



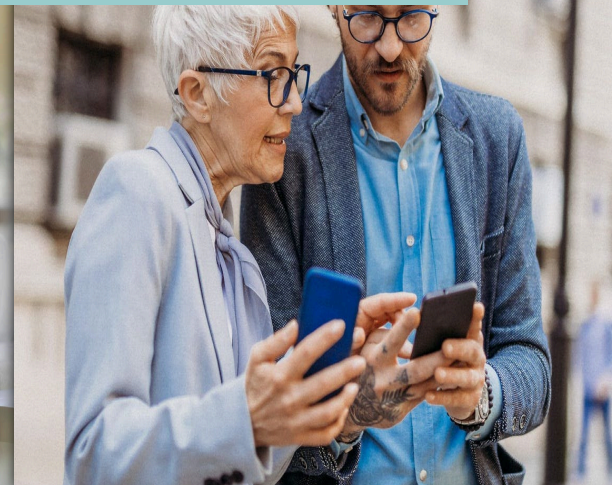
## Tips for Easier Communication at Home and in the Community

Presented by

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*ATEL Program Assistant*



**Power Point originally created by Tina Thompson**









## Rhode Island Adaptive Telephone Equipment Loan Program (ATEL)



The ATEL Program is a state program under the Department of Human Services. The ATEL program provides **no-cost landline devices, smartphones and tablets** to low-income Rhode Islanders that have a hearing, speech, and/or neuromuscular disabilities.



# What is Communication?

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- Communication is not about
  - what is said
  - how it is said

Communication is About  
What is Understood



# Hearing Loss Basics

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(Myths and Facts)

# Hearing loss is the third most prevalent chronic health condition facing older adults\*

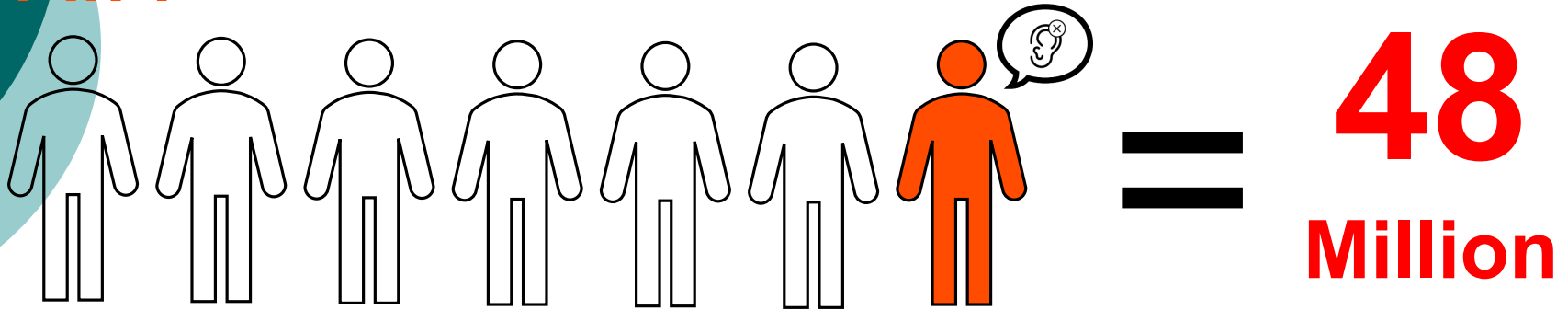
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- Hearing loss is a common problem caused by noise, aging, disease, and heredity.
- People with hearing loss may find it hard to have conversations with friends and family.
- They may also have trouble understanding a doctor's advice, responding to warnings, and hearing doorbells and alarms

\* Collins, 1997

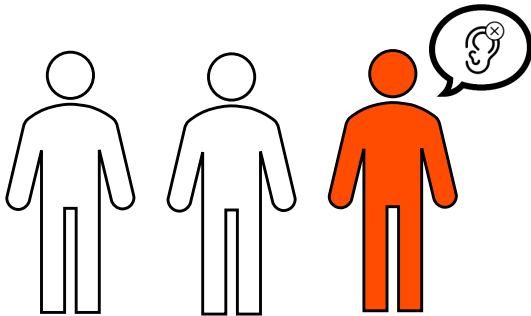
\* Center for Hearing and Communication

**1 in 7** people have hearing loss in at least one ear



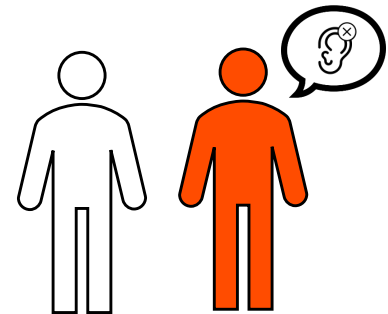
**1 in 3**

Age 64-75



**1 in 2**

Age 75+






# Myths and Misunderstanding about Hearing Loss

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1. All People with Hearing Loss Experience the Same Problems
2. One Solution Applies to All Settings
3. Hearing Aid Fixes Everything
4. Lip reading Can Replace Hearing
5. Hearing Loss Only Applies to Volume

**Let's Discuss These Myths In Detail**



Myth: All People with Hearing Loss  
Experience the Same Problems

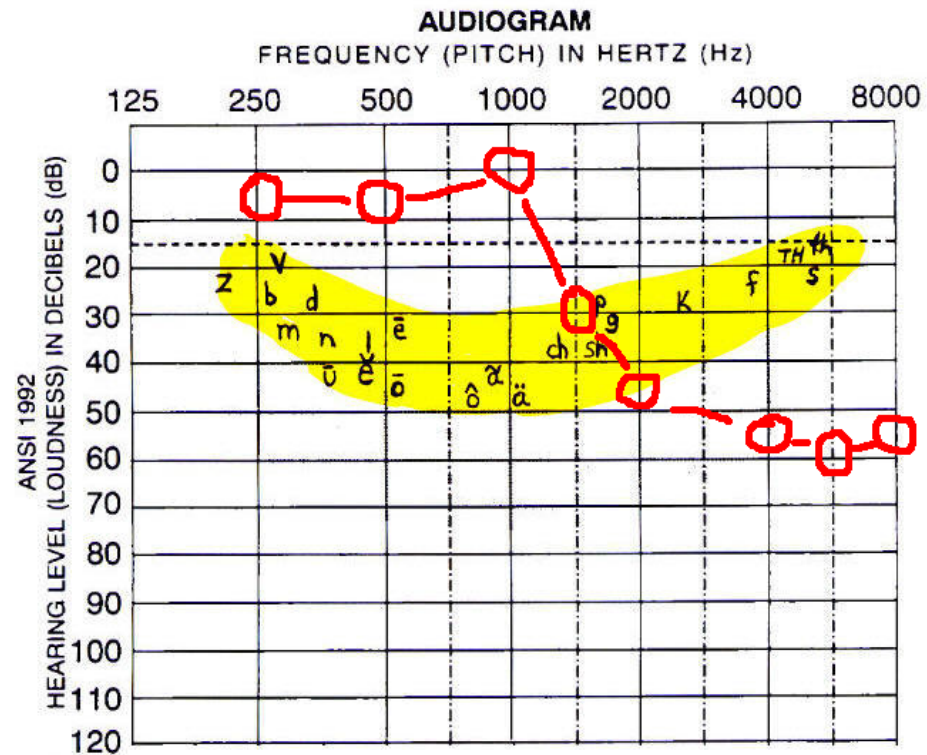
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Fact: Hearing Loss is About  
Loudness **and** Frequency



# How might this sentence sound with this hearing loss?

a y wen  
i ing in  
e ree on  
a urday.

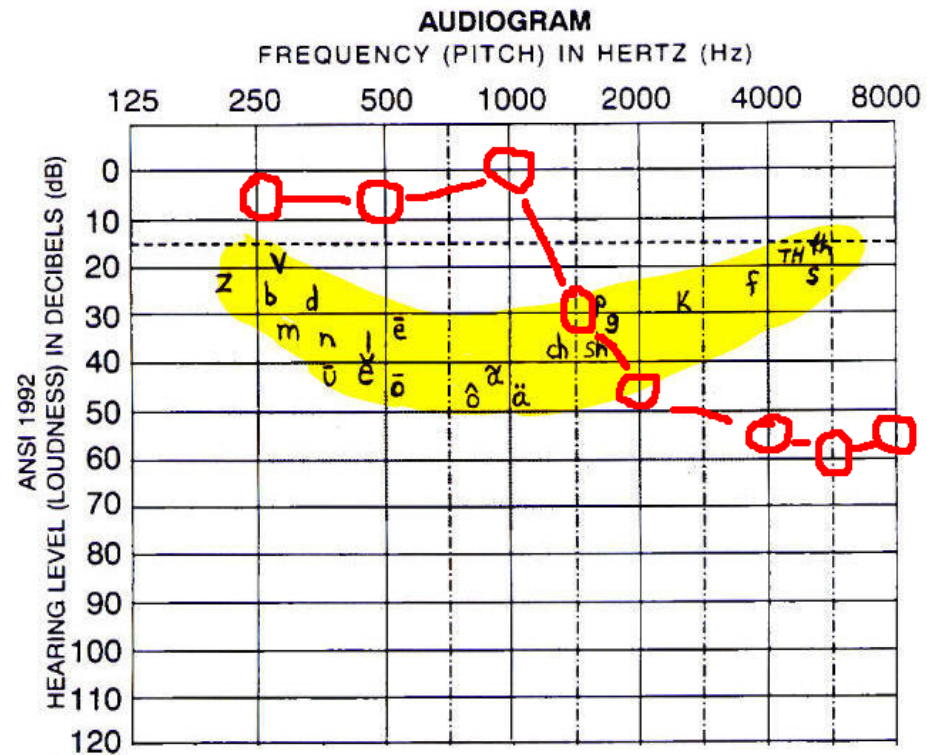


**With all the missing sounds, how might this person know what's being said?**

# How might this sentence sound with this hearing loss?

Kathy went fishing in the creek on Saturday.

With all the missing sounds, how might this person know what's being said?



# Audiogram is Only a Partial Story

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- **Audiogram Shows:**

- Frequencies heard, Hard of Hearing people have lost the ability to hear either high or low frequencies or both.

- **Other Factors Beyond the Audiogram:**

- Listening skills
- Coping strategies
- Technology
- Sleep the night before
- Tinnitus?



# Myth: You Could Hear if You Tried

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“But you had no problem last time”

# Fact: Hearing Ability Varies

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<b>Okay</b>	<b>Problem</b>
<b>Quiet room</b>	<b>Noisy room</b>
<b>Carpeting</b>	<b>Bare floor</b>
<b>Bright room</b>	<b>Dark or inconsistent lighting</b>
<b>One-on-one</b>	<b>Discussion</b>
<b>Voice I know</b>	<b>New person</b>
<b>First Row</b>	<b>Last Row</b>
<b>Healthy and well-rested</b>	<b>Head cold</b>
<b>Can see the speaker</b>	<b>Recordings, voice behind me</b>

**People with no hearing loss do not experience this variation**



## Myth: Hearing Aids Fix Everything

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“Are you wearing your hearing aid?”



# Fact: Hearing Aid is Partial Solution

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- Hearing aids do not “fix” hearing loss
  - not like glasses
  - external amplifier has to go through “bad” ear
- Problems with hearing aids
  - amplify background noise
  - can have interference from equipment
- A Hearing Aid helps, but it is not total solution



# Myth: Volume is the Only Problem

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“We can turn up the volume.”

“Just turn up your hearing aid.”

“How about if you just sit closer?”

# Fact: Louder Not Necessarily Clearer

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h e l p

Now it's clearer  
(More information from  
technology/lipreading).

# Ambiguity is the Real Problem

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- A few numbers that sound the same
  - 15, 16, 50, 60
  - “Fifteen, that is, one-five.”
- Letters sound the same
  - B, C, D, E, G, P, T, V, Z

A person with hearing loss, may only get part of what is being said. You might need to say something like:

- “C as in Cat” or use a different word

# Effect of Noise on Speech

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No noise

Do You See Me?

Low Noise

Do You See Me?

Moderate Noise

Do You See Me?

Too Much Noise

Do You See Me?



# Hearing Aids

ALARMS

ANIMALS

KNOCKING

PEOPLE

HOUSEHOLD SOUNDS

## Live Listen IOS / Sound Notifications Android

Sends sound from your environment to your device.

Hear phone calls and other audio after you pair your 'Bluetooth' hearing aid, so you can control it with your smartphone.



# Using Assistive Listening Devices?

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- Hearing aids alone don't work well in these situations:
  - Listening to someone at a distance
  - Listening in a noisy environment
  - Listening in a room with reverberation (echoing)

***Assistive Listening Devices  
Can Help!***

# Two Major Types of Assistive Listening Devices

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## 1. Hard-Wired Devices or Systems

carry the sound signal through an electrical wire

Most common hard-wired device is hand-held amplification device.

These devices contain a microphone, amplifier, and wire.

- Pocket Talker
- Sound Wizard
- Personal Listener



# Two Major Types of Assistive Listening Devices (continued)

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## 2. Wireless Devices or Systems

carry the sound signal without an electrical wire  
use a transmitter and receiver  
(similar to baby crib monitors or radio stations)

Wireless devices contain a transmitter and receiver and carry the signal in different ways:

- FM systems (radio waves)
- Infrared (light waves)
- Induction Loop (magnetic energy)



# Using an FM System: Making Conversation Easier

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Use FM radio signals  
Microphone near speaker  
Wireless receiver (earpiece or loop)

- Conversations
- Restaurant
- Car
- Bus
- Bingo
- Church
- Tours



# Television Listeners

Allows the entire family to enjoy TV at their own listening volume



Use FM or IR to transmit the TV signal.

- The transmitter connects to TV. Use the receiver (IR receiver, FM receiver, or FM boot) to hear the TV sound directly in your ears.

# Captioning

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**TV Captioning:** Embedded in most TVs – switch on to see words

**Movie Captioning:**

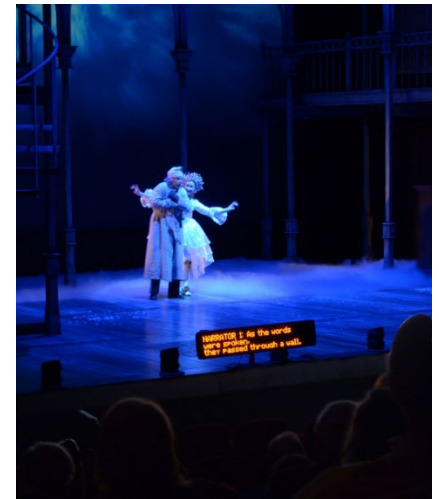
- Open captioned – everyone can see (like foreign subtitles)
- Closed captioned – need a special screen to see the words (Rear Window, Captiview or Glasses)

**Plays:**

LED Display

**Real-Time Captioning/ Automatic Speech Recognition (ASR):**

- Computer Aided Real Time (CART): words displayed at event (screen or laptop)
- CPrint = summary is typed (note taking used for classes)
- Captel Telephone (later slide)
- Relay Conference Captioning (later slide)
- Video Conferencing (Zoom, Microsoft Teams, Google Meet)
- Video calling (FaceTime, Skype)
- Smartphone and Tablets



# Telecommunication and Relay

Telecommunications are the means of electronic transmission of information over distances. The information may be in the form of voice telephone calls, data, text, images, or video.

## **Issues that Impact Use for People with Hearing Loss**

- Quality of telephone or connection
- Adjusting to a new voice
- Automated Response systems
- Poor speech discrimination/ understanding, you can't lipread over the telephone.



# Smartphones Are Changing the Life of Those with Hearing Loss

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- Amplification
- Visible and Vibrating alerts
- Texting/ Real Time Text (RTT)
- Video Calls (Facetime, Skype etc.....)
- Hearing Aid Support
- Sound Notifications
- Relay Captioned Telephone Calls
- Captioning in person conversations

# Mono Audio, Visible and Vibrating Alerts

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When you're using headphones, you may miss some audio if you're deaf or hard of hearing in one ear. That's because stereo recordings usually have distinct left- and right-channel audio tracks. Smartphones can help by playing both audio channels in both ears, and letting you adjust the balance for greater volume in either ear.

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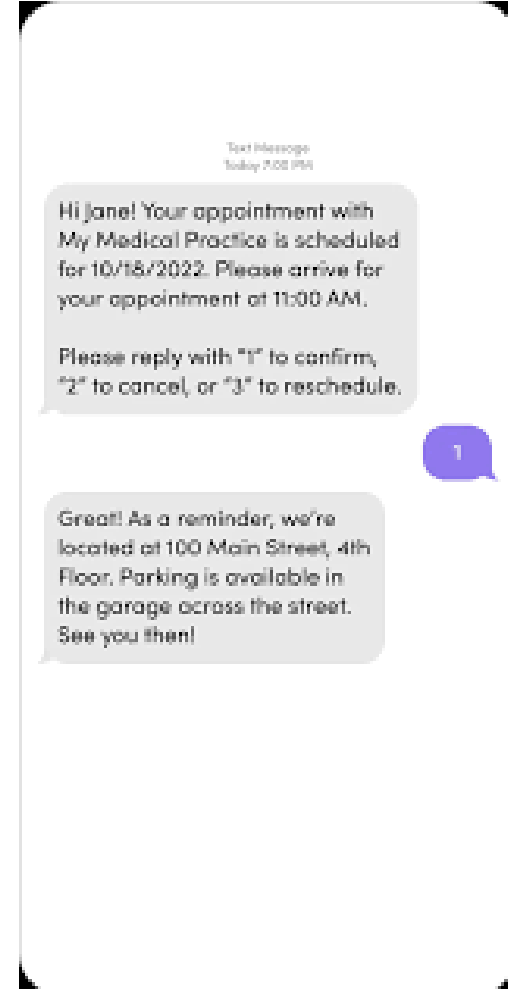
**Smart devices can deliver both visual and vibrating alerts for incoming phones and, new text messages. You can set an LED light flash for incoming calls, alarms, and alerts.**



# Texting

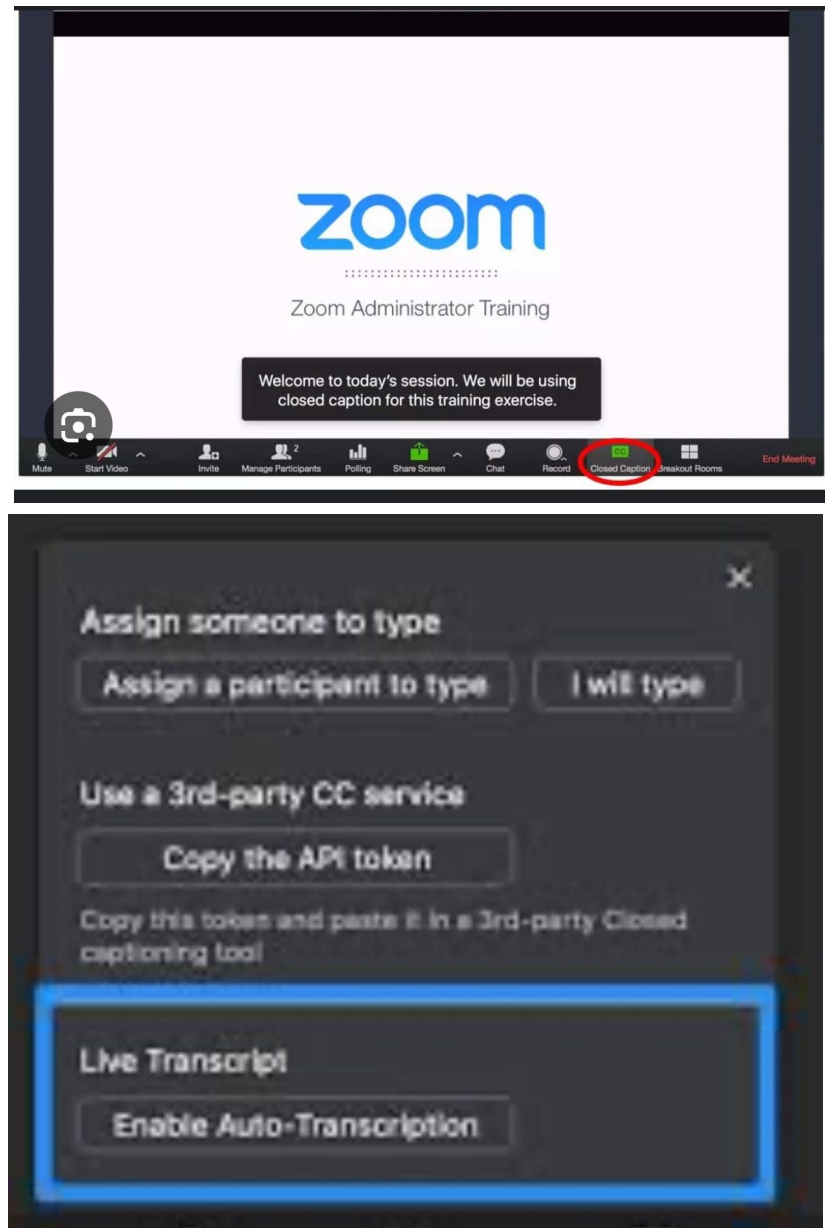
Text messaging has changed life profoundly for millions of deaf and hard-of-hearing people.

Text messaging, also known as SMS, (short message service) or IM (instant message on Apple devices) is a feature available in almost all cell phones, it allows people to send and receive short messages. Text messaging has overtaken the use of phone calls and emails.



# Video Meeting Platforms

Video meeting platforms that offer captioning features include Zoom, Google Meet, Microsoft Teams, Skype, where most provide automatic live captions as a built-in feature, allowing users to easily turn on captions during a meeting without needing additional software.



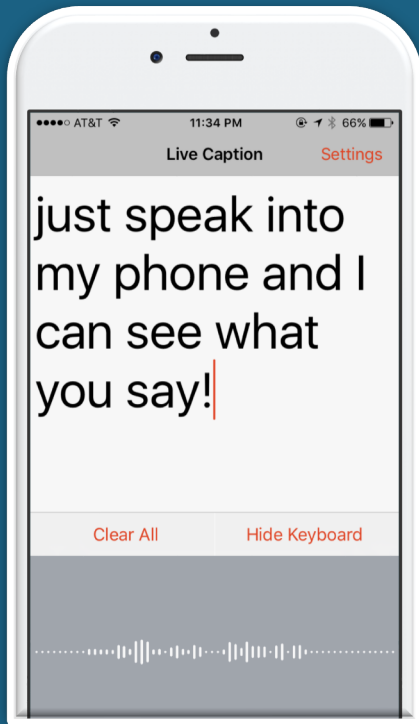
# VIDEO CALLS FACETIME/ GOOGLE DUO/ SKYPE...

Video calls make it ideal for communicating with sign language or for hard of hearing individuals to lip read. Although lip reading is used most extensively by deaf and hard-of-hearing people, even people with normal hearing process some speech information from sight of the moving mouth.

As of September 2021, FaceTime is available on Android. However, you won't find a FaceTime app available for download on the Google Play Store or Microsoft Store. Instead, someone with an Apple device needs to create a link to invite you to a FaceTime call. Opening this link in Chrome or Microsoft Edge will let you join the call through a web interface. You unfortunately can't start a FaceTime call on Android to an iPhone; you're limited to joining calls that an Apple user sends you.



**Built in**  
**Accessibility**  
**Live Speech to Text**



# Live Captions

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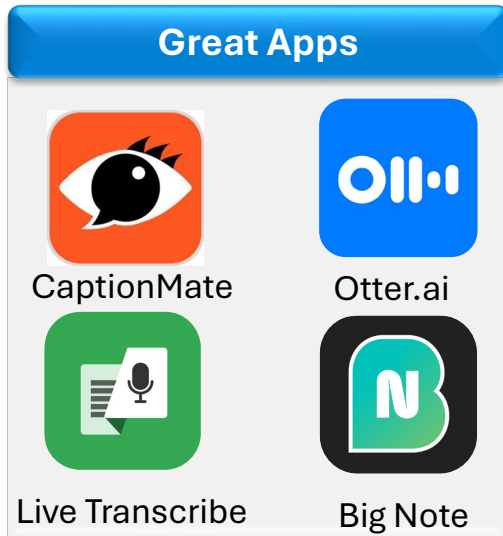
The new option lets users easily turn on automatic captioning in their Settings menu, which will apply to any audio played within the device, from phone calls to videos.

# Capture Face-to-Face Conversations with an App

If your hearing loss makes understanding your conversations difficult, these apps could be the solution for you. Charges may apply for service.

These are some of the apps that listen to spoken words and translate them to text in real time. Some even allow you to type your response back if you have a speech disability.

CaptionMate, Otter.ai, Big Note, Ava and Live Transcribe (free on all Android)








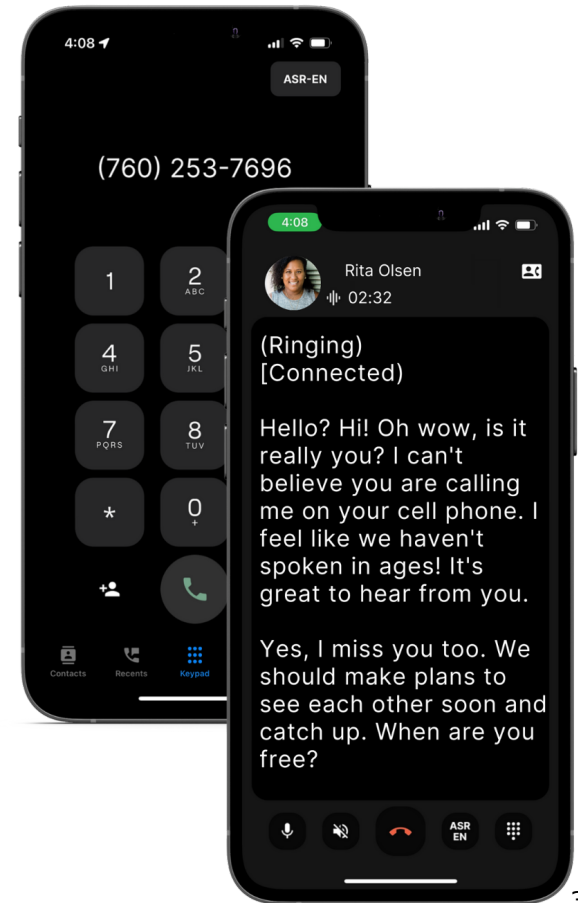
# Capture Phone Conversations with an App

If your hearing loss makes understanding your smartphone conversations difficult, these apps could be the solution for you.

The following apps provide real-time captioning of phone conversations at no cost to users, as it is funded by the FCC's Telecommunications Relay Services Fund.

**Great Apps**

				
Caption Mate	Caption Call Mobile	Nagish	InnoCapti on	Hamilton Mobile CapTel



# Rhode Island Relay



It is a NO COST service that provides full telephone accessibility to Rhode Island residents who are:

- Deaf
- Deaf/Blind
- Hard of Hearing
- Speech-Disabled

Mandated by the Americans with Disabilities Act of 1990 – Title IV (Telecommunication Relay Services). State of Rhode Island Public Utilities Commission contracts with Hamilton Relay and is funded by a telephone surcharge.

<https://hamiltonrelay.com/rhode-island/>

MOST  
COMMON  
TYPES OF  
RELAY  
SERVICE FOR  
DEAF, HARD  
OF HEARING  
AND SPEECH  
DISABILITIES

## **Deaf and Hard of Hearing**

- TTY (rarely used)
- Video Relay Service (VRS)
- IP Captel (in RI available to translate English to Spanish and vice versa for instate calls)
- Relay Conference Captioning (RCC)

## **Speech Disabilities**

- Internet Protocol Relay Service (IP Relay)
- Speech-to-Speech (STS)

# Captioning Telephone



The CapTel phone automatically connects to the captioning service. Once connected, the CapTel user speaks to the other person, just like he/she would on a standard phone. As the other person responds, a CapTel Operator uses the latest voice recognition technology to generate captions of what is being said.

# Hamilton CapTel for Business Interconnected by Tenacity

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**Captions are displayed directly on the Cisco phone.**

Users can use existing features of the Cisco phone including hold, transfer and conference.

No need for analog lines supporting 3rd party phones that exist outside of Cisco Unified Communications Manager.

The solution uses existing features built into Cisco Unified Communications Manager minimizing setup complexity.

**For more information call [\(866\) 756-0321](tel:8667560321)**

\* For an optimal experience, we recommend the Cisco 8851 phone.

# Web CapTel

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Make a CapTel call  
via the web with  
any phone with a  
direct number !



# Relay Conference Captioning

1

Captioner listens and transcribes in person meeting or conference call.



1



Captioner

2

2

Deaf/hard of hearing RCC participant reads the conference call captioning using a computer, tablet or mobile device.



RCC Participant



3

The RCC participant speaks directly to participants.

[Rhode Island Relay: RCC \(Remote Conference Captioning\) \(hamiltonrelay.com\)](http://hamiltonrelay.com)



# What about Telecommunication for Deaf and HOH in an Emergency?

# Text-to-911

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This option is available for individuals in RI and many other states and is helpful for people who are deaf or hard of hearing when contacting 911. It also could be life-saving in certain situations, such as those involving domestic violence or other crimes of violence.



However, requesting assistance by texting 911 also may take longer than a voice call to 911 because the telecommunicator must receive the text, enter the information into the computer system, and respond to the text and repeat this procedure for any follow-up text messages. This could impact response times, which is a critical consideration in a life-threatening situation.

Note: It is important to **provide your exact location** when sending a text to 911 since telecommunicators may not be able to identify the specific location of a person sending a text to 911, which they usually are able to do when someone calls 911.

# Calling 911



if you dial 911 and cannot speak, the system will automatically assume it's an emergency. the dispatcher will attempt to locate you and dispatch emergency services, even without your verbal confirmation.

Note: 911 operators may ask questions requiring yes/no answers via keypad taps or other means. Also, Deaf and HOH can communicate with both Speech-to-Text and Text-to Speech Accessibility features.

- **Live Caption** can caption phone calls on both Android and iPhone devices. It automatically transcribes speech during both incoming and outgoing calls (you can enable Live Captions through the Accessibility settings on both iPhone and Android devices)
- **Live Speech** allows you to type what you want to say, and have it spoken aloud both in person and on a phone call (you can enable Live Speech through the Accessibility settings on iPhones only).



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Fax: (401) 222-3574

<https://ors.ri.gov/assistive-technology/adaptive-telephone-equipment-loan-program-atel>

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