

ABSTRACT

Some wireless phones may impede with hearing aids or cochlear implants. The Hearing Aid Compatibility Act of 1988 mandated that additional phone options be made to work with hearing aids and cochlear implants for equal access to the national telecommunications network. This allowed for greater access and improved communication (The Hearing Aid Compatibility Act, 1988). Several phone companies provide a continually updated list of devices that are suitable for those with hearing loss. Some phone companies allow customers to test devices with their hearing aid or cochlear implant to determine which phone provides the most benefit for them. There are several considerations when purchasing a mobile phone which include phone ratings, trial periods, added features, deaf or hard of hearing plans, and additional accessibility features. The considerations will be addressed for four major cell providers: AT&T, Consumer Cellular, T-Mobile, and Verizon.

RESEARCH QUESTIONS

The purpose of this study was to gather information from multiple phone providers through online search and phone interview to address the following:

1. What do phone companies have to offer to those who are deaf or hearing impaired?
2. How to identify which phones provide high ratings and accessibility features?

PHONE PROVIDERS MENTIONED

The following mobile phone providers were thoroughly reviewed for this study. All offer a variety of options for individuals with hearing loss as shown in Tables 1 & 2. All meet the Federal Communications Commission's Requirements.

- AT&T
- Consumer Cellular
- T-Mobile
- Verizon



RESULTS

Many individuals are unaware of the different services offered by mobile phone companies. Depending on the provider, model of the phone, and the hearing aid, there are diverse features that can be offered to individuals with hearing loss. It is important to be aware that this varies between providers. See Table 1 for common features across phone providers. Scan the QR code (Figure 1) to discover more specifics your phone provider may offer. See Table 2 for examples of suggested phones and their accessibility features for individuals with hearing loss.

Table 1. Services implemented by main phone providers

	AT&T	Consumer Cellular	T-Mobile	Verizon
In-Store Trials	✓		✓	✓
Return Policy	14 days: \$55 restocking fee	30 days: \$10 restocking fee	14 days: \$20-70 restocking fee (varies on phone price)	14 days: \$50 restocking fee
Captioning Service	✓	✓	✓	
Service Plans	✓	✓	✓	✓

Phone Ratings: M and T-Ratings and What They Mean

- M-ratings and T-ratings are designed to diminish outside noises and interference. These ratings are on the product's packaging, display tag, the company's website, and in the device's user manual (FCC, 2021).
- M-rated devices are tailored to individuals opting for an acoustic coupling method with a mild or moderate hearing loss. The M stands for microphone and the highest rating is M4.
- T-rated devices are coupled inductively and have a stronger signal appropriate for severe cases of hearing loss. One must use a telecoil in a hearing aid or cochlear implant which can improve the signal-to-noise ratio and eliminate potential feedback. The T stands for telecoil and the highest rating is T4.

Trial Period and Instore Trials

- It is suggested that individuals first test several devices before making a final decision. The stores above all offer in store trials where you can connect a phone with one's device. This allows the customer to test out the device's compatibility without having to leave the store.
- If the phone does not work with one's hearing aid or cochlear implant, depending on the provider it can be returned within a certain window of time and they often charge a restocking fee.

Added Features

- AT&T and T-Mobile offer features like real-time text (RTT), Text Telephone (TTY), and Relay services.
- Some compatible phones have accessible features like vibrate on ring, LED flash for alerts, personalized messaging, video call capabilities, and closed captioning.

Deaf or Hard of Hearing Plans

- All offer special data-only and unlimited texting plans that disable voice calls to customers that prefer not to use the voice option. One must go through an application process.

CapTel Options

- If eligible, many will provide the customer with a CapTel phone at no cost.
- AT&T has a free web-based service called WebCapTel that allows users to hear what their social partner is saying on the phone while simultaneously allowing them to read what is being said on a computer screen.

Table 2. Suggested Phones with Accessibility Features and Strong M&T Ratings

Samsung Galaxy A11	Apple iPhone SE (2020)	Samsung Galaxy S21	Google Pixel 5
<ul style="list-style-type: none"> o Bluetooth: Yes o HAC rating: M4, T3= Best Functionality o TTY/TTD compatible o Sound personalization for certain frequencies <p>Additional accessibility features: strong video quality, LED flash alerts, Closed Captions, Live Transcribe, Ambient Sound Amplifier</p>	<ul style="list-style-type: none"> o Bluetooth: Yes o HAC rating: M3, T4= Best Functionality o TTY/TTD compatible o Real Time Text (RTT) support o Set headphone accommodations for certain frequencies <p>Additional accessibility features: strong video quality, LED flash alerts, can adjust vibration patterns, Closed Captions, AssistiveTouch, and Sound Recognition Features</p>	<ul style="list-style-type: none"> o Bluetooth: Yes o HAC rating: M3, T3= Best Functionality o TTY/TTD compatible o Real Time Text (RTT) support o Sound personalization for certain frequencies <p>Additional accessibility features: strong video quality, LED flash alerts, Closed Captions, Live Transcribe, Ambient Sound Amplifier, Alerts for sound detectors</p>	<ul style="list-style-type: none"> o Bluetooth: Yes o HAC rating: M4, T3= Best Functionality o TTY/TTD compatible o Real Time Text (RTT) support <p>Additional accessibility features: strong video quality, Closed Captions, Live Transcribe, Sound Amplifier</p>

AVAILABLE OPTIONS

Scan the QR code below to view a list of options offered by each phone provider with links to available resources.

Figure 1. Links to individual services



SUMMARY

- Individuals with hearing loss can further benefit from using devices that are compatible with hearing aids and cochlear implants.
- AT&T, Consumer Cellular, T-Mobile, and Verizon meet the Federal Communications Commission's requirements. Their mobile phones are compatible and do not cause interference with hearing aids or cochlear implants.

Contact Information

For more information, please contact
lucy.hinderliter@utdallas.edu or
emma.freeman@utdallas.edu

REFERENCES

Hearing Aid Compatibility Act of 1988. (1988, August 16). https://transition.fcc.gov/Bureaus/OSEC/library/legislative_histories/1337.pdf.

Hearing aid compatibility for wireline and wireless telephones. (2021, January 28). <https://www.fcc.gov/consumers/guides/hearing-aid-compatibility-wireline-and-wireless-telephones>.