Device Access and Technical Assistance Barriers and Needs by Covered Population

1. **Low-income households (household income no more than 150% of the federal poverty threshold)**

   Lack of Devices. Having sufficient devices at home is a huge barrier to low-income households. Twenty-nine percent of low-income households indicated that they "did not" or "weren't sure" if they had enough digital devices in their household to meet their needs compared to 14% of overall respondents. In listening sessions, we heard the need for devices beyond what is sent home through the school system as well as the need for devices that are more powerful and adaptable than Chromebooks. This divide hinders educational learning at home for children and struggles with remote learning. Low-income individuals are the most represented group in the literature on digital literacy and equity. Tinubu Ali & Herrera (2020) found that low-income households often lack access to basic technology, which inhibits their skills and confidence in using technology.

   Does your household have enough working digital devices (computers, smart phones)?

	Yes	No	Not Sure
Overall	86%	11%	3%
Low Income	71%	23%	6%

   "When my children come home with their chromebook we still have trouble getting their schoolwork done."

   Problems with Devices. While many low-income individuals indicated that they hadn't had any issues with their devices (27%), most did. When low-income households encounter challenges with devices as they often cannot afford to pay to have them fixed or buy a new device. In listening sessions, participants informed us of their children in their households struggling to keep pace with remote learning because of the absence of enough smartphones or computers. For others, accessing telehealth services proved challenging when their devices didn't work properly or they were unable to download appropriate applications and software needed to interact with their healthcare professional. When they had an issue with a digital device, low-income individuals primarily reached out to customer support for assistance (29%), fixed the problem with the help from a friend or family member (21%) or themselves (19%), or found help online (14%). Nineteen percent indicated they could not fix the problem with one or more devices.

   In the past six months, if one of your digital devices failed to function or broke, how did you fix the problem?

	Overall	Low Income
Haven't had any problems with any devices	31%	27%
Contacted customer support for help	31%	29%
Fixed the problem myself	25%	19%

Fixed the problem with help from friends or family	20%	21%
Found help online	18%	14%
Went to a local computer store	10%	10%
Went to a community institution such as a school library or church	3%	6%
Unable to fix one or more of the devices	11%	19%

"When I have problems with my computer, I can't really afford to get a new one."

Affordability. We also asked low-income residents to rate the affordability of technical support services. These services are often provided by the device manufacturer or the operation of the device to keep storage and updates. Many devices come with a limited warranty that covers technical support for a specified period after the purchase. However, once the limited warranty period ends there are fees for technical support. For low-income individuals and households the fees are very expensive leaving individuals without assistance in addressing issues with their devices. Our survey found that 23% indicated that the services were provided free of charge, and 36% indicated that services were 'not very' or not 'affordable at all'.

How would you rate the affordability of the services you received?

	Very affordable	Somewhat affordable	Services were provided for free	Not very affordable	Not affordable at all
Overall	10%	37%	26%	19%	8%
Low Income	9%	33%	22%	25%	11%

2. **Aging Individuals**

Lack of Devices*.* Aging individuals indicated that they had greater access to enough working devices at home than the average North Carolinian and most covered populations, with only 9% of adults 60+ indicating they didn't have enough devices. Devices with intricate touch screens may be difficult for seniors with reduced dexterity, while small font sizes on devices can strain their eyesight, hindering accessibility. Throughout our listening sessions, we heard about the need for devices for aging individuals to be easier to use, and a resident stated, "*Some devices need to be simplified for older adults*." Devices specifically designed for simplicity and ease of use are crucial for addressing these challenges and promoting digital inclusion among aging individuals.

Does your household have enough working digital devices (computers, smart phones)?

	Yes	No	Not Sure
Overall	86%	11%	3%
Aging Individuals	88%	9%	3%

Problems with Devices. Aging individuals were also the less likely to have problems with their devices (32% reported no issues). For those that did experience issues with their devices, most contacted customer support for assistance (33%), fixed the problem by themselves (22%) or with help from friends and family (21%), or found help online (17%). Only 9% were unable to fix one or more devices. During a listening session, a participant expressed difficulty with their devices, mentioning that they consistently face issues but are uncertain about whom to contact for assistance. One participant shared, "Whenever my phone stops working because of my area I really don't know how else to fix it I get too confused." highlighting the challenges of navigating problems with their devices and the intricacies of modern technology, like a smartphone, it becomes challenging for them to identify a reliable source for assistance on devices. Should an issue surface that requires resolution and attention especially if it must be addressed promptly.

	Overall	Aging Individuals
Haven't had any problems with any devices	31%	32%
Contacted customer support for help	31%	33%
Fixed the problem myself	25%	22%
Fixed the problem with help from friends or family	20%	21%
Found help online	18%	17%
Went to a local computer store	10%	11%
Went to a community institution such as a school library or church	3%	2%
Unable to fix one or more of the devices	11%	9%

Affordability of Service. When considering affordability of device repair/support, aging individuals were more likely than most covered populations to find the services very (10%) or somewhat (35%) affordable or services were provided for free (28%). In listening sessions, participants explored the topic of affordable services, noting they acknowledged the affordability of certain options (if known), repairing their devices posed a financial challenge, potentially becoming an expensive endeavor in the event of any issues. It is significant that 26% of the aging population found the cost of device repair or service to be unaffordable and should be taken into consideration when working to support this group.

How would you rate the affordability of the services you received?

	Very affordable	Somewhat affordable	Services were provided for free	Not very affordable	Not affordable at all
Overall	10%	37%	26%	19%	8%
Aging Individuals	10%	35%	28%	19%	7%

3. Incarcerated individuals

Lack of Devices. In 2023, most prisons now have tablets available to inmates in North Carolina, but inmates do not always have access to these tablets. And even when they do

have access, they are not necessarily provided the training needed to use the devices. Some previously incarcerated people that participated in listening sessions made a point that inmates are usually allowed access to a tablet or a stationary computer but not a smartphone, and it was difficult to troubleshoot or learn how to use one of these devices without simultaneous access to the other. Participants also shared their frustrations with format changes from device to device; only having access to one type of device left them unprepared to transition to a new device/digital format. Survey results support these challenges as incarcerated/reentry individuals were the least likely covered population to indicate they had enough working devices (69% had enough working devices).

Does your household have enough working digital devices (computers, smart phones)?

	Yes	No	Not Sure
Overall	86%	11%	3%
Incarcerated/re-entry	69%	26%	5%

Outdated Technology. Participants in the listening session shared that while incarcerated, they only had access to outdated technology; even if they were in classes to learn about technology, the information was useless or outdated by the time they got out. Survey results also show that incarcerated/reentry individuals were two times more likely to indicate they could not fix a problem with one or more devices (24%) than the average North Carolinian (11%). Of those that were able to fix a problem, most contacted customer support (28%), found help online (20%), or fixed the problem themselves (19%) or with the help of friends or family (21%). While most individuals did not utilize community institutions for support with fixing devices, formerly incarcerated/reentry individuals were more than four times as likely to reach out to these organizations (e.g., faith based organizations) for support (14%) when compared to the general population.

	Overall	Incarcerated/ Re-entry
Haven't had any problems with any devices	31%	17%
Contacted customer support for help	31%	28%
Fixed the problem myself	25%	19%
Fixed the problem with help from friends or family	20%	21%
Found help online	18%	20%
Went to a local computer store	10%	16%
Went to a community institution such as a school library or church	3%	14%
Unable to fix one or more of the devices	11%	24%

Affordability and Technical Support. Incarcerated/reentry individuals were also the most likely to indicate that any services they received to fix devices were unaffordable (38%) compared with 27% of the general population. Twenty-five percent of individuals did indicate that services were provided for free or the paid services were somewhat (25%) or very (13%) affordable.

How would you rate the affordability of the services you received?

	Very affordable	Somewhat affordable	Services were provided for free	Not very affordable	Not affordable at all
Overall	10%	37%	26%	19%	8%
Incarcerated/re-entry	13%	25%	25%	24%	14%

Lack of Skills to Use Devices. In the Stanly County listening session, one participant shared that he purchased an unlimited data plan for his phone because "I was too new to know what the internet was, let alone how to access Wi-Fi." Another participant shared, "I think I took about 47 screenshots by accident before I figured out what I was doing" [with his smartphone camera]. The experiences stated indicate that in the face of rapidly advancing technology, replete with numerous features, it becomes challenging to stay abreast of the skills required to effectively utilize new devices.

4. **Veterans**

Lack of Devices. While survey results, however, indicate that veterans are very likely to say they have enough working devices at their residence (87%), research shows that the lack of a device is an issue for some veterans. Specifically, connecting to Veterans Administration (VA) services can be challenging. The VA has some programs which loan devices to veterans, but they are not widely advertised. Veteran residents in our listening sessions shared a common theme of having limited access to personal computers, smartphones, smart TVs, or other digital devices, creating a significant barrier to using online services. Tyrrell County veterans in the listening session voiced their desire to work with their VA representatives when seeking support for accessing digital devices and downloading and using applications. Within some programs aimed to help veterans access devices, allocations were not properly used for their intended purpose. Veterans have also been shown to positively respond to incentives (e.g., receiving a free device after participating in a digital skills training) (Veterans Health Administration, 2022).

Does your household have enough working digital devices (computers, smart phones)?

	Yes	No	Not Sure
Overall	86%	11%	3%
Veterans	87%	9%	4%

Outdated Technology. Survey results indicate that 9% of veterans were unable to fix one or more devices in their home within the past six months; this is three times higher than that state average. For those that were able to receive support, most contacted customer support (33%), fixed the problem themselves (27%) or with the help of friends and family (18%), or found help online (18%).

Listening sessions indicated that veterans with devices may be using older technology that is less capable of running modern applications and accessing high-speed internet. Veteran residents in Tyrrell County noted their need for affordable phones and computers as well as reasonably priced hardware and software on the devices. Support in using their devices was

also requested. One resident stated, "Everything is technical, but it's becoming too technical to keep up."

	Overall	Veterans
Haven't had any problems with any devices	31%	29%
Contacted customer support for help	31%	33%
Fixed the problem myself	25%	27%
Fixed the problem with help from friends or family	20%	18%
Found help online	18%	18%
Went to a local computer store	10%	12%
Went to a community institution such as a school library or church	3%	4%
Unable to fix one or more of the devices	11%	9%

Affordability and Technical Support. Many veterans were able to access device support/repair for free (25%). For those who paid for device repair services, over one quarter (26%) found the services unaffordable. While nearly half found device services to be "very" (11%) or "somewhat affordable" (39%), many veterans face hardships in affording up-to-date technology and trying to salvage what they have already.

How would you rate the affordability of the services you received?

	Very affordable	Somewhat affordable	Services were provided for free	Not very affordable	Not affordable at all
Overall	10%	37%	26%	19%	8%
Veterans	11%	39%	25%	20%	6%

5. Individuals with disabilities

Lack of Devices. Survey results show that 16% of individuals with disabilities indicated they didn't have enough devices or were unsure if they had enough to meet the needs of their households. For this population, ensuring that devices are configured with accessibility features is essential. Residents with disabilities shared a unique concern that many people need digital devices with accessibility features. Standard devices may not cater to their specific needs, such as screen readers, adaptive keyboards, or voice recognition software.

Does your household have enough working digital devices (computers, smart phones)?

	Yes	No	Not Sure
Overall	86%	11%	3%
Individuals with Disabilities	79%	16%	5%

Outdated Technology. Survey results indicate that individuals with disabilities were more likely to indicate they were unable to fix a device (17%) than the average North Carolinian (11%). Individuals with disabilities often need other adaptive technologies to use their devices properly. These technologies often need specialized support, and individuals may need training to use them. Adaptive technologies can also be very expensive. In listening sessions with residents, they shared the common need for low-cost, disability-accessible devices and technology. Offering financial assistance programs to purchase and maintain their devices can include grants, subsidies, payment plans, and programs with full transparency on their proceedings.

Technical Support. Over one quarter (27%) of individuals with disabilities indicated that they hadn't had any problems with their devices in the past six months. When they were able to receive device-related support or services, most individuals with special needs contacted customer support (33%), fixed the problem with help from friends or family (24%) or by themselves (23%), or found help online (18%).

	Overall	Individuals with Disabilities
Haven't had any problems with any devices	31%	27%
Contacted customer support for help	31%	33%
Fixed the problem myself	25%	23%
Fixed the problem with help from friends or family	20%	24%
Found help online	18%	18%
Went to a local computer store	10%	11%
Went to a community institution such as a school library or church	3%	4%
Unable to fix one or more of the devices	11%	16%

Affordability. When asked about the affordability of the services they received, 27% indicated that they were provided for free. Thirty-one percent of individuals with disabilities did not find the services affordable.

How would you rate the affordability of the services you received?

	Very affordable	Somewhat affordable	Services were provided for free	Not very affordable	Not affordable at all
Overall	10%	37%	26%	19%	8%
Individuals with Disabilities	9%	33%	27%	22%	9%

6. **Individuals with a language barrier, including individuals who are English learners**

Lack of Devices. Individuals with a language barrier have significant device needs. Based on the N.C Digital Equity Survey, 25% of individuals with a language barrier indicated they didn't have enough devices or were unsure if they had enough devices to meet the needs of

their households. This has impacted residents' engagement with education and career opportunities as well as other social and health services. Many households rely on the devices loaned to their children from school programs, which must be returned at the end of each school year. While it is important for the students to have access to devices, parents in English language learner homes want to be able to have access as well so that they can support their children's learning, especially through translation applications. These individuals often rely on spaces that sell used or refurbished devices and replacement parts as a way to access enough devices to meet the needs of their families. A resident noted:

"I had a computer but no charger, so I have to look in a pawn shop [to get one]."

Does your household have enough working digital devices (computers, smart phones)?

	Yes	No	Not Sure
Overall	86%	11%	3%
Language Barriers/English Learners	75%	21%	4%

Technical Assistance. In the realm of technical assistance, individuals in the English language learner covered population encounter substantial difficulties as they strive to engage with digital tools and services. These challenges are primarily rooted in language barriers that hinder their ability to seek help effectively. Moreover, even when they make efforts to access support, they often find themselves facing a dearth of bilingual assistance. For example, despite the provision of contracts in the Spanish language from service providers, a notable discrepancy arises when English language learners require guidance in their native tongue to navigate issues that arise with the contracts or devices. A resident explained that he got into a contract and was unable to effectively break the contract:

"The contract was in Spanish but when we wanted to reach out to them to claim no one was available in Spanish."

When asked how they access technical assistance, 29% of English language learner individuals indicated they contacted customer support. If services do not exist in their native language, then they will be unable to receive needed assistance. Other ways English language learners received device support was by fixing the problem themselves (25%) or with the help of friends or family (17%). Only 6% relied on a community organization for assistance, and 18% were unable to fix the device.

	Overall	Language Barriers/English Learners
Haven't had any problems with any devices	31%	26%
Contacted customer support for help	31%	29%
Fixed the problem myself	25%	25%
Fixed the problem with help from friends or family	20%	17%
Found help online	18%	16%
Went to a local computer store	10%	11%

Went to a community institution such as a school library or church	3%	6%
Unable to fix one or more of the devices	11%	18%

Affordability. When asked about affordability, 16% of English language learners said services were provided for free, but 33% found the services they received unaffordable. This was also discussed during listening sessions and was largely related to language barriers and not being able to receive device support that met their needs. For example, migrant farm workers indicated that they would bring a device from their native country when coming to the United States to work; however, they often found out that their devices were not compatible with the services available.

How would you rate the affordability of the services you received?

	Very affordable	Somewhat affordable	Services were provided for free	Not very affordable	Not affordable at all
Overall	10%	37%	26%	19%	8%
Language Barriers/ English Learners	12%	40%	16%	22%	11%

7. **Individuals with low levels of literacy**

Lack of Devices. Individuals with low levels of literacy are more than twice as likely to lack access to a digital device (29%) when compared to the general population of North Carolina (11%). They are also more likely to lack a device than any other covered population (8-29%).

Does your household have enough working digital devices (computers, smart phones)?

	Yes	No	Not Sure
Overall	86%	11%	3%
Low Literacy	64%	29%	7%

Technical Support. Individuals with low levels of literacy were nearly twice as likely to be unable to fix a device (21%) when they encountered problems compared to the average North Carolina resident (11%). When they were able to fix a device, most contacted customer support (23%), fixed the problem with help from friends or family (18%), or fixed the problem themselves (15%). Twenty-seven percent indicated that they had not experienced any problems with their digital device(s) in the past six months.

	Overall	Low Literacy
Haven't had any problems with any devices	31%	27%
Contacted customer support for help	31%	23%
Fixed the problem myself	25%	15%
Fixed the problem with help from friends or family	20%	18%
Found help online	18%	8%
Went to a local computer store	10%	9%
Went to a community institution such as a school library or church	3%	9%
Unable to fix one or more of the devices	11%	21%

Affordability. For those that did receive technical support, 42% found the service(s) to be unaffordable. Sixteen percent received help for free, and 42% found the services either 'very' or 'somewhat' affordable.

How would you rate the affordability of the services you received?

	Very affordable	Somewhat affordable	Services were provided for free	Not very affordable	Not affordable at all
Overall	10%	37%	26%	19%	8%
Low Literacy	17%	26%	15%	22%	20%

8. **Individuals who are members of a racial or ethnic minority group**

Lack of Devices. On the N.C. Digital Equity Survey, 24% of individuals from racial or ethnic minority groups did not have or were not sure if they had enough working devices in the home to meet the needs of their family. That is 10% higher than the average North Carolinian.

Does your household have enough working digital devices (computers, smart phones)?

	Yes	No	Not Sure
Overall	86%	11%	3%
Racial/ethnic minorities	76%	19%	5%

Technical Assistance. Over one quarter (27%) of individuals from racial or ethnic minority groups indicated that they had not had any issues with a device in the past six months. When problems did occur, individuals were most likely to contact customer support (36%), fix the problem themselves (23%), or ask for help from a friend or family member (20%). Fifteen percent of individuals from racial or ethnic minority groups, however, were unable to fix one or more of their devices.

	Overall	Racial/ethnic minorities
Haven't had any problems with any devices	31%	27%
Contacted customer support for help	31%	36%
Fixed the problem myself	25%	23%
Fixed the problem with help from friends or family	20%	20%
Found help online	18%	15%
Went to a local computer store	10%	12%
Went to a community institution such as a school library or church	3%	7%
Unable to fix one or more of the devices	11%	15%

Affordability. Individuals from racial and ethnic minority groups were more likely to consider the cost of device repair/support to be unaffordable (32%) than the average North Carolinian (27%). Some individuals were able to receive services for free (18%), and most found the services either somewhat (39%) or very (12%) affordable.

How would you rate the affordability of the services you received?

	Very affordable	Somewhat affordable	Services were provided for free	Not very affordable	Not affordable at all
Overall	10%	37%	26%	19%	8%
Racial/ethnic minorities	12%	39%	18%	22%	10%

9. Rural Residents

Lack of Devices. In listening sessions, we heard significant feedback about the need for local device refurbishers for rural residents to access low-cost devices. Survey results indicated that 14% of rural families did not or were not sure if they had enough working devices in the home to meet their needs. Since there is a lack of access to low-cost devices, many families and children must share technology based on priorities. Based on feedback from listening sessions, rural counties would benefit from access to devices to support their inclusion and active participation in the digital world.

Does your household have enough working digital devices (computers, smart phones)?

	Yes	No	Not Sure
Overall	86%	11%	3%
Rural Residents	86%	11%	3%

Technical Assistance. Many rural individuals indicated that they had not experienced any issues with their digital devices in the past six months (32%). When they did experience a problem, most contacted customer support (31%), fixed the problem themselves (24%) or

with the help of friends and family (20%), or found help online (17%). Eleven percent of rural residents were not able to fix one or more devices.

	Overall	Rural Residents
Haven't had any problems with any devices	31%	32%
Contacted customer support for help	31%	31%
Fixed the problem myself	25%	24%
Fixed the problem with help from friends or family	20%	20%
Found help online	18%	17%
Went to a local computer store	10%	10%
Went to a community institution such as a school library or church	3%	3%
Unable to fix one or more of the devices	11%	11%

Affordability. Rural individuals' responses generally mirrored that of average North Carolinians when asked how affordable the device support or service was that they received. Twenty-six percent were able to get services for free. Of those who paid for the service, most found the service either very (10%) or somewhat affordable (36%). Twenty-seven percent indicated that services were not affordable.

How would you rate the affordability of the services you received?

	Very affordable	Somewhat affordable	Services were provided for free	Not very affordable	Not affordable at all
Overall	10%	37%	26%	19%	8%
Rural Residents	10%	36%	26%	19%	8%

10. LGBTQIA+

Device Access. Most members of the LGBTQIA+ community had access to enough working devices to meet the needs of them and their families (86%). Fourteen percent either didn't have enough working devices to meet their needs or weren't sure.

Does your household have enough working digital devices (computers, smart phones)?

	Yes	No	Not Sure
Overall	86%	11%	3%
LGBTQIA+	86%	12%	2%

Technical Support. Nearly one quarter (23%) of members of the LGBTQIA+ community indicated that they had not encountered any issues with their digital devices in the past six months. Of those that did, most contacted customer support (38%), found help online (36%) or fixed the problem themselves (34%). Eleven percent were unable to fix one or more digital devices.

	Overall	LGBTQIA+
Haven't had any problems with any devices	31%	23%
Contacted customer support for help	31%	38%
Fixed the problem myself	25%	34%
Fixed the problem with help from friends or family	20%	23%
Found help online	18%	36%
Went to a local computer store	10%	12%
Went to a community institution such as a school library or church	3%	8%
Unable to fix one or more of the devices	11%	12%

Affordability. When looking at affordability, members of the LGBTQIA+ community were more likely than the average North Carolina resident to find the cost of services to repair a device either 'very' (11%) or 'somewhat' (42%) affordable. Twenty-seven percent were able to find services for free, and 20% considered the services unaffordable.

How would you rate the affordability of the services you received?

	Very affordable	**Somewhat affordable**	**Services were provided for free**	**Not very affordable**	**Not affordable at all**
Overall	10%	37%	26%	19%	8%
LGBTQIA+	11%	42%	27%	13%	7%