurna Multifunctional Police Facility, 2024)

However, in 2025 we found that recent changes of CDA had resulted in reduced awareness about local management and decision-making of the Wi-Fi mesh network, and means of contacting APN in case of technical issues. We could not find an instruction booklet in the office, pointing to the need for updated information and induction for new staff.

Upgrade of Sky Muster Satellite Backhaul in 2023

The network was initially set up using six Sky Muster 25/5Mbps services as backhaul, constraining the broadband speed across the network. Also, these services had a data limit of 150GB/ month, making up a total of 900GB monthly usage across the network. Due to these constraints we heard that the data limit was often reached before the end of each month, with residents having to wait for the refresh date to use the network again.



Figure 37: Three Sky Muster dishes on the Warakurna Community office provide backhaul for the Wi-Fi network

The limitations on data availability were remedied in October 2023, when the backhaul service was upgraded to the new Sky Muster Plus Premium, which provides speeds of up to 100/10Mbps and unlimited download. As a result, average data use on the network increased more than threefold from 338GB/month prior to the upgrade to 1170GB/month since (Source: NBN Co, 29/8/25). The increase in usage from October 2023 is seen in Figure 38 below.

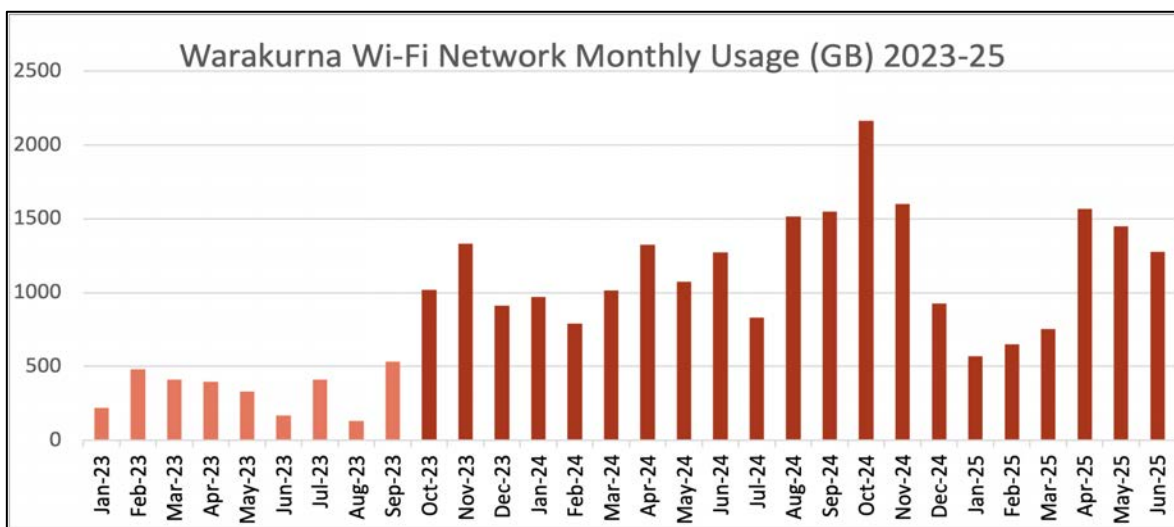


Figure 38: Monthly data use on the Warakurna Community Wi-Fi network 2023-25

Average data used per device has increased from 2.9GB in 2022-23 to 5.2GB in the six month period to February 2025. The average number of devices using the network each month also increased, from 190 in 2022-23 to 253 by February 2025. The primary applications being used in February 2025 were web browsing including streaming and gaming (29% of total traffic), Netflix (19%), Tik Tok (11%), gaming downloads (11%) and other use (30%).

Network Speed and Coverage

Despite the upgrades, we heard from users during our 2025 visit that speed were often inadequate for their needs, especially at peak use periods. Our random speed tests of the network found the speed varied depending on proximity to the Wi-Fi repeater, location in the community and time of day. Download speeds varied from 10-40Mbps and upload speeds were very slow, ranging from 1-5Mbps. This points to the need for additional capacity to improve user experience on the network.

As outlined in the Wi-Fi section under Communications Access on page 22-23, we also heard from some residents that they had very poor or no signal at their home. A regular review of the coverage around the community would be useful as part of network maintenance visits, along with a means of residents providing feedback on their user experience.

2025 Update

At the time of writing, Warakurna community was being considered for Commonwealth funding the [Australian Government's First Nations Community Wi-Fi Program \(FNCWP\)](#) for upgrade to an in-house Wi-Fi network. WA Government had committed to co-funding this upgrade, along with a new Wi-Fi mesh network in Warburton, the largest of the Ngaanyatjarra communities. Eight other WA communities had been identified for co-funding under the FNCWP: Beagle Bay, Djugerari, Looma, Pandanus Park, Yakanarra, Wangaktjunka, Yungngora, Pia Wadjari (Source: Samone Newberry, WA Government, 23/8/25).

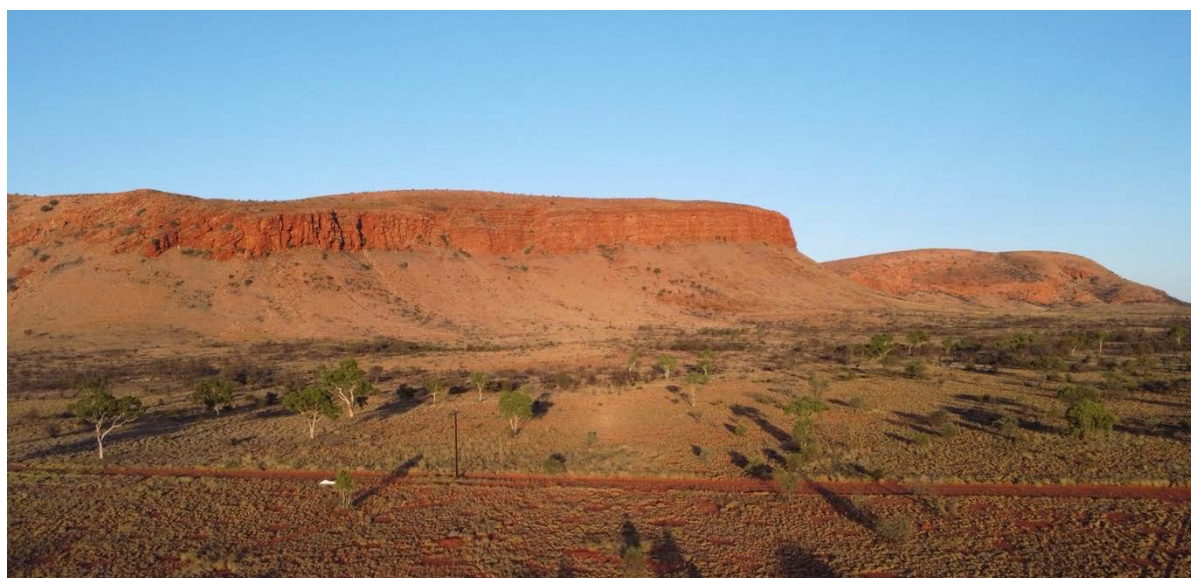


Figure 39: Rawlinson Range to the north of Warakurna

7. CONSIDERATIONS FOR LOCAL DIGITAL INCLUSION PLAN

Developing a local Digital Inclusion Plan enables a coordinated place-based approach to address some of the challenges outlined in this report. It also provides a useful tool for advocacy to government, industry, and for fundraising efforts. The strategies below are based on input from community stakeholders and are possible options for local planning to improve communications services and digital inclusion in Warakurna. These are not intended to be prescriptive, nor are they listed in order of priority.

Based on our 2024 and 2025 interviews and discussions, the proposed Digital Inclusion Plan has been updated with new strategies and a column for Progress/Next Steps, to track progress over time.

Legend	
Issue resolved	
Issue partly resolved/underway:	
Yet to be addressed:	

Identified issue	Possible actions	Potential stakeholders	Progress/ Next Steps
Communications access			
NBN community-wide Wi-Fi network primarily available externally; community demand for in-house access	Upgrade NBN Community Wi-Fi network to enable in-house access	NBN Co Australian and WA Governments	<i>Upgrade pending funding outcome of First Nations Community Wi-Fi program; WA Gov't co-funding committed</i>
	Provide affordable Wi-Fi repeaters in store/roadhouse to enable Wi-Fi signal to be boosted inside houses	Warakurna Store Warakurna Roadhouse	<i>Yet to do</i>
Demand for community access computers for learning and use	Ngaanyatjarra Media set up six access computers in Warakurna media centre in 2023 and staff to support users. Not operating in 2025 due to lack of staff housing	Warakurna Community Ngaanyatjarra (NG) Media	<i>Ongoing funding and staff housing needed to reinstate Warakurna Media Centre</i>
Lack of public access videoconferencing facility	Centrelink room to be changed to meeting room, videoconferencing facility installed	Warakurna Community	<i>Yet to do</i>
Regular internet outages at Warakurna Store	Consider installing Starlink or Sky Muster Plus Premium to	Warakurna Community Warakurna Store	<i>Starlink dish awaiting installation in February 2025</i>

Identified issue	Possible actions	Potential stakeholders	Progress/ Next Steps
impact on EFTPOS/sales and ATM	replace ADSL as primary broadband service at Store		
Lack of timely and affordable technical support for Telstra services and IT	Need for coordinated technical/ IT support between agencies in community/region to reduce number and cost of technical trips	Warakurna Community Ngaanyatjarra (NG) Council	<i>NG Council provide some coordinated support but more needed</i>
Affordability			
Affordable mobile data: With primary use of pre-paid mobile, more affordable pre-paid options needed	Expansion of Telstra Pre-paid Community Plan and lower-cost alternatives to Telstra recharge (Boost, Belong)	Telstra Warakurna Store Warakurna Roadhouse	<i>Yet to do</i>
Connectivity awareness: Need for awareness of affordable plans / options for mobile and home broadband	Provide easy-to-read materials in store (posters, brochures); broadcast radio messages outlining options for NBN Sky Muster and any other providers	Telstra NBN Co Warakurna Store NG Media	<i>Yet to do</i>
Digital ability			
Digital skills development: Need for more digital skills and cyber-safety training, especially for seniors, low English speakers and people with vision and hearing impairment	Provide informal digital training and support for target groups, including cyber-safety and scam awareness, online privacy and elder financial abuse Provide local support to use online banking and services	Warakurna Community Ngaanyatjarra Council / CDP <i>Mani Wangka (Money Talk, visiting financial counsellor)</i>	<i>Informal support offered at community office and by NG Media and Mani Wangka (when operating)</i>
Targeted youth training: Concerns around cyber-safety issues among young people especially online bullying, inappropriate content	Arrange cyber-safety awareness workshops in school and workplaces, as well as locally targeted posters and radio promos to build awareness	Warakurna Community Ngaanyatjarra Lands School Ngaanyatjarra Media	<i>NG Lands School deliver digital skills training and cyber-safety awareness within curriculum now</i>
Targeted learning resources needed	Provide targeted learning resources for elders and	NG Media	<i>Radio NGM plays regular cyber-safety messages,</i>

Identified issue	Possible actions	Potential stakeholders	Progress/ Next Steps
for elders and other target groups	<p>people with vision and hearing impairment</p> <p>Produce local language videos and radio messages with e-safety information and what to do to avoid risks. Play on Radio NGM and TVs</p>	<p>ACCAN</p> <p>Office of e-Safety</p>	<i>mostly aimed at young people</i>
Digital Mentor: Need for mentor support in use of government and online services.	Employment of digital mentor / IT support roles to support people to learn / use government and online services. Could be located in community office / Centrelink or at Media Centre	<p>Warakurna Community</p> <p>NG Council / CDP</p> <p>Ngaanyatjarra Media</p> <p>Department of Social Services / Centrelink</p>	<i>Warakurna Community office previously provided mentor support for Centrelink clients. Funding program needed for ongoing mentor role</i>
Workplace digital skills: Demand for IT skills for workforce readiness and use of online services	Provide specific training workshops or one on one support in workforce readiness skills as needed (e.g. Office applications, file management, keyboard skills, CV and letter writing, email use, job search)	Ngaanyatjarra Council / CDP	<i>Warakurna CDP have run workplace training courses including basic digital skills in 2024-25</i>
Media access and production			
VAST TV services not working: High number of households without VAST satellite TV services working, mostly due to set-top box failure; no maintenance program in place	Coordinated upgrade of VAST satellite equipment and replacement of set-top boxes	<p>Warakurna Community</p> <p>Shire of Ngaanyatjarraku</p> <p>Ngaanyatjarra Media</p>	<i>VAST satellite dish upgrade undertaken in 2024 by Shire of Ngaanyatjarraku; set-top boxes still need replacement or low-price option</i>
	Advocate for funding to install digital TV broadcasting to replace VAST home TV services	<p>Warakurna Community</p> <p>Ngaanyatjarra Council / CDP</p> <p>Ngaanyatjarra Media</p>	<i>Yet to do (Warburton, Blackstone communities have digital TV broadcast, with Jameson also recently upgraded)</i>

Identified issue	Possible actions	Potential stakeholders	Progress/ Next Steps
Local radio service: Demand for return of local RIBS radio service in Warakurna, plus regular contribution to regional Radio NGM program	Identify local radio broadcaster to train to do radio broadcasting and other media work with Ngaanyatjarra Media. Ensure radio studio set up for local broadcasting and sharing to Radio NGM	Ngaanyatjarra Media Warakurna Community Council	<i>Studio and satellite link upgrade, no broadcaster as yet</i>
Low radio access: Low household access to radio services	Install speaker outside community office and in store for residents to hear Radio NGM Promote the live radio app on Android phones	Warakurna Community Warakurna Store NG Media	<i>Yet to do</i>
Local media production: Strong interest in media production of local language and cultural content, including for use in school	Re-establish the Warakurna RIBS as a media production and broadcast facility Ngaanyatjarra Lands School could collaborate with Ngaanyatjarra Media on <i>Yarnangu Connections</i> curriculum content	Ngaanyatjarra Media Ngaanyatjarra Lands School Warakurna Community Council	<i>Increased video production by NG media and within Yarnangu Connections program at school</i>
Archive access: Need for archiving of locally produced cultural and historic content and community access	Access to archiving platform for community content, history and language and cultural recordings Notes: Ngaanyatjarra Council manage the <i>Tjumulpatju</i> regional archive; Ngaanyatjarra Media has contributed content to <i>Ara Irititja</i> archive collection; AIATSIS archiving facility now open in Alice Springs	Ngaanyatjarra Council Ngaanyatjarra Media First Nations Media Australia AIATSIS	<i>Tjumulpatju regional archive (managed by Ngaanyatjarra Council) now used within schools; funding needed for archiving of NG Media collection</i>

Appendix 1: Summary of survey results

This section provides the full list of weighted survey results undertaken with First Nations participants in Warakurna from 2023-25. These vary from results published in the previous outcomes report which used 'raw' survey data, prior to cleaning and weighing against ABS statistics.

Demographics	2023	2024	2025
Gender	55% female; 45% male	55% female; 45% male	55% female; 45% male
% Aboriginal respondents	100%	100%	100%
Education			
Completed year 11 or 12	30%	33%	0%
Completed year 10 or below	60%	65%	82%
Holds tertiary education qualification (certificate, diploma, degree)	10%	4%	19%
Employment			
Employed or on CDP	42% (13% of these full-time)	35% (53% of these full-time)	33% (41% of these full-time)
Unemployed	14%	25%	17%
Undertaking home duties	9%	9%	16%
% looked for work in past month	6%	7%	3%
Welfare			
Receives Centrelink payments	73%	80%	76%
Most common payments	JobSeeker / Youth Allowance (32%), Disability Support Pension (29%)	JobSeeker / Youth Allowance (44%), Parenting Payment (17%)	Disability Support Pension (30%), JobSeeker / Youth Allowance (26%)
Housing - Live in a multi-generational or shared household	88%	86%	93%
Average number of people per household	4.9	5.2	6.7
% with long-term disability or health condition	31%	3%	29%
% speak language other than English at home	100%	98%	99%
ATSI languages spoken (multi-choice question)			
Ngaanyatjarra	85%	87%	50%
Ngaatjatjarra	2%	16%	33%
Pitjantjatjara	42%	23%	16%

Understanding of English (very or quite well)			
Spoken English	81%	91%	84%
Written English	65%	83%	71%
Income			
Households with weekly income up to \$399	6%	3%	1%
\$400-\$999	11%	26%	11%
\$1000-\$1999	80%	68%	69%
above \$2000	2%	2%	20%
Phone use	2023	2024	2025
Primary devices used for phone calls			
Mobile phone	82%	97%	100%
Phone in community office or workplace	9%	35%	42%
Public phone	11%	44%	22%
Fixed line telephone in home	0%	3%	0%
No phone access	17%	0%	0%
Reliability of public phone			
Stated the public phone was reliable	36%	57%	62%
Stated public phone was not reliable	7%	6%	10%
Does not use the public phone	57%	38%	29%
Rate of mobile phone ownership	73% (100% of these smartphones)	90% (95% of these smartphones)	75% (100% of these smartphones)
Pre-paid mobile phone use			
% of phone owners on prepaid services	100%	100%	99%
Avg number of prepaid services per household	2.6	3.1	2.8
Media use	2023	2024	2025
Radio Access (multi-choice question)			
Via car radio	92%	91%	84%
Via phone or tablet	26%	42%	35%
Via computer	0%	0%	19%
Listen only at places other than home or car	12%	32%	15%
Via radio at home	20%	34%	11%
Never listen to radio	20%	21%	35%

Radio programs listenership			
Radio NGM (First Nations radio service by Ngaanyatjarra Media)	29% daily or weekly, 34% occasionally	38% daily or weekly, 43% occasionally	40% daily or weekly, 25% occasionally
ABC Radio	13% daily or weekly, 22% occasionally	21% daily or weekly, 39% occasionally	6% daily or weekly, 47% occasionally
Commercial radio	2% daily or weekly, 6% occasionally	10% daily or weekly, 22% occasionally	2% daily or weekly, 6% occasionally
TV Access (multi-choice question)			
Via computer or tablet	8%	84%	76%
Watch on TV via VAST satellite	78%	37%	57%
Via phone	39%	39%	Not collected 2024
Only via USB/DVDs on TV	13%	13%	Not collected 2024
Never watch TV	10%	0%	1%
VAST TV Access			
% with working VAST service	71%	32%	38%
Without working VAST service	29% (68% due to set-top box not working, 47% due to TV not working)	68% (95% due to set-top box not working, 5% due to damaged dish or cabling)	62% (100% due to set-top box not working)
Most popular sources of TV and online media content (multi-choice question)			
YouTube	66% daily, 24% weekly	71% daily, 15% weekly	52% daily, 25% weekly
Streaming service	64% daily, 11% weekly	39% daily, 25% weekly	33% daily, 28% weekly
Commercial TV	21% daily, 33% weekly	29% daily, 20% weekly	33% daily, 25% weekly
NITV	4% daily, 37% weekly	22% daily, 17% weekly	28% daily, 13% weekly
Primary sources of news and information (multi-choice)			
Direct / in-person communication	75% daily, 16% weekly, 2% occasionally	73% daily, 6% weekly, 17% occasionally	90% daily, 6% weekly, 2% occasionally

MAPPING THE DIGITAL GAP



ASIC Centre of Excellence for Accelerated Decision-Making and Safety



Ngaanyatjarra Council Group
Warakurna Community Inc.

Other social media	30% daily, 8% weekly, 6% occasionally	16% daily, 13% weekly, 27% occasionally	24% daily, 1% weekly, 14% occasionally
Commercial TV	30% daily, 10% weekly, 27% occasionally	20% daily, 21% weekly, 45% occasionally	20% daily, 15% weekly, 34% occasionally
Radio NGM (First Nations radio service)	8% daily, 18% weekly, 45% occasionally	14% daily, 18% weekly, 53% occasionally	19% daily, 4% weekly, 41% occasionally
Local noticeboards	12% daily, 57% weekly, 22% occasionally	12% daily, 29% weekly, 35% occasionally	16% daily, 25% weekly, 33% occasionally
Facebook	39% daily, 2% weekly, 9% occasionally	18% daily, 13% weekly, 19% occasionally	13% daily, 9% weekly, 15% occasionally
Primary sources of emergency information (multi-choice question)			
Direct / in-person communication	98%	95%	100%
Commercial TV	4%	43%	37%
ABC TV	28%	63%	37%
Local noticeboards	29%	18%	32%
Radio NGM	29%	61%	29%
Other social media	11%	29%	28%
Facebook	31%	38%	12%
Text message from police or emergency services	31%	52%	21%
Internet use	2023	2024	2025
Latest internet use			
Have used the internet in the past week	72%	64%	83%
In the past month	1%	28%	14%
Never uses the internet	10%	8%	0%
Rate of internet use (of respondents who used internet in the last three months)			
Use the internet almost constantly	40%	33%	34%
Several times a day	11%	28%	34%
About once a day or several times a week	45%	20%	13%

Regular internet users (Indented sections below refer to respondents who had used the internet within the last six months)	74%	92%	97%
Primary online devices (multi-choice question)			
Smartphone	95%	100%	93%
Smart TV	21%	77%	87%
Tablet	0%	22%	17%
Games console	22%	19%	9%
Desktop computer	14%	4%	1%
Use of Internet provided by others (multi-choice)			
Public space with free Wi-Fi	72%	100%	79%
Government or community office	70%	54%	67%
At houses of friends or family	17%	49%	10%
Shopping centre, retail or business	0%	15%	7%
Low internet users	26%	8%	3%
Reasons given for not using the internet more – low or non users (multi-choice)			
The internet is too expensive for me	23%	12%	39%
I am not confident using the internet	15%	16%	31%
The internet is not a priority for me	19%	0%	9%
Not enough content is available in my language	16%	0%	3%
I do not have convenient internet access	9%	10%	14%
I am concerned about inappropriate content and causing conflict	23%	3%	2%
Concern about privacy and scams	15%	3%	6%
Use of fixed internet services			
Does not have fixed home internet	96%	96%	96%
Other	0%	2%	2%
NBN including NBN Sky Muster	4%	0%	0%
Use of mobile broadband services			
Do not have any mobile broadband device	100%	94%	100%
Use a Wi-Fi dongle / device	0%	4%	0%
Use a laptop/tablet SIM	0%	2%	0%

MAPPING THE DIGITAL GAP



Affordability	2023	2024	2025
Expenditure			
Average monthly household expenditure on pre-paid mobile	\$164	\$229	\$292
Monthly household expenditure on phone and internet services	\$167	\$234	\$292
% of respondents who cut back on essential household costs to afford personal or household internet			
Sometimes	37%	53%	31%
Often or always	6%	18%	46%
% of respondents who compromise on internet speed and/or quality to prioritise affordability			
	29%	71%	63%
Digital Ability	2023	2024	2025
Regular internet users (The following sections refer to respondents who used internet in last three months)			
	74%	92%	97%
Basic digital ability metrics (very true / mostly true)			
Open a new browser tab	46%	65%	34%
Send and receive emails	57%	52%	55%
Download and then open a file	55%	55%	26%
Find and install apps	72%	62%	33%
Complete online forms	52%	54%	20%
Connect to a Wi-Fi network	83%	80%	69%
Online security and cyber-safety awareness (very true / mostly true)			
Add or remove friends or followers on social media	65%	68%	66%
Decide what personal information to share online	45%	47%	30%
Set/manage secure passwords	74%	61%	45%
Identify which apps/software are safe to download	60%	55%	31%
Adjust privacy settings	48%	50%	36%
Check if information is trustworthy	25%	42%	23%

Online content creation (very true / mostly true)			
Produce online content	52%	51%	18%
Post videos	55%	52%	34%
Create websites	0%	19%	11%
Awareness of online copyright law	5%	25%	15%
Use of smart devices (very true / mostly true)			
Connect smart devices (e.g. smart TV) to the internet	57%	70%	47%
Adjust smart device privacy and security settings	47%	50%	28%
Primary online activities (activities undertaken in past six months)			
Online banking	90%	85%	83%
Accessing government services	62%	82%	62%
Online learning / study	62%	38%	60%
Comparing prices of products or services	48%	35%	36%
Tracking packages	25%	34%	34%
Online buying / selling	29%	24%	20%
Booking medical appointments	4%	19%	15%
Social media use (activities undertaken in past six months)			
Keeping in touch with family or friends	61%	62%	51%
Meeting new friends or reconnecting with old friends online	61%	45%	42%
Engaged with content that made you feel connected to community	59%	55%	51%
Engaging with online groups	61%	62%	51%
Online entertainment (activities undertaken in past six months)			
Used online entertainment services	97%	89%	91%
Attended an online music, arts, or cultural event online	28%	57%	57%

Survey comments:

Feedback on Wi-Fi network

- + Wi-Fi is good at our house. We use it Southside.
- + We use the Wi-Fi when we run out of credit. It's good
- + Community Wi-Fi is helpful
- + The Wi-Fi is really good, helps make it easy and cheaper to use internet
- + We want Wi-Fi in the house
- + Community Wi-Fi is good when we have no credit
- + The community Wi-Fi should be able to accessed inside the house
- + I have to go outside to get Wi-Fi but it's too hot outside. Only the mobile works inside
- + Free Wi-Fi is good but only works outside
- + The Wi-Fi is really weak signal in houses in north side behind swimming pool. Doesn't work here, not even to make a call. It needs to be fixed up or another repeater
- + The free Wi-Fi saves money but it plays up sometimes, weak signal from top of swimming pool
- + Wi-Fi not working at my house, they should make it stronger
- + Get the internet inside rather than standing outside
- + The Wi-Fi is good but the battery goes flat so I come to the office
- + Want to be able to get Wi-Fi in the house as it's too hot to sit outside



The Wi-Fi is good, easy to connect, but I can only get it outside on the veranda where it's hot and there's lots of flies.

- + Wi-Fi is really good but mostly outside is really hot, can sometimes get it inside the house
- + The Wi-Fi is good when I've got no credit on the phone
- + Wi-Fi is good but you can only use it outside with the phone but I can't connect the TV inside the house
- + Need free Wi-Fi inside the house

Feedback on mobile service

- + Mobile and Wi-Fi is good in Warakurna
- + Sometime Telstra doesn't work so I use the free community Wi-Fi
- + Sometimes Telstra goes off and everyone uses the free community Wi-Fi
- + There's no mobile along the road to Laverton, we need more emergency phones to call up if people get stranded or have an accident

Affordability

- + I only get \$400 a fortnight so hard to pay for the phone top up
- + The mobile vouchers are expensive, we use them up too quick

Issues with VAST TV services / set-top boxes

- + I don't have VAST TV working. I got two new set top boxes but couldn't get them working, too hard to activate, so I gave them away. It should be easier
- + They fixed the satellite dish but not the set top box, need a new one
- + We need a new set top box so we can get TV, plus wire to the box
- + It's been good getting the TV dish fixed, we've got TV working again
- + Set-top box needs repair
- + Want VAST box fixed so we can watch footy

- + I want to get TV again but set top box too expensive
- + VAST set top box get working
- + We want TV working, need a new set top box
- + Need TV box fixed for VAST
- + I like TV but the smart card for our set top box is gone and it costs \$600 for a new one
- + We need the TV working here so we don't need the set top box
- + The VAST box is too expensive and breaks quick so costs too much for TV



We need TV broadcast again in Warakurna. The satellite TV never works so we pay big money for set top box that we can't get to work and for Netflix. We want TV at our home.

Device needs

- + Households with students should have a computer at home to do their homework
- + I need my own phone so I can talk with family
- + I don't have a phone at the moment so borrow when I need
- + I don't have a phone at the moment. I have to wait for payday. It costs about \$270 for an Oppo phone, but then I've got no money left for food so I have to borrow from family
- + My phone is not working. My daughter helps me to use online services
- + I need a new phone, breaks too easy

Starlink use

- + We got Starlink at our house last month. It makes it easy to watch movies and for everyone to use internet (2024)

Training or support needs

- + I need help to use online services
- + I only use games on my phone. I get help from the office for Centrelink
- + I only use the phone for calls and watching YouTube and looking for gospel. The grandchildren help me to use the banking and MyGov on the phone
- + My family help me to use the internet if I need. I use my phone to make calls only
- + My kids try to teach me to use the phone and internet but I always forget. They help me with banking or MyGov or anything I need, otherwise I go to the office. I don't have a phone so I borrow my daughter's phone
- + I want some help to learn to use the phone and online services. I find it hard to use these.
- + I want someone to help me learn more. I just use the office for Centrelink and banking
- + I want more help to learn to use phone and internet. I need someone who lives here to help me. I want to learn internet banking and MyGov and other services

Local radio service

- + We want the NG radio going again in Warakurna
- + Radio is good but we need more Warakurna stories

Other comments

- + Digital is good. Makes it quicker and easier to communicate. Without digital we would go backwards. It gives us more information and be prepared and make positive decisions. I'm more independent

Appendix 2: Community communications audit

About the community	
Community Name	Warakurna
Alternate name	Giles
Traditional owners / Language group	Ngaanyatjarra / Ngaatatjarra
Location (coordinates)	25.0012° S, 128.2877° E
Region	Ngaanyatjarra Lands, Western Australia
LGA / Shire / Regional Council	Shire of Ngaanyatjarraku
Land Council	Ngaanyatjarra Council
Regional Service Centre, distance	Alice Springs – 780 km northeast, Kalgoorlie 1130 km southwest
Remoteness (ABS)	Very remote
Population data – ABS 2021	
ABS 2021 Census All persons QuickStats	https://abs.gov.au/census/find-census-data/quickstats/2021/SAL51528
ABS 2021 Census Aboriginal and/or Torres Strait Islander (ATSI) people QuickStats	https://abs.gov.au/census/find-census-data/quickstats/2021/ILOC50300408
Total population	185 (159 ATSI)
ATSI population	85.9%
Gender breakdown (ATSI)	48.4% male, 51.6% female
Median Age / breakdown (ATSI)	33 (30 for ATSI population); Children aged 0–14 years made up 23.1% of the population and people aged 65 years and over made up 3.9% of the population
Families	44 families; Average children per family – 1.9 for families with children, 1.1 for for all households
Language groups / number of speakers	Ngaanyatjarra – 148 (80%); Pitjantjatjara – 10 (5.4%)
% ATSI people who speak an ATSI language	85.4%
% ATSI people who speak English at home	8.1%
Employment levels	38 people (26.6%) were in the workforce, 90 (62.9%) not in the workforce. Of those working, 31.6% (12) were employed full time, 63.2% (24) part-time. 5 people were unemployed
Education levels – No of people reached	47 (20.1% of people) were attending primary or secondary school. Educational attainment was: Bachelor Degree level and above – 8.4%; Year 12 – 9.8%; Year 11 – 11.9%; Year 10 – 32.9%; Year 9 or below – 18.9%
Number of dwellings, people/household	69 private dwellings; 3.9 people / household (4.4 ATSI households)
Housing suitability	Average 1.3 person per bedroom (1.5 for ATSI households)
Median Weekly ATSI household income	\$900 (\$706 for ATSI households)
Median Weekly ATSI personal income (15+)	\$305
Average weekly rent	\$70 for ATSI households
Average motor vehicles per dwelling	0.7

Community services and plans	
Community layout plan	https://www.wa.gov.au/system/files/2021-07/LOP-Warakurna-LP1-Amendment-10-map-set.pdf
Agencies in community	Warakurna Community Inc, Ngaanyatjarra Council, Shire of Ngaanyatjarraku, Warakurna Store and Warakurna Roadhouse / campground (both operated by Warakurna Community), Warakurna Remote Community School, Ngaanyatjarra Lands School office, Warakurna Clinic and Community Care Centre (both managed by Ngaanyatjarra Health Service), Ngaanyatjarra Council Training Facility, Warakurna Multi-function Police Facility (MFPF), NPY Women’s Council (Tjanpi project, nutrition program), Nirrumbuk Environmental Health Services, Ngaanyatjarra Rangers (Land and Culture), Warakurna Artists, Warakurna Media Centre and Radio Studio (supported by Ngaanyatjarra Media), Giles Meteorological Station
Business / other stakeholders	WA Government agencies, National Indigenous Australians Agency, Water Corporation, Horizon Power, Commonwealth bank, Department of Human Services / Services Australia
Community development plan/s	See Shire of Ngaanyatjarraku Plan for the Future 2021-31 and Ngaanyatjarra Council Community Plan 2024 for regional plans
Power supply / type / backup in community	Diesel generator, with backup generator for roadhouse and MFPF, solar panels on roadhouse
Use of power cards in households	Yes
Communications services available	
Public phones – number / location	3 – one near women's centre, one at roadhouse, one inside community office; all working during 2025 visit
Home phones	Primarily in staff houses and agencies; no resident households surveyed in 2025 had home phones, most are mobile only
Mobile service	4G macro cell tower in community; originally installed 2012-13 as 3G, upgraded to 4G in 2019; 59 metre tower located at northern end of community (ACMA Site ID: 9015757)
Mobile coverage and reliability	Good signal within community and up to 5-10km out of town, limited signal at roadhouse and police station. Improved speeds at time of 2025 visit. Reports of outages in recent years due to fibre optic cable damage and power outages
ADSL usage	There are 40 ADSL ports available, however most are not being used. Some local agencies (Warakurna Community Office, Ngaanyatjarra Council office, Warakurna Clinic) have business-grade DSL services, and Warakurna Store has ADSL. According to our survey, no First Nations households have ADSL services
Business grade or fibre optic services	Warakurna Community School/ Ngaanyatjarra Education Area office and the Warakurna MFPF have fibre optic connections with business grade services. Ngaanyatjarra Health Service has a fibre optic connection to the clinic, shared via microwave link to the women's centre, training centre and staff houses

Fibre to community	Fibre optic network connecting six Ngaanyatjarra communities including Warakurna connects to fibre backbone on Stuart Highway via the APY Lands
NBN Sky Muster satellite services	Some local agencies (Warakurna community office, Roadhouse, Warakurna Artists, NPY Women's Council) have Sky Muster services, as well as most staff houses. Our 2025 survey found no First Nations households with Sky Muster services
Starlink satellite services	Starlink installed at Warakurna Roadhouse, multi-function police facility (enterprise-grade service) and Warakurna Media Centre (by Ngaanyatjarra Media), as well as most staff homes
UHF or HF Radio	HF radio is used for aviation, police and emergency services. There is limited use of UHF radio as the local repeater tower is no longer operational
Status of services – faults, issues, speeds during peak use time etc	There were reports of recent network outages, with occasional mobile service outages due to damage to fibre optic cable or power outages. A three-week Telstra network outage occurred in 2021 due to fibre being cut near Kanypi, with reports of a four-day outage in 2023 and shorter outages in 2024-5. Fortunately, satellite services enable offices to continue, including EFTPOS and ATM at the store and roadhouse
Communications programs history (Mobile Black Spot Program, Regional Connectivity Program etc)	NBN community-wide Wi-Fi pilot network (funded by NBN); Ngaanyatjarra Lands Telecommunications Project (2004-8) - \$5.8m co-investment from Australian Government Coordination Communications Infrastructure Fund/ WA Government, Shire of Ngaanyatjarraku and Ngaanyatjarra Council; WA Government Regional Mobile Communication Project (2012-14)
Any planned upgrades?	The Warakurna Wi-Fi mesh network is awaiting upgrade, pending funding outcome of First Nations Community Wi-Fi program; WA Gov't co-funding has been committed
Emergency information system	Emergency services is managed by WA Police; a local SES team is being set up between police and community agencies due to police not always being on-site. Emergency communications currently mostly via mobile and satellite phone, with some use of UHF and HF radio
Telemetry network	Monitoring of water tanks, power generator and other services by Power Water WA; remote monitoring system of RIBS broadcast and studio equipment by Ngaanyatjarra Media
Media services available	
Radio services broadcast – AM or FM	Ngaanyatjarra Radio (107.7FM), ABC Radio FM (not working at time of visit)
TV services – local broadcast, number of DTH services, number working	VAST direct-to-home satellite access only, but 56% of those surveyed did not have VAST TV working
RIBS radio station	Located in RIBS facility adjacent to Warakurna Artists; broadcaster Cynthia Burke (not staffed at time of visit)
RIMO – regional provider	Ngaanyatjarra Media

Community access facilities

<p>Internet access facility</p>	<p>Two computers in Centrelink office provided by DHS for use of government services and banking; videoconferencing previously available in community office, not in use 2025</p>
<p>Public Wi-Fi availability, free or voucher system, agency, RSP, monthly download limit</p>	<p>NBN set up community-wide Wi-Fi pilot across Warakurna on 18 October 2022, with upgrade to Sky Muster Plus Premium backhaul in June 2023. Warakurna community office have public Wi-Fi available during work hours</p>
<p>Access computers available in other facilities – art centres, store, community office, youth centre etc</p>	<p>Ngaanyatjarra Media have installed six community access computers and Wi-Fi hotspot at media centre, with Starlink backhaul</p>
<p>Any programs running to support community access – provider</p>	<p>Not currently; Ngaanyatjarra Council training centre has computer for literacy and digital skills training; Ngaanyatjarra Media have previously run IT training programs in Warakurna (Future Skilling Outback 2005-7, RIPIA 2013-14)</p>



Figure 40: Feral camels are a common part of the Ngaanyatjarra landscape

Appendix 3: Photos of research activities



Figures 41 and 42:
Bernadette Newberry (right) doing survey with Alison and Calandria Porter; Lyndon with Chairperson Devon Yates



Figures 43 and 44:
Daniel doing survey with elder and cultural educator Elizabeth Ellis; Warakurna Multi-Function Policy Facility



Figures 45 and 46:
Lyndon with co-researchers Bernadette Newberry and Tracey Yates; Lyndon and Daniel with Tracey, Bernadette and Heston Newberry



Figures 47 and 48:
Bernadette Newberry doing survey with Lionel Mitchell; Daniel doing survey with resident Hudson Mitchell