NTCOSS

COST OF LIVING REPORT

Tracking changes in the cost of living, particularly for Northern Territorians experiencing disadvantage - Telecommunications

Issue No.30, June 2021

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NTCOSS acknowledge the Traditional Owners of country throughout the Northern Territory and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past, present and emerging. Aboriginal sovereignty has not been ceded.

Throughout this document we use the term Aboriginal peoples to recognise the diversity of language, cultural practices and spiritual beliefs in the Northern Territory. The report uses the terms 'Indigenous' and 'First Nations' where original sources are being quoted.

TABLE OF CONTENTS

GLOSSARY OF ACRONYMS

The following is a glossary of acronyms used in this report:

ABC	Australian Broadcasting Corporation
ABS	Australian Bureau of Statistics
ACCAN	Australian Communications Consumer Action Network
ACCC	Australian Competition and Consumer Commission
ACMA	Australian Communications and Media Authority
ACOSS	Australian Council of Social Service
ADIA	Australian Digital Inclusion Alliance
ADII	Australian Digital Inclusion Index
ADSL	Asymmetric Digital Subscriber Line
ALNF	Australian Literacy and Numeracy Foundation
BCAR	Bureau of Communications and Arts Research
CAYLUS	Central Australian Youth Link Up Service
CfAT	Centre for Appropriate Technology
CLC	Central Land Council
CPI	Consumer Price Index
FTTN	Fibre to the Node
FTTP	Fibre to the Premises
GB	Gigabyte
HES	Household Expenditure Survey
HCRC	High Capacity Radio Concentrator
ISPs	Internet Service Providers
ICT	Information and Communication Technology
Mbps	Megabits per second
MBSP	Mobile Black Spot Program
NBN	National Broadband Network
NT	Northern Territory
NTCOSS	Northern Territory Council of Social Service
PIP	Public Interest Premises
PPM	Prepayment Meter
RICs	Remote Indigenous Communities
SACOSS	South Australian Council of Social Service
VCOSS	Victorian Council of Social Service

EXECUTIVE SUMMARY

Like access to water or electricity, access to telecommunications services and hardware is essential to living, working and participating in today's society.

In 2018, 65% of internet users in Australia used it for studying or working from home.[1] This figure will have increased due to the COVID-19 pandemic, which led to a rapid rise in online activities, including online shopping, school lessons and medical appointments.[2] Prior to this, government services had increasingly shifted online, making access to certain services harder to acquire without internet, data or mobile phones. In the Northern Territory (NT), the internet is also an important point of social connection and a vital conduit for accessing information and services for people in very remote areas.[3]

This national digitisation push means that irrespective of income or location, daily life increasingly requires internet access. However, the access and affordability of those services is not equal, and in the NT the digital divide runs deep. The cost of telecommunications products and services has decreased markedly over the past couple of decades; the uptake of fixed broadband services at home has increased, and the average consumer now receives better value for money for these services.

Of particular significance to lower income households is the availability of more affordable plans and, in some instances, provision of plans with unmetered data usage for essential services.

At the same time, this report notes the usage of services (particularly the use of data) is escalating and expenditure on telecommunications has risen for some population groups, with affordability remaining a critical issue. In addition, prepaid mobile services are more likely to be used by lower income households, as well as Aboriginal households, and are generally associated with less value for money.

Households on a limited income juggle telecommunications expenditure with other essential costs such as rent, food, other utilities, transport, medical, and other basic household items. People are often forced to make difficult choices about what they can afford, compromising one need for another, particularly if unanticipated expenses occur. The inability to meet payment deadlines can lead to further financial difficulties. The Australian Council of Social Service (ACOSS) has expressed concern that the changing digital environment may exacerbate the lived experience of people in poverty and the trend towards inequality.[4] It is of extreme concern that digital services are the least affordable for households in the lowest income bracket in the country, and affordability has worsened for them over the last three years. 'People on the lowest incomes in the country are paying the highest rates' for telecommunications.[5] Addressing these issues is paramount.

Australia ranks poorly in terms of affordability, compared with other countries, ranking last on affordability in the World Economic Forum's Information and Communication Technology capability scoring.[6] In 2015/16, NT households spent the most on telecommunications in Australia. Due to having the highest average incomes in the country, however, the NT was ranked 5th most affordable jurisdiction, in terms of expenditure as a proportion of weekly disposable income.[7] This average figure hides the pockets of significant disadvantage in the NT where digital exclusion and affordability are critical issues.

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[1] BCAR 2020, p.7
[2] Thomas et al, 2020a, p.8
[3] ibid, p.51
[4] ACOSS 2016, p.2
[5] Smith 2021
[6] Pavlidis & Hawkins 2015, cited in ACOSS 2016, p.4.
[7] ABS 2017, Tables 13.8, 13.9A

While the cost of products and services is a critical component in assessing affordability, it also cannot be looked at in isolation from issues of access to infrastructure and services – particularly relevant to remote areas of the NT. Overcoming digital exclusion requires more than just technical solutions; it needs place-based solutions that combine multiple strategies and technologies.[8]

Many Aboriginal communities, outstations and homelands do not have access to competitive services. While mobile phone carriers apply nationally consistent pricing, the range of available products varies across locations due to differences in the coverage of both mobile network operators and mobile virtual network operators.

Interrupted power can lead to disconnection of Wi-Fi hotspots in remote communities, and the ability to keep a smart phone charged cannot be assumed when a household may not have the money for power.

While this is changing, and more than 20,000 Territorians have gained access to mobile and broadband communications through recent improvements in internet access and mobile phone coverage, there are many Territorians in 2021 unable to access or afford telecommunication products and services. This is of concern for many reasons including the fact that low internet access is strongly correlated to low household income, disability, and unemployment, including long term unemployment.[9]

Around 25,000 Territorians are still without internet or mobile access where they live (excluding satellite services), and many remote communities rely on slower and less reliable 3G networks.

Critically, given the speed at which many government services are becoming almost entirely digital, and the evolving nature of the technology itself, there is also a worrying lack of data on the Territory's digital divide, particularly when considering remote communities. The Australian Digital Inclusion Index (ADII), for example, does not include any remote or very remote populations in its survey data, which excludes 22% of the NT.

Solutions to address affordability of, and access to, telecommunications services are highlighted in this report, as is the need for improved data to better target solutions to those most in need. This report also offers recommendations to improve access to affordable internet and mobile phone services as a matter of priority, especially for people in remote parts of the NT. Addressing these issues is vital for the many population groups within the NT who are missing out on full access to the benefits that telecommunications products and services can bring. A well-coordinated strategy could help to close the gap in digital inclusion for Aboriginal people 'in the next 5-10 years'.[10]

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[8] As demonstrated in the Tiwi Islands where, despite recent improvements to access, people still face digital exclusion due to significant affordability issues

[9] Vinson et al 2015, cited in ACOSS 2016, p. 2

[10] ACCAN 2020b, p.31

REPORT RECOMMENDATIONS

Recommendation 1

Improve data collection on telecommunications access, use and expenditure, including face-to-face samples from remote and very remote communities and Town Camps

Recommendation 2

Ensure access to an affordable, concessional, home broadband service for households on limited incomes[11]

Recommendation 3

In partnership with Aboriginal communities, develop and implement a targeted 'First Nations Digital Inclusion' program with a focus on access, affordability and digital ability, and a focus on ensuring all Aboriginal students have access to the digital tools and resources they need for their education[12]

Recommendation 4

Telecommunication services to provide free access/unmetered access to Government websites and other essential activities in plans most likely to be used by low-income households

Recommendation 5

Ensure entry level plan bundles provide quality service including adequate speed and capacity

Recommendation 6

Upgrade the NT Library and Public Interest Premises (PIP) to allow them to take advantage of additional unmetered data and extra download capacity

Recommendation 7

That residents of unserviced areas get equal priority of service as residents of serviced areas[13]

Recommendation 8

That the Federal Government increase the base rate of JobSeeker and related payments by $175 per week

Recommendation 9

That the Federal Government introduce tailored funding approaches for telecommunications in remote areas

[11] *ACCAN 2020c*
[12] *World Vision Australia & the ALNF 2021, p.14*
[13] *CfAT 2016 cited in ACCAN 2020b, p. 74*

INCREASE IN USE OF TELECOMMUNICATIONS SERVICES IN RECENT YEARS

Rapid growth in the demand for and consumption of telecommunications services and hardware has occurred in recent years, while at the same time prices have decreased significantly. The uptake of home fixed broadband services has increased, and the quality of communications services is also improving, with significant growth in downloads of both internet and mobile data between June 2019 and June 2020.[14]

In 2019-20, Australia's largest telecommunication providers reported 9.8 million prepaid and 17.6 million post-paid mobile services[15], with the total being 11% higher than the service levels in 2015–16.[16] Such growth has been possible due to the 4G roll out, investment in the 5G roll out and additional network investment in broadband services in regional areas.[17]

The onset of the COVID-19 pandemic in 2020 caused a massive increase in the use of telecommunications services. As a result of the pandemic, many essential services completely moved online, increasing the necessity of access to telecommunications for everyone. Travel restrictions also increased the community's reliance on telecommunications for contact with family and support networks. This growth in reliance on telecommunications exposed issues regarding digital inclusion, with many NTCOSS members expressing concern regarding disparities in the accessibility and affordability of telecommunications in the NT. As a result, this report aims to establish the current state of affordability of, and access to, telecommunications services in the NT, to inform recommendations regarding future actions which could improve access to affordable telecommunications services in the NT, especially for people living in remote areas.

TELECOMMUNICATIONS: A CRITICAL EXPENDITURE AREA

A number of dimensions need consideration when assessing the impact of telecommunications expenditure on low-income earners. The South Australian Council of Social Service (SACOSS) described expenditure on telecommunications services as being 'essential, significant and regressive' (see Appendix A).[18]

Expenditure patterns over the past two decades

Despite the significant drop in prices over the past two decades, expenditure on telecommunications rose overall nationally by $20 per week, and in the NT by $22 per week with a slight dip in expenditure between the 2009/10 and 2015/16 ABS HES periods.[19] In 2015/16 the NT had the highest expenditure in the country (approximately 25% above the national average), largely due to NT households spending nearly twice the national average on home computer equipment (1.83 times more) and internet charges (1.70 times more).

OVERALL DECLINE IN PRICES FOR TELECOMMUNICATIONS SERVICES IN RECENT YEARS

In 2020, the ACCC began measuring both 'advertised prices', as well as 'feature-adjusted' prices, which includes the impact of growing bundled inclusions over time, such as call minutes and data downloads.[20] While price data

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[14] *ACCC 2020a, p.1; ACCC 2020d, p.5,6*
[15] *ACCC 2020e, Table 2*
[16] *ACCC 2020c, p.6*
[17] *ACCC 2020b, p.1*
[18] *SACOSS 2015, pp. 3-4*
[19] *ABS 2000, Table 5; ABS 2011 Table 27A, ABS 2017 Table 13.9A*
[20] *ACCC 2020c, p.35*

is not specific to the NT, prices are generally uniform across the country, where products are available. Examining prices for different products is critical for understanding impacts on particular income groups.

Price changes: fixed line broadband services since 2015/16

Overall, since 2015/16, advertised prices for fixed line NBN broadband rose and the feature adjusted price fell by 12.5% overall due to increases in NBN plan inclusions.[21] Over the same time there were virtually no changes in advertised prices for non-NBN fixed line broadband[22], but feature adjusted prices for non-NBN fixed line broadband fell by 17.8%.[23]

The featured adjusted price of all fixed line broadband decreased by 15.4% since 2015/16 and despite the rise in advertised prices, the average consumer now receives better value for money for NBN fixed broadband due to added inclusions such as greater data allowances.[24] For non-NBN fixed line users, the increase in value may be negligible.[25] However, lower priced plans with less inclusions are not always available for budget conscious consumers, as there are usually 'minimum entry-level prices and inclusions for access to NBN services'. [26]

Price changes: mobile services since 2015/16

Since 2015/16 the advertised prices for both prepaid and post-paid mobile services declined. Feature-adjusted prices also declined over this time, likely due to 'increased data allowances and/or price changes', with the decline similar for both post-paid (52.9%) and prepaid services (51.6%).[27] More recently, there were significant decreases over the past year in the featured adjusted prices, in particular for post-paid mobiles (9.7%) and prepaid mobiles (12%), suggestive of 'strong growth in data inclusions'.[28]

Price changes: mobile broadband since 2015/16

Since 2015/16, while the advertised prices for mobile broadband rose at the mid-range price level (7.7%) and decreased by 15.4% at the higher end,[29] the feature adjusted price decreased 56.1%, which suggests that the benefits may be felt primarily by consumers at the higher plan level.[30]

For more specific detail regarding price changes in telecommunications over recent years, refer to Appendix B.

Consumer Price Index (CPI) data

CPI figures show consistent overall decreases over the past decade for telecommunications equipment and services of around 24% for both Darwin and at the national level.[31] The decline in CPI for audio, visual and computing equipment and services has been particularly significant, down around 40%, for both Darwin and nationally.[32] At the same time, the 'all groups CPI' for Darwin increased by 15.2%, while the national increase was 21% .[33] Strong falls in the CPI in these areas also occurred over the last twenty years (see Appendix C).

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[21] *ACCC 2020c, p.5,22*
[22] *ibid p.28*
[23] *ibid p.28-29*
[24] *ibid p.21-22,28,63*
[25] *ibid p.21-22,28,63*
[26] *ibid p.5,22*
[27] *ibid p.35*
[28] *ibid p.35*
[29] *ibid p.40*
[30] *ibid p.40*
[31] *ABS 2021, Data 5,6*
[32] *ibid Data 5,6*
[33] *ibid Data 5,6*

Impact of increased telecommunications use on Affordability

Affordability of telecommunications products and services is a significant issue for lower income households.

The Australian Communications Consumer Action Network (ACCAN) describes affordability as 'a consumer's ability to pay for and use telecommunications without sacrificing expenditure on other essential services and items'.[34] The proportion of household income that lower income households spend on essential items is an important measure of affordability, however a number of factors can influence affordability, and the value for money consumers receive is impacted by 'terms and conditions, payment methods, and up-front costs'.[35]

Additional factors impacting on affordability for remote Aboriginal communities include changes in the relative value of access to the internet, which is likely to change depending on an individual's life circumstances, meaning that essentials such as food, electricity or fuel may be prioritised, when disposable income is limited.[36]

DIGITAL INCLUSION: THE NATIONAL CONTEXT

Digital inclusion is 'based on the premise that everyone should be able to make full use of digital technologies – to manage their health and wellbeing, access education and services, organise their finances, and connect with family, friends and the world beyond… [it is] about social and economic participation'.[37]

The Australian Digital Inclusion Index

The ADII focuses on 'household and personal use of digital technologies' to measure the level of digital inclusion across the whole population, and to monitor this level over time. It focuses on three key areas: Access, Affordability and Digital Ability.[38]

Nationally, the level of digital inclusion is generally improving, with the ADII rising 12.4 points since 2014, though recently the rate of increase has slowed. Steady growth has occurred in both the Access and Digital Ability sub-indices, with Affordability the only sub-indice not to show solid improvement in the past six years.

While the cost per GB of data has continued to fall, Australians are spending more time online and using an increasing number of data-using devices, and are purchasing larger data allowances and faster services.[39] As a result, household expenditure on internet services has risen faster than household incomes, leading to a higher proportion of household income being spent on internet services in 2020 compared with 2014 (1.16% vs 1%)[40], reflected in the decrease in the relative expenditure figure between 2014 and 2020 (see Table 3).

Affordability gaps

Digital inclusion is spread unevenly across the country, with income, age, geographical location, educational attainment, and employment impacting on this. 'In general, urban, wealthier, younger, more educated, and employed Australians enjoy much greater digital inclusion'.[41] The slight improvement in affordability since 2014 hides 'the hardships faced by those households on low or fixed incomes seeking to remain digitally connected'. There is a clear affordability gap, with 'the proportion of household income spent on internet access by those living in the lowest household income quintile [having]…increased every year since 2014 and now exceeds 4%',

[34] ACCAN 2016, p.5
[35] ibid p.7
[36] Rennie et al 2016, p.179
[37] Thomas et al 2016 p. 5,6
[38] Thomas et al 2017, p.10
[39] Thomas et al, 2020a, p.6,14
[40] ibid p.15
[41] ibid p.12

nearly four times the proportion of household income spent by the average household.[42] The affordability gap between the lowest 20% and highest 20% income households rose by 9.2 points in the past six years, with more than 2.5 million Australians remaining offline, despite widespread access to internet infrastructure.[43]

Table 1: National Affordability ADII changes between 2014 and 2020[44]

Overall Affordability	Lowest 20% incomes (Q5)	Highest 20% incomes (Q1)	Affordability gap
2014	33.1	69.7	**36.6**
2020	32.7	78.5	**45.8**

ADII figures: limitations and general trends in NT data since 2014

ADII results for the NT must be interpreted with caution given the limitation of small sample size (less than 150 surveys) which can lead to volatility in the resulting data.[45] The small sample size also means the ADII figures may not reflect the range of differences between different communities within the NT population.[46] In addition, despite accounting for around 22% of the NT population, remote and very remote Aboriginal communities are not generally included in the ADII data collection (apart from one remote community included in 2018 (NT) and one in 2019 (Qld)).[47] Data from 2014/15 showed 53% of Aboriginal people residing in remote and very remote areas had accessed the internet in the 12 months prior, compared with 85.7% in other areas.[48] NTCOSS expects that high rates of digital exclusion exist in remote areas of the NT but actual data on this is almost non-existent.

The following table shows a comparison of National and NT ADII figures, comparing 2014 and 2020.

Table 2: National vs NT ADII figures change between 2014 and 2020[49]

Categories	Northern Territory		Australia	
	2014	**2020**	**2014**	**2020**
Access	64.0	71.0	63.9	76.3
Affordability	57.5	54.9	56.0	60.9
Digital Ability	41.5	46.5	42.2	52.0
ADII	54.3	57.5	54.0	63.0

Despite limitations in the ADII data, some general trends in results for the NT since 2014 can still be observed.[50] While the ADII score for the NT for 2020 is lower than the Australian average, this is only the second time since 2014 that the NT ADII has been below the national average and despite regular fluctuations, there has been a general improvement in terms of digital inclusion over the past five years.[51] Much of the increase in the overall ADII for the NT since 2014 has been due to gains in access (despite a decrease in the Access score in 2020), up

[42] *Thomas et al, 2020a, p.6,15*
[43] *Ibid p.6,15*
[44] *Roy Morgan single source, March 2020 cited in Thomas et al 2020b, p.8,14*
[45] *Thomas et al 2020a, p,45*
[46] *ibid p.11*
[47] *ABS 2017, Summary Section*
[48] *ABS 2016, cited in Thomas et al 2018, p. 19*
[49] *Roy Morgan single source, March 2020 cited in Thomas et al 2020b, p.1,7*
[50] *Thomas et al 2020a, p.45*
[51] *ibid p.45*

7.0 points overall over this period. This can mostly be attributed to the rollout of the NBN to parts of the NT.[52] In terms of Digital Ability, there have been general increases across all three sub-categories.[53]

The Affordability score for the NT was lower in 2020 compared with 2014, having fluctuated in each of the years since the ADII began, but the two underlying sub-categories of Affordability have been on quite distinct trajectories.[54] As displayed in Table 3 below, the 'Relative Expenditure' and 'Value of Expenditure' values in the NT demonstrate that while percentage of household income spent on internet has increased since 2014, NT households are getting better value for money due to increases in data allowances per dollar.

These same trends in 'Relative Expenditure' and 'Value of Expenditure' are evident at the national level, though to a lesser extent meaning the Affordability ADII overall improved and there was not the volatility from year to year as with the NT figures.[55]

Table 3: Change in NT vs National Affordability ADII and sub-categories 2014 - 2020[56]

Sub-categories	Northern Territory		Australia	
	2014	**2020**	**2014**	**2020**
Relative Expenditure	64.1	48.0	60.3	54.7
Value of Expenditure	51.0	61.7	51.6	67.0
Overall Affordability	**57.5**	**54.9**	**56.0**	**60.9**

ADII SNAPSHOT OF A NT REMOTE ABORIGINAL COMMUNITY: ALI CURUNG

In 2018, a targeted digital inclusion survey was undertaken with 112 residents of the remote Central Australian community, Ali Curung (population around 500). This data provides a useful glimpse into the experiences of people in the NT and the complexities of digital inclusion in remote Aboriginal communities more broadly.[57]

Table 4: 2018 ADII Figures Ali Curung vs Australia[58]

2018 ADII Figures	Ali Curung	Australia
Access	47.3	73.4
Affordability	25.8	57.6
Digital Ability	52.3	49.5
ADII	**42.9**	**60.2**

The survey showed Ali Curung had 'a very low level of digital inclusion' at 17.3 points lower than the Australian average, and 11.5 points below the average for Aboriginal people across urban and regional areas.[59]

Access and Affordability in Ali Curung

Ali Curung residents had very low ADII scores on Access and Affordability sub-indices. Components of sub-indices where scores were extremely low and concerning were as follows:

[52] *Thomas et al 2020a, p,45*
[53] *ibid p,45*
[54] *ibid p,45*
[55] *Roy Morgan single source, March 2020 cited in Thomas et al 2020b, p.1-7*
[56] *ibid*
[57] *Thomas et al 2018, p.18*
[58] *ADII Supplementary Survey, Ali Curung community, 2018; Roy Morgan, April 2017–March 2018, cited in Thomas et al 2018, p.19*
[59] *Thomas et al 2018, p.18*

Access

- Internet technology (ADII 40.5), 38.2 points below the national average; and
- Internet data allowance (ADII 37.2), 17.2 points below the national average.

Affordability

- Relative Expenditure (ADII 39.6), 14.2 points below the national average; and
- Value of Expenditure (ADII 12.1), 48.8 points below the national average.[60]

The very low Access score was due to a high prevalence of reliance on mobile phones for internet use, consistent with over-representation of Aboriginal people as mobile-only users in the ADII data.[61] While 90% of the respondents maintained an internet connection, not one person surveyed had 'fixed broadband despite the local availability of satellite services', and those using mobile phones for connectivity mainly used prepaid mobile phones.[62]

The very low Affordability score (25.8) is consistent with other mobile-only user ADII data, due in part to 'higher pricing and cost structure of mobile data' and expenditure on internet access accounted for a larger portion of household income (2.15%) compared to the national average of 1.17% (2018 figures).[63]

Residents had access to smaller data allowances, due to reliance on prepaid mobiles and were less likely to use the internet daily than the national average. In results that go against the expected trend for people who rely solely on mobile broadband access, residents (52.3) scored above the national average (49.5) on Digital Ability.

This data is also consistent with qualitative findings showing that in very remote areas the internet is important for social connection and accessing information and services. However, residents pay more than people living in urban areas.[64] The survey team concluded that remoteness may act as a barrier to digital inclusion, especially for Access and Affordability.[65]

POPULATION GROUPS EXPERIENCING DIGITAL EXCLUSION

National figures: groups facing digital exclusion and implications for NT

Given the limitations with NT data, it is useful to examine other measures relating to sectors of the population who are facing digital exclusion, as shown in Table 5. Australians with lower levels of income, employment, and education experience greater digital exclusion[66] and given that significant numbers of the NT overall population are represented in many of these groups, it can be assumed that the same issues apply in the NT.

[60] *Thomas et al 2018, p.19*
[61] *ibid*
[62] *Thomas et al 2018, p.19; Rennie et al 2016, p.155*
[63] *Thomas et al 2018, p.19*
[64] *ibid p.18*
[65] *ibid p.6*
[66] *Thomas et al 2020a, p.6*

Table 5: Groups across the Australian population facing digital exclusion [67]

2020 ADII	ADII Score	Points below National Average
Australia	**63.0**	-
Mobile-only	43.7	19.3 below
Household income Q5 (Under $35k)	43.8	19.2 below
Aged 65+	49.7	13.3 below
Less than secondary education	51	12.0 below
Disability	52.6	10.4 below
Household income Q4 ($35-60k)	53.8	9.2 below
Not in labour force	54.3	8.7 below
Indigenous Australians	55.1	7.9 below

Aboriginal people in urban and regional areas

The ADII for Aboriginal people (urban and regional areas) has improved since 2014, and the gap has narrowed between the national ADII average and that for Aboriginal people.[68]

- Despite this improvement, Aboriginal people still face much higher rates of digital exclusion than the overall population and affordability remains a significant issue.[69]
- The Value of Expenditure ADII is much lower than the national average (54.3 vs 67.0) meaning Aboriginal people 'receive less data for each dollar of expenditure' given the higher cost per GB of mobile data.[70]
- The gap in the access score between Aboriginal and non-Aboriginal Australians was 7.8 (68.5 vs 78.3), mainly due to the high rate of mobile-only access, and this gap has increased yearly as an increased number of the overall population have fixed NBN access, which is not experienced at the same rate for Aboriginal people.[71]

Mobile-only users

Over four million Australians access the internet solely through a mobile connection (including smartphones or tablets and internet dongles with a data allowance), meaning that they have no fixed connection.[72]

- Mobile-only users have a very low overall ADII and a very low Affordability score, driven primarily by the 'Value of Expenditure' score of 17.2, which is a staggering 50 points below the national average.[73]
- Aboriginal people have an especially high level of mobile-only use, with 35% of the population surveyed being mobile-only users, compared with 19.9% of the total population.[74] It can be inferred that mobile-only use (and therefore digital exclusion) in remote Aboriginal communities in the NT is also likely to be very high.
- Mobile-only use is linked to socioeconomic factors, with people in the lowest-income households over-represented amongst mobile-only users.[75]
- High rates of mobile-only users are also seen amongst people with disability (31.2%).[76]

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[67] *Thomas et al 2020a, p.6*
[68] *ibid p.19*
[69] *ibid*
[70] *ibid*
[71] *Roy Morgan single source, March 2020 cited in Thomas et al 2020b, p.8; World Vision Australia & the ALNF p. 5*
[72] *Thomas et al 2020a p.7, Thomas et al 2017, p.6*
[73] *Thomas et al 2020a p. 17*
[74] *ibid p.19*
[75] *ibid p.18*
[76] *ibid*

Table 6: ADII Figures for mobile-only users vs National Average[77]

	Mobile-only users	Australian Average
Access	**54.2**	**76.3**
Internet Access	72	87.9
Internet Technology	57.5	82.1
Internet Data Allowance	33	58.7
AFFORDABILITY	**34.9**	**60.9**
Relative Expenditure	52.5	54.7
Value of Expenditure	17.2	67.0
DIGITAL ABILITY	**41.9**	**52.0**
Attitudes	42	50.3
Basic Skills	47.6	59.4
Activities	36.2	46.1
Digital Inclusion Index	**43.7**	**63.0**

Lowest income earners (Lowest Quintile Income Group)

- Lowest income earners have consistently had an overall ADII score 30 points below the highest income households (73.8) over the past six years.
- Affordability is a major concern, with an Affordability ADII of 32.7, roughly half the national figure of 60.9.
- Of most concern is the decline in the figure from 33.2 in 2014, meaning affordability is reducing for the lowest income group with the proportion of household income spent on internet services increasing every year since 2014. [78]

Other groups who face low ADII scores with low affordability a common thread include people with disability; people in rural areas (though the NBN is helping to address this); people not in the labour force; people who did not complete secondary school; older Australians (65+: the most digitally excluded age group); women;[79] people on Centrelink income support payments; social housing tenants; people in rental households; people in retirement homes/aged care; low-income families and single parents living with children; students; homeless people; migrants and asylum seekers; prisoners and mixed adult households.[80]

MOBILE PHONES AND AFFORDABILITY ISSUES

Poverty premiums and mobile phones

Prepaid phones are often the only available option for many people experiencing disadvantage, including those who have a poor credit history or do not have a fixed address.[81] Prepaid services may be seen as a way to limit expenditure, however, people generally end up paying 'much higher effective rates for the same services'.[82] This is illustrated in the Tiwi Islands, where many people are on income support payments and are unable to afford home Wi-Fi, and so rely on mobile data packages.[83] This leads to most people relying on the purchase of small

[77] Roy Morgan Single Source, March 2020, cited in Thomas et al 2020a, p. 17

[78] Thomas et al 2020a, p.6,14,19; Roy Morgan single source, March 2020 cited in Thomas et al 2020b, p.8-14

[79] Thomas et al 2020a, p.18

[80] Ogle & Law 2020, p. 53; Davidson et al 2020, p.9; ACCAN 2016, p.4,11,20; Ogle and Musolino 2016, p.18; Goeury & McMillan, p.23

[81] SACOSS 2015, p. 9

[82] ibid p. 11

[83] Rennie et al 2016, p 155

amounts of prepaid mobile phone credit from the local store, which come with some of the highest call rates.[84] Better value deals for data and phone calls cost more, and require access to the internet and/or a credit card, which act as barriers to access for many residents.[85]

This means that low-income consumers often face a 'poverty premium' which takes the form of 'an extra cost which accrues to someone on a low income precisely because of their poverty'.[86] Poverty premiums can take the form of 'fees and charges that are most likely to apply to those on low incomes, or extra costs because their inability to pay denies them access to things which would save money'.[87]

Poverty premiums in mobile phone plans include:

- regressive supply charges impacting more on low-income earners (which can be explicit or might be hidden in mobile phone plans);
- higher unit costs for small expenditures;
- fees and charges for late payments; and
- 'data limits', 'lock-in contracts' and 'direct debit billing problems'.[88]

Some factors which contribute to poverty premiums such as the use of lock-in contracts and excess data charges are now declining, and as a result, poverty premiums are also declining. For more on this, refer to Appendix D.

'Hidden Disconnections' (limiting or ceasing to use telecommunication services)

The lower levels of data generally included in prepaid mobile plans can have a number of implications including lack of access when credit runs out, and low-income earners are forced to cut back or stop using services.[89] This form of hidden disconnection can occur multiple times to one individual in a relatively short period.

As noted by VCOSS, while access to the internet is as much an essential service as electricity or water, the level of consumer protections against being disconnected provided by electricity or water retailers do not apply to telco retailers.[90] Furthermore, there is no hardship policy associated with prepaid services. NTCOSS supports VCOSS' call for improving consumer protections for people struggling to meet the costs of their telecommunications service.

In remote communities where satellite broadband services are available, there is a clear preference for prepaid mobile broadband.[91] Coupled with practical difficulties associated with satellite internet connections, households are more likely to forgo internet than take up satellite internet contracts.[92]

Inherent unfairness: fewer services for low-income households

Higher income households have more capacity to spend more of their income on devices and platforms which SACOSS argues creates an 'inherent unfairness'.[93] While low-income households generally spend a greater proportion of income on other utilities compared to higher income earners, they get the same generic product, but this is not the case with telecommunications. Low-income households spend more on services than

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[84] *Smith 2021*
[85] *ibid*
[86] *ibid p. 9-11*
[87] *Ogle & Musolino, 2016, p.37*
[88] *SACOSS, 2015 cited in Ogle and Musolino, p.36-37; Ogle and Musolino 2016, p.36-37*
[89] *Ogle & Musolino 2016, p. 15,36*
[90] *VCOSS 2021, p.17*
[91] *Rennie et al 2016, p. 180*
[92] *ibid*
[93] *SACOSS 2013, p.5*

equipment meaning they use 'cheaper, lower quality equipment' and and spend less overall on telecommunications, resulting in access to fewer services.[94]

RESIDENTIAL FINANCIAL HARDSHIP CUSTOMERS

The number of telecommunication customers requiring assistance from a telco hardship program provides an indicator of the level of financial stress related to telecommunications expenditure.[95] In 2019/20, 19,671 residential customers entered into a financial hardship arrangement (17,000 fewer than 2018/19) across Australia, with mobile-only users making up 83% of these. 52% of entrants occurred from March to June 2020 at the start of the COVID-19 pandemic period, and under half of the customers exited the hardship arrangements successfully, though this rate improved during the COVID-19 period.[96]

The large drop in numbers from 2018-19 and 2019-20 was most likely due to additional initiatives put in place by telcos on top of existing financial hardship policies, as well as a set of principles agreed to by the Federal Government and the telco industry for the COVID-19 pandemic period.[97] At 30 June 2020 there were 9593 people in hardship nationally, up 647 on the previous year.[98]

State/Territory comparison of residential customers in hardship with their telco

2019/20 state/territory data on the proportion of residential customers in hardship[99] reveals that most jurisdictions generally saw the proportion of customers in financial hardship reduce from July 2019 to February 2020, prior to the COVID-19 pandemic, with the proportion increasing from March-June (post COVID-19).[100] The NT did not follow this national trend, however.[101]

Data for the NT showed a broad increase from December 2019 and remained at a higher level throughout the reporting period until the end of June 2020.[102] At the end of June 2020 the NT had one of the highest rates of post-paid customers in financial hardship arrangements with their telco.[103] This compares with the NT having the third lowest rate as of June 2019.[104] The NT data, however, should be interpreted with caution due to the small numbers, meaning they are subject to high variation.[105]

Table 7: Telco residential financial hardship customers per 10,000 customers by state/territory 2019-20[106]

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	AUST
Jul-19	4.86	5.96	5.2	7.18	6.74	4.23	5.92	5.72	6.17
Jun-20	5.63	8.02	8.39	6.65	6.98	5.2	8.74	6.51	7.64

[94] Ogle 2017, p.5
[95] The data published by the Australian Communications and Media Authority (ACMA) for 2019/20 is based on that provided by nine major telcos, meaning the data does not reflect all post-paid services
[96] ACMA 2021a, Residential Tab, p. 9; Calculations of average debt, by NTCOSS, derived from ACMA 2021a, Residential Tab p.1, 5
[97] ACMA 2021c
[98] ACMA 2021a, Residential Tab, p. 1
[99] Per 10,000 customers of those telcos included in the 2019/20 report
[100] ACMA 2021a, Residential Tab, p. 2
[101] Ibid
[102] ibid
[103] *ACMA 2021b*
[104] *ACMA 2020*
[105] *ACMA 2021a, Residential Tab, p. 2*
[106] ACMA 2021b, Taken from Figure 5: Telco residential financial hardship customers, proportion of total customers by state

TELECOMMUNICATIONS MARKET ATTEMPTS TO ADDRESS NEEDS OF PEOPLE ON LOW INCOMES

ACCAN has previously aired concerns over the cost of services[107], but progress has occurred over the last couple of years in terms of the provision of more affordable lower cost plans. Market developments have seen increases in the range of plans available, with more options available at different price points and increased data limits. A number of these changes have improved outcomes for low-income consumers, including 'a continued fall in prices, in real (inflation adjusted) terms; increased data inclusions; similar pricing for prepaid and post-paid plans (at the lower data inclusion level) and the availability of data-free content'.[108]

Increased data and call inclusions

There have been significant increases in data and call inclusions for prepaid mobile plans over recent years, with most prepaid plans now having unlimited calls and text.[109] BCAR stated that while these developments have largely 'been positive for most consumers', they will not necessarily improve affordability for low-income groups.[110] In part, this may be because not all products are available in all locations across the country.

Prices for NBN fixed-line services have also fallen, but this has not necessarily led to an increase in uptake of these services by lower income households. NBN fixed-line services could become more attractive to lower income households over time as services offered by nbn™ and NBN retailers further develop.[111]

Increased choices but still fewer choices for prepaid mobile users

There have been increases in choice of data plans for prepaid customers, but post-paid customers still have more choices[112], with more than twice the number of plan options under 45 GB. However, prepaid mobile users can 'recharge data at more frequent intervals than their monthly expiry' if they can afford to buy more data.[113]

What consumers pay for a low-cost mobile phone plan?

BCAR assessed the basic data needs of an individual internet user to be 10 GB per month and at this data level plans were available for $35 per month or less, for both prepaid and post-paid plans.[114] For lower inclusions of 1 to 2 GB per month, plans were available for $10 per month for both prepaid and post-paid plans (though double the number of options were available for post-paid plans).[115] For 10 to 20 GB per month, which is enough data for 'a student with high volumes of lecture streaming', fewer prepaid plans were available.[116]

Geographic location as a factor in the price of data

While mobile phone carriers 'apply nationally consistent pricing', the range of products on offer varies across locations due to differences in the coverage of both mobile and mobile virtual network operators, with impacts on choice and affordability, especially for people in regional and remote areas.[117] In some regional areas, where

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[107] *ACCAN 2019c, p.2*
[108] *BCAR 2020, p.18*
[109] *BCAR 2020, p. 22; BCAR, 2017, p. 22*
[110] *BCAR 2020, p.18*
[111] *ibid p.19*
[112] *BCAR 2017, cited in BCAR 2020, p. 22*
[113] *BCAR 2020, p. 22*
[114] *ibid p.23*
[115] *ibid*
[116] *ibid*
[117] *BCAR 2017, cited in BCAR 2020, p.25*

there is only one provider, it means less or no choice, which may mean consumers might pay a premium in certain situations.[118] This is evident in the lower ADII scores in country areas.[119]

Developments in provision of free/unmetered data without impacting monthly data allowances

For regional NBN SkyMuster Plus™ customers, some essential services such as banking are now unmetered to allow continued access, regardless of data.[120] Telstra plans now provide unmetered IP addresses for some educational institutions and resources.[121]

EXPENDITURE PATTERNS OF LOW-INCOME HOUSEHOLDS

Australia's poorest households (those in the bottom 10%) are paying 8.3% of their disposable income on telecommunications, more than double the national household average of 3.3%.[122] The proportion of households considered as 'low income, low spending' has remained at between 0.8% and 0.9% since 2010. The proportion of, 'low income, high spending' households, however, has risen from 6.2% to 6.7% between 2015 and 2017.[123]

At the end of 2020, nbn™ agreed to reduce the price of its entry-level access bundle for 12/1 Mbps (following a recommendation from the ACCC).[124] However, ACCAN is concerned this is 'not an adequate entry-level option for most consumers', as the speed is inadequate for most people working or studying from home.

ACCAN is concerned that the new pricing structure will further disadvantage families who require higher speeds, but cannot afford them.[125] ACCAN subsequently proposed that the NBN adopt a speed of 50 Mbps, to support essential activities of households.[126]

Low-income households may benefit from the inclusion of more unmetered essential activities in their plans, and BCAR expects that 'a highly competitive mobile sector is likely to support ongoing access to affordable mobile services with growing data allowances'.[127]

TELECOMMUNICATIONS IN REMOTE NT: RECENT DEVELOPMENTS AND ONGOING CHALLENGES

There are over 400 remote communities and homelands throughout the NT, which presents an enormous challenge in terms of ensuring digital inclusion.[128]

Phone access for Aboriginal households in remote areas

- In 2016, only 78 (20%) Homelands/Outstations had mobile phone network access[129]
- In 2016, around one quarter of Homelands/Outstations did not have access to either a payphone or community phone:

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[118] *BCAR 2020, p.25*
[119] *Thomas et al 2020a, p.6*
[120] *Fletcher (Min. for Comm. & the Arts) & Coulton (Min. for Reg Services, Decentralisation & Local Gov) 2019, cited in BCAR 2020, p. 24*
[121] *Isolated Children's Parents' Association of Australia 2016 cited in BCAR 2020, p. 24*
[122] *BCAR 2020, p.6*
[123] *BCAR 2020, p. 26;* 'Low income, high spending households' are defined as those households with household income that is less than half of the median and telecommunications expenditure, as a share of income at more than three times the median. 'Low income, low spending households' are defined as those households with household income that is less than half of the median and telecommunications expenditure as a share of income at less than half the median
[124] *ACCAN 2020a, p.1*
[125] *ibid*
[126] *ACCAN 2021*
[127] *BCAR 2020, p. 26*
[128] *ACCAN 2020b, p. 29*
[129] *CfAT 2016, cited in ACCAN 2020b, p.72*

- 76% (305) of 401 Homelands/Outstations surveyed in the NT had access to a public phone, and of these phones, 274 (90%) were working at the time;
- only 197 (72%) of the phones were reported as being reliable; and
- 49 (18%) were subject to 'minor disruptions to service.' [130]

Tangentyere Council has highlighted the importance of maintaining access and availability of fixed-line phone services and public phone boxes in remote and Town Camp localities, as they are essential for contacting essential services, 'maintaining social connectedness including cultural and family ties and to ensure safety and wellbeing, especially in the case of an emergency.' [131]

Concerns exist in remote areas around the 'long delays in phone connections and maintenance, as well as regular outages of public phones' and the unreliability of payphones which are the only option for communication for some people. [132] ACCAN has highlighted that 'an upgrade plan is needed to replace ageing telephony infrastructure and High Capacity Radio Concentrator microwave networks in many regions 'to ensure ongoing reliability and availability of phone lines'.[133] This is especially the case in sites with no mobile coverage or fibre backhaul.[134]

Internet services for households in remote areas

In 2016, only 37% of the Homelands/Outstations surveyed by CfAT had internet coverage, and for 112 (80%) of these sites, the internet was only accessible at one house.[135]

Access to satellite internet services for Aboriginal households in remote areas

While the Federal Government has focused on satellite internet to meet the need for internet in very remote areas, it is uncertain whether this response will be sufficient.[136] Navigation and management of ISPs' billing mechanisms and the application process for satellite services present significant obstacles to internet services.[137] Issues include lack of access to telephones; confusing application processes; and 'relatively uninformed perceptions of remote community circumstances' within services.[138]

More flexible and user-friendly arrangements and administrative processes for satellite internet are required, particularly in the application, installation, and billing processes.[139] In addition, there is a need for payment flexibility, noting the consumer preference in remote areas for prepaid billing and a system allowing prepayment in advance for data allowances may be of benefit.[140]

Where satellite internet is the only option and post-paid billing is not feasible, intermediary organisations or externally maintained, commercial Wi-Fi services could provide home internet.[141] There have also been calls for

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[130] *ibid p. 74*
[131] *Tangentyere Council 2020, cited in ACCAN 2020b, p.78*
[132] *ACCAN 2020b, p. 92*
[133] In the 1990s HCRC networks were installed as a replacement for older radio equipment. By late 2018, they were still providing around 14,000 individual services to approximately 6,400 premises in remote areas, cited in Regional Technical Hub 2021
[134] *ACCAN 2020b, p. 92*
[135] *CfAT 2016, cited in ACCAN 2020b, p. 72-73*
[136] *Rennie et al 2016, p. 180*
[137] *ibid p. 181*
[138] *ibid p.170*
[139] *Rennie et al 2016, p.181*
[140] *ibid p184*
[141] *ibid p.180*

the nbn™ to extend its fibre and wireless structure in remote and regional areas currently serviced by satellite, to reduce congestion on Sky Muster in locations with high data usage.[142]

Access to broadband services for Aboriginal households in remote areas

Remote telecommunications infrastructure co-investment programs have delivered mobile telephone and broadband services to about 23,000 residents in 45 remote communities since 2007.[143] In recent years, mobile phone and/or broadband services were delivered to 18 remote NT communities as part of the 2015-2018 NT Government/Telstra agreement project.[144] Over 20,000 Territorians now have access to mobile and broadband communications as a result of these developments.[145] However, ACCAN has suggested that with increasing unit costs, it is unlikely that further co-investment programs will take place.[146]

The Federal Government has committed $220 million in a Stronger Regional Digital Connectivity Package[147], with the aim to 'improve access to mobile and/or broadband services in Eligible Areas of high economic, social, or public safety significance'.[148]

In addition, while policy objectives to improve internet quality are 'desirable for services and businesses in remote Australia', they 'will not encourage residents of remote communities to adopt broadband'.[149] The NBN will ensure a more capable internet source on outstations, however there is no single infrastructure 'fix' for the digital divide in remote Australia.[150]

Access to internet through the NBN Sky Muster[151] satellite footprint

nbn™ has developed the PIP policy to enable schools, emergency services, Aboriginal organisations, Government services and health facilities in the Sky Muster footprint to access additional data up to 300 GB per month, and currently this extends to around 100 Aboriginal communities.[152] The Central Australian Youth Link Up Service (CAYLUS) reported that only 150 GB per month is usable and all data is metered, as opposed to Skymuster Plus, where only some data is metered.[153] Increased data may be required to meet demand, with monthly download limits not sufficient in some communities. Upgrading PIP satellite services to Skymuster Plus would address this need.[154] During the COVID crisis, nbn™ upgraded domestic customers to Skymuster Plus for no extra charge, however did not extend this to PIP plans.[155]

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[142] *ACCAN 2020b, p. 92*
[143] *ibid p.30*
[144] *ibid*
[145] *Correspondence from NT DCIS cited in ACCAN 2020b, p. 30*
[146] *ACCAN 2020b, p.30*
[147] As part of the response to the 2018 Regional Telecommunications Review
[148] *ACCAN 2020b, p.19*
[149] *Rennie et al 2016, p.20*
[150] *ibid p. 37*
[151] The Sky Muster satellites launched in 2015 and 2016 by nbn™, to provide fast broadband in areas without fibre or sufficient wireless antennas
[152] *ACCAN 2020b, p.35*
[153] *CAYLUS 2021*
[154] *ACCAN 2020b, p.35*
[155] *CAYLUS 2021*

CAYLUS argues that upgrades to PIP satellite services would make them more affordable and 'reduce data issues'.[156] CAYLUS has also recommended upgrading existing NT library satellite Wi-Fi hotspots to Sky Muster Plus, allowing them to take advantage of additional unmetered data and extra download capacity. [157]

There are some user pays hotspot sites in remote areas which allow for the purchase of data via a prepaid voucher system.[158] Significant concerns, however, have been raised about the cost of vouchers for some of these hotspot sites, with reports of users collectively paying as much as $1500 per month to use a service that should only cost $90 per month for 150 GB of data.[159] CAYLUS highlighted issues with people using their daily free data limit per device, with no access again until the next day.[160] Given that devices are often shared between people, free daily limits could be rapidly used up, meaning lack of access to essential services. CAYLUS has called for more regulation of the rates of vouchers. [161]

Mobile Black Spot Program

The Federal Government has invested heavily in telecommunications infrastructure for the MBSP to improve mobile coverage and competition across Australia. As a result, a number of remote areas in the NT have benefited.[162] There are a number of challenges in remote areas, as many proposed sites required 'enabling infrastructure such as backhaul and transmission networks' meaning 'it is often cost prohibitive to provide the connectivity and backhaul to upgrade to newer technologies'.[163]

Where infrastructure such as fibre and radio systems do exist, improvements are often not possible without costly upgrades of the supporting transmission equipment.[164] ACCAN has argued that Wi-Fi Mesh[165] services should be rolled out in those communities that do not meet eligibility for the MBSP or Community Phones Program, which are generally sites with populations between 50 and 250 people.[166]

Rates of internet access for First Nations households: national and NT Figures

In a comparison of households in capital city areas regarding internet access, Darwin's Aboriginal households had the lowest access to the internet compared with Aboriginal households in other capital cities while 'Other Households' in Darwin rated third highest compared with other capitals. As a result, Darwin had the greatest gap out of all capital cities in terms of internet access for Aboriginal households compared with other households.[167]

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[156] *ACCAN 2020b, p.35; CAYLUS cited in ACCAN 2020b, p. 84*
[157] *CAYLUS cited in ACCAN 2020b, p.93; CAYLUS 2021*
[158] *CAYLUS 2021*
[159] *CAYLUS cited in ACCAN 2020b, p.84*
[160] *CAYLUS 2021*
[161] *CAYLUS 2021; ACCAN 2020b, p.84*
[162] *ACCAN 2020b, p.17*
[163] *ibid p.76-77*
[164] *ibid p.77*
[165] Two or more router-like devices that work together to provide internet services for multiple households
[166] *ACCAN 2020b, p. 92*
[167] *Radoll and Hunter 2018 cited in World Vision Australia & the ALNF 2021, p.7*

Table 8: Internet access (%) by First Nations household status and capital city* 2016[168]

Capital City	First Nations household	Other households	Digital divide
Sydney-Wollongong*	82.3	88.1	5.8
Melbourne	85.4	87.9	2.5
Brisbane	84.6	88.5	3.9
Adelaide	77.0	83.3	6.2
Perth	79.4	89.0	9.5
Tasmania*	78.8	80.1	1.3
Darwin	74.4	88.9	14.5
Australian Capital Territory*	88.1	91.9	3.8
Total Australia	**75.3**	**85.8**	**10.5**

**Note: Wollongong is included in the Sydney figures and figures are provided for Tasmania rather than Hobart*

Six other regions in the NT were surveyed along with Darwin as part of a total of 37 regions across the country, as shown in Table 9.

Table 9: Internet access (%) by First Nations household status and regional area of the NT 2016[169]

Regional Area	First Nations household	Other households	Digital divide
Darwin	74.4	88.9	14.5
Alice Springs	63.2	87.8	24.7
Apatula	27.5	78.2	50.7
Jabiru-Tiwi	53.2	81.6	28.4
Katherine	47.8	83.9	36.0
Nhulunbuy	55.7	90.5	34.8
Tennant Creek	45.5	83.8	38.3
Total Australia	**75.3**	**85.8**	**10.5**

The highest rate of digital divide was found in the NT community of Apatula, where only 27.5% of Aboriginal households had internet access, representing a difference of 50.7% compared with other households in that community. Nhulunbuy also had a high digital divide figure[170], with the NT having four of the highest six digital divide figures of all the regions surveyed. In each of the NT regions, access by Aboriginal households was lower than the average access for Aboriginal households across the country.[171]

2020 REVIEW OF DIGITAL INCLUSION ACROSS REMOTE NT

In 2020, ACCAN undertook a review of programs that support telecommunications and internet access in 'remote Indigenous communities' (RICs), and the gaps or outstanding needs that community stakeholders identified.[172]

The RIC Review identified significant improvements over recent years in communications infrastructure and access by remote Aboriginal people and communities due to federal/state/territory governments and telecommunications providers and other agencies addressing digital inclusion. The NT Government and Telstra have partnered on several initiatives since 2007. The NT Government initially prioritised ensuring mobile coverage to 'larger communities of over 2-300 people and where there was existing fibre backhaul', and is now

[168] *ibid*
[169] *ibid*
[170] *ibid*
[171] *ibid*
[172] *ACCAN 2020b, p.29*

'seeking low-cost solutions to connect smaller communities'.[173] As a result of a number of investments, more than an additional 20,000 people in the NT have access to mobile and broadband communications, however 'due to unit costs getting too high', the current co-investment program is likely to be the last. [174.]

Recent developments over the past year include free-of-charge payphones in remote communities to assist efforts to stop the spread of COVID-19 and provision of funding for Wi-Fi in all Town Camps in Alice Springs. As a result of these and other initiatives, significant improvements in telecommunications coverage and access have occurred[175], substantially improving connectivity in remote areas of the NT. For further information on recent initiatives expanding digital inclusion in remote areas of the NT, refer to Appendix E.

Gaps in Remote Areas still remain

Despite these recent improvements, significant gaps remain in terms of 'access and usage of communications technologies' due to issues of affordability; lack of last mile delivery or community access facilities; issues with speed, service reliability and congestion (including with ADSL); and barriers to engaging with online services.[176]

In 2018 in the NT, there were 21 remote communities with no mobile phone service, 33 with no fixed internet service (ADSL) and 37 connected to the NBN via unreliable or unsuitable satellite services.[177] The following figures show that the more remote a location is, the lower the rate of online access:

Table 10: 2016 census data on percentage of population groups accessing internet[178]

All Australians	ATSI people	ATSI people Major Centres	ATSI people Remote Areas	ATSI people Very Remote Areas
85.8%	75.3%	82.8%	61.3%	49.9%

In 2021 there are still around 25,000 people in the NT 'without internet or mobile access where they live (excluding satellite services)' limiting access to social and economic benefits of digital technology.[179]

Market Model Options have largely been exhausted in remote areas. ACCAN concludes that 'the opportunities for expanded coverage and services provided by mainstream programs dependent on a market model with industry co-investment, such as the MBSP, have now been largely exhausted' for remote Aboriginal communities 'due to market failure owing to remoteness, sparse populations and lack of terrestrial [180] backhaul infrastructure'.[181] ACCAN argues that a 'safety net approach is now needed to ensure a next-level digital divide is not set up between larger and smaller communities', or between service providers and Aboriginal households within communities.[182]

ACCAN noted that some communities choose to 'not accept infrastructure due to concerns around cyber-safety, potential impacts on cultural and social cohesion, and ongoing costs of services and equipment maintenance'.[183]

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[173] *ibid p.29*
[174] *Correspondence from NT DCIS cited in ACCAN 2020b, p. 30*
[175] *ACCAN 2020b, p. 94*
[176] *ibid p. 69,92,94*
[177] *NTG 2018, NT Government's submission to the 2018 RTR cited in ACCAN 2020b, p. 29*
[178] *2016 ABS figures cited in ACCAN 2020b, p. 66*
[179] *NT Government 2021a*
[180] Terrestrial Fixed Wireless technology enables wireless broadband service to a specific geographic location using a spectrum that is shared among Internet service providers
[181] *ACCAN, 2020b, p.29*
[182] *ibid p.29*
[183] *ibid p.9-10*

SNAPSHOTS OF REGIONS/POPULATION GROUPS IN THE NT

The following provides a current snapshot of some of the specific gaps and issues facing various regions/population groups in the NT.

Alice Springs Town Camps

In 2018, Tangentyere Council outlined four key areas of need for infrastructure and resourcing in Town Camps, which were lack of reliable phone boxes and mobile phone reception; limited internet connectivity; a need for hardware/software in access centres and a need for digital mentors to deliver training and support in community centres. [184]

By 2021, 12 Town Camps (out of 17) had physical access to FTTN or FTTP connection and five camps relied on satellite internet[185], but satellite internet in use at five Town Camps was 'unsuited to large numbers of users' and was 'prone to fail when multiple people tried to log on at the same time'. [186] One Town Camp still relies on ADSL access.

Where FTTN is available in Town Camps, many residents cannot afford the cost of connection to their houses, with prices even higher for those who only have access to satellite internet. To reach speeds up to 50 Mbps, a basic package for a FTTN connection costs around $60 a month and includes unlimited downloads. For those on a satellite connection the entry price is $75 a month, capped at 100 GB of downloads.

Funding has been provided to Tangentyere Council through the NT Government and Commonwealth 'to deploy free, filtered Wi-Fi for the benefit of the Town Camps', with 'equipment deployed to all of the Town Camps' and being hosted by the Community Centre or to the house of the President of the Town Camp Association/Aboriginal Corporation. The Wi-Fi signal is broadcast to a hotspot that is accessible by devices including smartphones, which can be used to access the internet or to make free Wi-Fi calls. The intent is to eventually 'extend the range of hotspots on the Town Camps'.[187]

Utopia Homelands

The Utopia region has 16 dispersed homelands, which are near to the larger communities of Arlparra and Ampilatwatja, both of which have had mobile coverage for the last few years. Despite several small schools and stores, most of the homelands have little or no mobile coverage and only a few homelands are 'close enough to the larger communities to receive marginal mobile coverage'.[188]

Advocacy by CAYLUS, the CLC and the regional council has resulted in the 'Communities in Isolation' Wi-Fi project (NBN installation). This project involves providing free Wi-Fi services at the schools, enabling home schooling in five of the Utopia homelands, a public 4G Wi-Fi hotspot in a youth centre and a free hotspot being installed in a homeland.[189]

[184] *Tangentyere Council presentation at Indigenous Focus Day 2018, cited in ACCAN 2020b, p.79*
[185] *Kennedy 2020, cited in ACCAN 2020b, p.80*
[186] *McFarlane, cited in Kennedy 2020*
[187] *Tangentyere Council 2021*
[188] *ACCAN 2020b, p.74,80-81*
[189] *ibid*

East and West Arnhem Regions

Most larger communities in the region have mobile coverage, but congestion is common during peak periods and there is limited phone reception outside of major centres, including black spots for mobile service on roads between major centres.

Most smaller communities and homelands rely on satellite services for communications, but heavy cloud cover and rain can lead to outages in these sites. Weather contributes to regular telecommunications outages across the whole region, some involving no telephone (including landlines) or internet to whole communities for several days or longer, which impacts people's access to money, ability to monitor or buy electricity, purchase food or access health records. Weather conditions also impact access to television for essential news and information, and the ability to deal with emergencies. The outages can also contribute to community unrest. Mobile services outages can also occur in the dry.

Batteries in mobile towers in some communities have been upgraded by Telstra 'to extend back-up power from 2 hours to 12 hours', which is needed in all communities in the region.[190] Some communities are on the 3G network, with very weak signals, and all communities require upgrades to 4G and network infrastructure to address congestion issues. Households in some communities have difficulties getting internet at home, and there are issues with public phones not working in Homelands across the region.[191] There is a lack of maintenance of emergency landline phones, set top boxes and satellite dishes, and significant system upgrades are required to increase capacity for effective and reliable mobile and internet connectivity.

nbn™ has trialled the provision of free Public Wi-Fi in one community.

Additional resources required to address impact of weather conditions

Services such as NBN satellite, Wi-Fi and satellite small cell mobile services are all generally reliant on a community's power supply, but voltage fluctuations and blackouts are common in the NT, meaning that backup batteries and/or solar power cells may be required to ensure that reliable services can be provided.[192]

In addition, given that communities across the Top End can be cut off for up to five months each year due to monsoonal weather conditions, increased terrestrial broadband rollout (via fibre optic or microwave) is required as satellite equipment is prone to damage and rain fade. [193] This would ensure that reliable communications can be maintained when storms or cyclones occur, so that emergency information can be communicated via internet, radio, or TV. [194]

IMPROVING AFFORDABILITY OF INTERNET SERVICES NATIONALLY

The structure and features of the telecommunication products and services most used by low-income consumers need to be examined and reformed. It is critical that these services are designed to meet the affordability needs of low-income consumers, with reforms required to address the impacts of payment plans and billing practices and available data levels.

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[190] *ACCAN 2020b, p. 82*
[191] *PAW Media cited in ACCAN 2020b, p.83*
[192] *ACCAN 2020b, p 92*
[193] *ibid*
[194] *ibid*

ACCAN has consistently argued for the need for affordable home broadband options for consumers, given that it is unaffordable for many households.[195] SACOSS and ACCAN have argued for low-cost plans with more data and 'products and plans' which 'provide adequate data at the same per unit price that applies in higher cost plans.'[196]

ACCAN argues for 'the delivery of an affordable, concessional, home broadband service for households on limited incomes',[197] including Centrelink income support recipients and families receiving the full rate of Family Tax Benefit Part A.[198] Specifically, ACCAN advocates for a 50 Mbps unlimited broadband service at a wholesale price of $20 per month to households receiving government financial support. Eligible households would pay approximately $30 per month for unlimited broadband, almost halving the current average cost. However, this would require the Federal Government to provide a contribution (i.e. concession) of around $10-$20 per month.[199] Such an initiative stands to benefit all low-income consumers, and would particularly assist low-income consumers in remote areas if the concession is easily accessible.

The Australian Digital Inclusion Alliance (ADIA)[200] proposed initiatives to address affordability of internet services and devices, including assessing which affordability measures implemented during the COVID-19 response can be retained, such as efforts to support low-income and vulnerable populations to access devices and identifying and funding free Wi-Fi access in public locations.[201]

SPECIFIC STRATEGIES FOR IMPROVING INTERNET AND MOBILE PHONE ACCESS ACROSS REMOTE NT

Very few people living in remote communities have the necessary infrastructure or support in place for home schooling or to work from home, access Centrelink, or to access other basic services such as online banking services, health, training, justice or licensing.[202] Where mobile and Wi-Fi services do exist, due to the increased demand, they are over-subscribed, and many are not affordable.[203]

To ensure affordable and reliable access to services and given local variables for each community, targeted and place-based solutions developed in consultation with Aboriginal communities and community organisations are required. Key strategies include:

- last mile access and community access facilities[204];
- free/unmetered access to government and key online services[205];
- increased broadband speeds and data limits for shared Wi-Fi services[206];
- timely technical support[207], including equal priority of service to be given to residents of unserviced Homelands and Outstations[208];
- Update IT systems to address congestion issues[209];

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[195] *ACCAN 2019b, p.1-2*
[196] *Ogle and Musolino 2016, p.53*
[197] *ACCAN 2020c*
[198] *ACCAN 2021*
[199] *ACCAN 2019a, 2021*
[200] An initiative of more than '400 business, government, academic and community organisations working together to accelerate action on digital inclusion'
[201] *ADIA 2020, p.8*
[202] *ACCAN 2020b, P.94*
[203] *ibid p.94-95*
[204] *ACCAN 2020b, p.94*
[205] *ACCAN 2020b, p.10,95; First Nations Media cited in ACCAN 2020b, p.75*
[206] *ACCAN 2020b, p.10*
[207] *ibid p.94*
[208] *CfAT cited in ACCAN 2020b, p.74*
[209] *ACCAN 2020b, p.94*

- effective delivery of telehealth, online education, court hearings etc.[210];
- improved accessibility of online services for people with limited English, text literacy or disabilities[211];
- improved cultural and contextual awareness of service providers working with remote communities[212];
- prioritised rollout of broadband and mobile coverage to communities with limited access[213];
- monitoring of prices of prepaid mobile services, Wi-Fi vouchers and power cards[214];
- prioritised rollout of the Federal Government's MBSP to remote Aboriginal communities[215]; and
- development of a 'First Nations Digital Inclusion Strategy' in consultation with Aboriginal communities and Aboriginal Education Consultative Groups, to ensure all Aboriginal students have access to digital tools and resources.[216]

In addition to the above, the 2018 Regional Telecommunications Review (RTR) called for a targeted digital inclusion program with a focus on access, affordability and digital ability, developed in partnership with Aboriginal communities[217] with the following critical components:

- local ownership, building upon the capacity of existing organisations, infrastructure and programs to avoid duplication;
- data collection to measure the availability of broadband for remote community residents 'in terms of access, availability, affordability and digital literacy';
- consideration of affordability and suitability of services for Aboriginal communities, e.g., community Wi-Fi;
- inclusion of a digital literacy program, which is developed to be culturally and linguistically appropriate for remote community members;
- a 'strategic place-based approach to guide future telecommunications investments', to 'give effect to local and national goals, through targeted investment in telecommunications infrastructure that is specifically suited and tailored to the particular requirements of each region'; and
- funding and support to enable communities to build the capacity and engage support to develop these plans.[218]

FURTHER POLICY DEVELOPMENTS

There are a number of federal and NT policy developments with implications for digital inclusion in the NT, including the Closing the Gap framework; the NT Government Aboriginal Affairs Strategy 2019-29 ('Everyone Together'); and the NT Government Digital Territory Strategy.

Despite Federal Government commitment to developing an 'Indigenous Digital Inclusion Plan', ACCAN argues that little progress is evident , with federal expenditure now much lower than it was a decade ago. [219] The Federal Government recently announced that digital inclusion will become part of an Access to Information target outcome of the National Agreement on Closing the Gap.[220] Such shifts in policy should provide the incentive for government investment in measuring and tracking digital inclusion of Aboriginal people living in remote

[210] *ACCAN 2020b, p.10*
[211] *CfAT cited in ACCAN 2020b, p.74*
[212] *ACCAN 2020b, p.94*
[213] *First Nations Media Australia, cited in ACCAN 2020b, p.75*
[214] *CLC cited in ACCAN 2020b, p.81*
[215] *World Vision Australia & the ALNF 2021, p.14*
[216] *ibid p.14*
[217] *ACCAN 2020b, p. 95*
[218] *ibid p.77-78*
[219] *ibid p. 10*
[220] *Thomas et al 2020a, p.19*

communities, and to implement the RTR recommendation to establish a 'targeted place-based program to address the obstacles.'[221]

The ADIA highlighted the fragmented and lack of a whole of government approach to 65 of the most prominent programs in place to address digital exclusion. It is hoped that the establishment of a Digital Inclusion Working Group by the Australian Data and Digital Council will help improve coordination between federal and state/territory initiatives.

GAPS IN DATA FOR THE NORTHERN TERRITORY

Data is crucial for understanding the level and location of gaps and needs. Data is also crucial in providing a benchmark for measuring progress in improving telecommunications access and services in the NT, which is critical to the lives and wellbeing of all Territorians.

As highlighted throughout this report, there are significant data gaps in the NT. There is a need for ongoing collection of data on telecommunications infrastructure in remote communities, as well as basic consumer information on expenditure, device preferences and sharing behaviours. Important in this is 'understanding the social and cultural aspects of life in remote communities', which will help in understanding the nature of digital exclusion in the NT.[222]

It is understood that remoteness and socioeconomic disadvantage 'pose distinct challenges for digital inclusion'[223], however more research is required to better understand, measure and track the 'level and nature of digital inequality' experienced by Aboriginal people and remote communities.[224] For example, while Tangentyere Council reported on affordability of mobile phone usage in Town Camps in 2007, NTCOSS is not aware of more recent research data measuring the proportion of income spent on mobile phones by low-income Aboriginal people in Central Australia.

Rennie et al highlight that sample surveys of internet use in Australia have bypassed remote Aboriginal communities due to the obstacles posed by lack of landlines (generally used to administer surveys), as well as language and cultural barriers, exposing another data gap in the NT.[225] It is significant therefore that future releases of the ADII will aim to address this gap with Telstra investment in extending remote data collection.[226] In addition, following a review by the ADII research team, in 2021 a refreshed Index using a new data set and methodology will be introduced as well as 'a digital tool owned and controlled by the ADII Research Team, available to allow communities to measure their own digital inclusion'.[227]

The Federal Government's recent announcement of the Access to Information target outcome of the National Agreement on Closing the Gap provides another opportunity for a coordinated approach to data collection nationally in order 'to measure digital inclusion – access, affordability and digital ability - in remote Australia and monitor progress annually'.[228]

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[221] *ACCAN 2020b, p. 10*
[222] *Rennie et al 2016, p.183-184*
[223] *Thomas et al 2020a, p.19*
[224] *Thomas et al 2017, p.6*
[225] *Rennie et al 2016, p.54*
[226] *ACCAN 2020b, p.68*
[227] *ADII 2021*
[228] *ACCAN 2020b, p.95*

A lack of 'reliable integrated data collection to monitor remote communications infrastructure and identify the gaps in access' has also been noted as a critical issue.[229] A comprehensive report on telecommunications in remote Aboriginal communities had been produced by ACMA, however this has not been updated since 2008 and can longer be accessed online.[230] A regularly updated version of this report would help to track recent activities from government and telecommunications providers, along with identification of gaps.[231]

OTHER FACTORS IMPACTING ON TELECOMMUNICATIONS AFFORDABILITY

While outside the direct scope of this report it is important to acknowledge that significant reform is needed in other areas such as access to affordable housing, affordable electricity and adequate income support, to address telecommunications affordability and access issues.

Issues of electricity supply

Electricity supply also impacts on telecommunications in remote areas, with concerns raised regarding the reliance on prepaid electricity in communities and Town Camps. Where electricity is not available, Wi-Fi will not work.[232]

In previous Cost of Living Reports, NTCOSS underlined the significant issues related to involuntary self-disconnections for households reliant on electricity prepayment meters (PPMs) in both urban and remote areas.[233] There are currently around 2074 dwellings in urban areas and around 4776 dwellings in remote communities using PPMs.[234]

Data from 2019/20 for PPMs in urban areas showed that 72% of all PPM dwellings had at least one involuntary self-disconnection over the 12-month period, but on average each of the dwellings had 30 disconnections per annum. Dwellings in Alice Springs had the highest incidence of around 55 involuntary self-disconnections per dwelling, for an average incident duration of 6 hours and 42 minutes, and a combined duration of approximately 15 days per annum.[235] It can be assumed that remote dwellings with PPMs would face similar disconnection issues.[236]

Being disconnected from electricity significantly impacts the ability of household members to charge telecommunications devices and to access community Wi-Fi. The impact of lack of constant electricity supply on the use of the controversial Cashless Debit Card, is another issue, with its reliance on internet access.[237]

CAYLUS proposed the following measures to help mitigate the risks of non-constant electricity:

- free, stable and reliable content filtered Wi-Fi internet, including generous daily data limits; community input into hours of operation; and community control of access to problematic sites;
- support for remote community computer rooms - with staff support and maintenance of equipment; and
- community phone boxes continue to be provided.[238]

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[229] *ibid p.66*
[230] *ibid*
[231] *ibid*
[232] *CAYLUS cited in ACCAN 2020b, p.80*
[233] *AEMC 2019, p.111:* 'Self-disconnection' refers to 'an interruption to the supply of energy because a prepayment meter system has no credit (including emergency credit) available'*, cited in NTCOSS 2019, p.20*
[234] *Tangentyere Council Aboriginal Corporation 2020, p. 19-21*
[235] *Klerck 2021, p.3-4*
[236] *NTCOSS 2020, p.25*
[237] *ACCAN 2020b, p. 81*
[238] *CAYLUS 2018 cited in ACCAN 2020b, p.78*

Low rates of JobSeeker and related payments

NTCOSS is part of a broad collective of organisations highlighting the inadequate rate of Centrelink income support payments and calling for a permanent and adequate rise. ACOSS argued that 'low, declining and unreliable incomes' are a 'key driver of digital exclusion; and that relying solely on the development of digital markets' such as the roll out of the NBN is unlikely to be sufficient to address digital exclusion in Australia.[239]

To underline the impact that inadequate payment rates have on telecommunications affordability, SACOSS used 2015/16 ABS HES data to calculate the average communications expenditure for households receiving Centrelink income support payments.[240] When indexed to March 2020 dollars, telecommunications expenditure would be $29.40 per fortnight, though SACOSS notes that this is likely to be an underestimate given the over-representation of single person households among Centrelink recipients.[241]

- For a single unemployed person with two children, receiving $583.35 per fortnight, including the Energy Supplement and Family Tax Benefit – but not including the Coronavirus Supplement, this average expenditure represents 5% of income – well above the all-household average of 3.3%[242];
- for a single unemployed person with two children, adding in the full Coronavirus Supplement ($550 per fortnight), the proportion of income spent on telecommunications is 3.4% which is marginally above but almost on par with the all-household average. These figures clearly reinforce the importance to telecommunications affordability of maintaining the higher rate of the JobSeeker payment.[243]

NTCOSS remains concerned with the inadequate increase of $50 per fortnight, passed by the Federal Government. NTCOSS continues to advocate for the rates JobSeeker, Youth Allowance and other related payments to be increased permanently and adequately as recommended by ACOSS through the Raise the Rate for Good Campaign. A permanent, substantial increase to JobSeeker would make a considerable difference to the affordability of telecommunications services for people on the lowest incomes in our community, as well as for other essential household expenditure items. The impact of the decision not to substantially increase payments has a significant impact on remote areas where cost of living pressures have been historically high and remain so.

[239] *ACOSS 2016, p.7*
[240] *Ogle & Law 2020, p.52*
[241] *ibid*
[242] *Ogle & Law 2020, p.52; BCAR, 2020, p.6*
[243] *Ogle & Law 2020, p.52*

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APPENDIX

APPENDIX A: Telecommunications expenditure – Essential, Significant and Regressive

Essential: Telecommunications products and services are an essential utility, and 'access to it should be a universal right for all'.[244] Ongoing financial outlays are needed to obtain, maintain and upgrade products, as changes to technology and service delivery methods occur. Lack of access to the right technology or sufficient data impedes the ability to function and participate in society. People without home internet, nor access to a smart mobile phone with constant data may need to rely on friends or social services to access online services. Given the increasing reliance on the internet to comply with requirements from government departments such as Centrelink, people without such supports may be unable to respond to requests for information, which may lead to increased breaches and income support payments being suspended or cut.

Significant: 2015/16 ABS HES data shows telecommunications expenditure represents 3.1% of disposable household income, higher than household expenditure on electricity (2.4%).[245] It is the fourth largest expenditure as a share of income behind rent, groceries and motor vehicle fuel for the bottom income decile.[246] Telecommunications expenditure can cause significant hardship for households to manage and can lead to 'bill shock'[247], as bills often involve complex lock-in contracts and are a large expenditure which can (depending on contracts, billing arrangements and usage) be hard to predict and budget for.[248]

Regressive: Telecommunications costs are regressive, given that lower-income households spend a higher percentage of their income on these costs than higher-income households. Expenditure as a proportion of household disposable income declined with each higher income quintile level, with this pattern of decline consistent across both capital (equipment), and recurrent (service charges).[249] The lowest quintile income group spent nearly three times more on telecommunications as a proportion of income (5.8%), compared with the highest income quintile (2.1%).[250] The high proportion of income spent by the lowest income quintile was driven mainly by recurrent telecommunications costs, rather than capital costs.[251]

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[244] *ACOSS 2016, p.1,7*
[245] *ABS 2017, Data 13.8,13.9A*
[246] *BCAR 2020, p.8.*
[247] *SACOSS 2015, p.11*
[248] *SACOSS 2013, p.4*
[249] *ABS 2017, Data 3.2, 3.3A,* Note: Household disposable income here refers to 'equivalised household disposable (mean gross) income'
[250] *ibid*
[251] *ibid*

The regressive nature of telecommunications expenditure is also evident when comparing households by income types. People on Centrelink income support payments pay a far greater proportion of their disposable income on telecommunications (4.4%) than people who are employed (2.9%).[252] Rental households (especially public housing) and lone person households also spend a greater proportion of their income on telecommunications compared with the national average.[253]

APPENDIX B: Price changes since 2015/16

Price changes: fixed line broadband services since 2015/16

Since 2015/16 advertised prices for fixed line NBN broadband at the lower priced (entry) level rose by 16.6%, while mid-range plans rose by 6.6%, with a 5.2% decrease at the higher (premium) level.[254] The feature adjusted price for fixed line NBN broadband, though, fell by 12.5% overall due to increases in NBN plan inclusions.[255]

During 2019/20, the feature adjusted price for total fixed line broadband decreased slightly by 1.6%, with prices for NBN Fixed Broadband (-2.0%), and non-NBN Fixed line broadband (-1.1%) both decreasing slightly.[256]

Price changes: mobile services since 2015/16

Since 2015/16 the advertised prices for post-paid mobile services all decreased at a similar rate between 10.8% (lower end) and 12.5% (mid-range plans) with a larger decline in prices evident for prepaid mobiles at the lower (-33.1%) and mid-range (-18.7%) levels. [257]

During 2019/20, median advertised prices for post-paid mobile phone service fell by 2.8% but prices for prepaid mobile services declined by 7.1%, with a large decline for lower end products of 19.7%, and no significant change for higher-priced products.[258]

Price changes: mobile broadband since 2015/16

In 2019/20 there were similar price decreases across all plan levels (between 12.5% and 16.8%), with the featured adjusted price decreasing by 24.0%.

APPENDIX C: 2020 telecommunications CPI vs all groups CPI comparing past 5, 10, 20 years[259]

Comparison with December 2020	All groups CPI		Telecommunication equipment & services		Audio, visual, computing equipment & services	
	Darwin	Australia	Darwin	Australia	Darwin	Australia
Since Dec 2000	51.8%	60.3%	-20.4%	-19.8%	-70.3%	-70.8%
Since Dec 2010	15.2%	21.0%	-24.6%	-24.0%	-40.0%	-39.4%
Since Dec 2015	2.6%	7.9%	-20.3%	-19.9%	-13.6%	-15.4%

[252] *ABS 2017, 5.2, 5.3A*
[253] *Ogle 2017, p. 8-9*
[254] *ACCC 2020c, p.22*
[255] *ibid p.5,22*
[256] *ibid p.63*
[257] *ibid p.35*
[258] *ibid p.33*
[259] *ABS 2021 Data 5,6*

APPENDIX D: Poverty premiums declining

Some of the significant factors contributing to poverty premiums have been addressed recently, including:

- lock-in contracts for post-paid services have declined since 2016 due to market changes. Many current retail plans are now flexible 'either explicitly or simply because no lock-in provisions mean that… they can be varied from month to month by the consumer'[260];
- some major retailers have moved away from excess data charges and the unit costs between prepaid and post-paid plans now appear broadly similar[261]; and
- since 2016 'data has become cheaper overall and data limits or inclusions have increased significantly on average plans'.[262]

The decline in lock-in contracts may be a contributing factor to the improvements seen in the 2020 ADII data for value for money for users of prepaid mobile services, with BCAR data also consistent with this.[263]

Spend management alerts introduced in 2013 have been another significant development for both prepaid consumers and post-paid consumers, by assisting in the management of available data.[264] However, there are limitations in the system, such as the 48-hour time-lag in notifications of an approaching data limit, and not all services (e.g. overseas usage) are covered, meaning there is still risk of bill shock for post-paid consumers.[265]

Ogle and Musolino, however, emphasise that 'higher unit data costs on low-end contracts [still remain] as supply charges are built in' and while such premiums remain, or where retailers retain lock-in contracts (beyond payment for devices) or charge excess data fees, then concerns around poverty premiums remain.[266]

APPENDIX E: Recent developments in the expansion of digital inclusion in remote NT communities

Recent developments in the expansion of digital inclusion in remote NT communities include:

- 573 free-of-charge Telstra payphones available across remote Aboriginal communities, brought in at the end of March 2020 to assist with efforts to help stop the spread of COVID-19 by helping Aboriginal communities to stay connected with a broad range of initiatives[267];
- positive initiatives by Telstra, nbn™ and other agencies 'to support community access and reduce affordability issues during the COVID-19 pandemic travel restriction period'[268];
- funding provided to Tangentyere Council through the NT Government 'to deploy free, filtered Wi-Fi for the benefit of the Town Camps'[269];
- a new Telstra contact centre to connect Aboriginal people across the country, established in Darwin to provide 'culturally aware services and respond to some calls in language' and is designed to assist in

[260] *Ogle & Law 2020, p.24*
[261] *SACOSS calculations, plus BCAR, 2020 cited in Ogle & Law 2020, p.53-54*
[262] *BCAR 2020 cited in Ogle & Law 2020, p. 53*
[263] *BCAR 2020, p. 21*
[264] *SACOSS 2015, p.12*
[265] *ibid*
[266] *Ogle & Law 2020, p.54*
[267] *Telstra 2020*
[268] *ACCAN 2020b, p.9*
[269] *Klerck 2021*

improving 'access to appropriate plans and products, and improve overall digital access and literacy' for Aboriginal people[270];

- the NT Government aims to co-fund a transportable, mobile, prepaid Wi-Fi solution that operates on the same basis as prepaid mobile, available using any device, with a pilot to occur in Kakadu National Park[271];
- the NT Government aims to co-fund a proof of concept project to deliver transportable, mobile, prepaid WiFi solution that operates on a similar basis as prepaid mobile, delivering voice and data services to small remote communities. This project is named Telecommunications for Remote Aboriginal Communities (TRAC); and
- taking into consideration the NT Government and Telstra Telecommunications Co-investment Program commitments, there will be eight identified remote communities with no mobile or ADSL service at the end of 2022. All communities under NTG/Telstra Co-investment Programs have mobile and ADSL broadband services installed.

Further developments within the past decade include:

- 49 remote mobile phone hotspots created and installed by CfAT in very remote locations across the NT, which 'extend mobile phone signal for up to 100 kilometres', though their use is limited to one person or device at any one time[272];
- 'WiFi Calling', which allows a user to make and receive calls and messaging services over a Wi-Fi network, if they have a compatible Wi-Fi device; are connected to a supported Wi-Fi network; and do not have sufficient mobile network coverage to make a call[273]. ACCAN described this as a 'game changer' in providing better voice services in comparison with fixed line services'[274];
- library and Archive NT rolled out free Wi-Fi services to 46 remote Aboriginal communities (with two more on the way)[275];
- investment by the NT Government into connecting optical fibre and upgrading fibre pathways to remote regions including Groote Eyelandt and the Tiwi Islands (completed in early 2021)[276];
- the introduction of the NBN Sky Muster satellite;
- the MBSP; and
- the Community Phones Program.

[270] *NT Government 2021b*
[271] *ACCAN 2020b, p.31*
[272] *ibid p. 30-31*
[273] *Optus 2021*
[274] *ACCAN 2020b, p. 70*
[275] *ibid p.31*
[276] *NT DCIS cited in ACCAN 2020b, p. 30*