WHITE PAPER

Improving Accessibility in Emergency Services for the Deaf and Hard-of-Hearing

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Executive Summary

This white paper addresses the urgent need to improve Deaf and hard-of-hearing (DHH) services in emergencies. First responders are often the first line of defense in crises, demonstrating the critical need to highlight the challenges that hinder effective communication between DHH individuals and emergency personnel.

To boost equitable communication in emergency services for the Deaf, state and local lawmakers have the power to:

1. **Promote ADA and FCC compliance**: Enforcing and monitoring compliance with these regulations can streamline emergency services, avoid costly lawsuits, and improve survival rates.
2. **Embrace assistive technology**: Assistive technologies such as on-demand video remote interpreting (VRI), video relay services (VRS), text-to-911, and captioned phone service can vastly improve communication between DHH individuals and first responders. These technologies can lead to better outcomes and efficient emergency management.
3. **Allocate funds**: Earmark funds for upkeep of equitable communication technologies and training emergency personnel on their use.
4. **Collaborate with advocacy groups**: Engaging with DHH advocacy groups and experts can better prepare and strengthen emergency teams' ability to handle diverse communication needs.

We provide an overview of applicable accessible technologies, including on-demand video remote interpreting (VRI), Video Relay Services (VRS), and phone call captioning, all of which Sorenson offers as a comprehensive language services provider.

Finally, we invite local and state government decision-makers, policymakers, and emergency services personnel to capitalize on innovative solutions. By championing accessibility in emergency services, we can help our dedicated first responders bridge the communication gap with the DHH community.

Introduction to Emergency Access for Deaf and Hard-of-Hearing Services

Approximately one in 20 people in the U.S. are Deaf or hard-of-hearing (DHH)[i]. It is crucial that this population have the same communication access to emergency services as the rest of the public to receive equitable service from law enforcement, fire department, social services, and emergency medical services (EMS), which their tax dollars support. It's not merely essential to these agencies serving their communities effectively; it's a mandate of the Americans with Disabilities Act (ADA) to protect Deaf people from discrimination during emergency contact with law enforcement, firefighters, and emergency medical services (EMS) personnel. As 911 is the primary contact for seeking emergency assistance, the ADA also requires complete DHH access to 911 calls[ii].

Image description: Group of Deaf colleagues in a room communicating with each other in sign language.

While DHH individuals make up a smaller percentage of many communities, they visit the emergency room more often for noncritical conditions than hearing people[iii]. This creates a ripe opportunity for misunderstandings and assumptions among emergency personnel, especially in combination with DHH communities' underrepresentation in the healthcare system and studies as a cultural and linguistic minority[iv].

We will explore the barriers to providing fair emergency services for DHH individuals and solutions to equip responders for equitable and efficient communication.

Background in Emergency Access for Deaf and Hard-of-Hearing Services

Emergency responders often struggle to reliably communicate with DHH individuals in situations where tensions run high and seconds count[v]. Community surveys reveal how poor communication access can lead to health inequities[vi]. Both parties—the DHH community and emergency services personnel—are often unfamiliar with how to interact and communicate with each other. This cultural and linguistic divide is especially notable during natural disasters and emergencies[vii].

The need to improve communication stems from the collective desire to protect all human lives and promote public safety. This extends to situations where lives are at stake—especially for DHH individuals vulnerable to receiving inadequate information during emergencies (such as sirens, public emergency announcements, and phone calls).

The Urgency for Improved Accessibility in Deaf and Hard-of-Hearing Services

The consequences of inadequate communication with the DHH community can be severe, as in the case of:

- a Deaf California woman who died in a house fire due to a lack of flashing smoke detectors in her home[viii]

- a Deaf man who sued the Colorado police department after being wrongfully jailed for four months[ix]
- a Tennessee man who lost part of his right leg after being refused a sign language interpreter[x]
- a Deaf Oklahoma man who died in a police shooting[xi]

Such incidents are avoidable with the wide adoption of technological advances that can put accessibility at our fingertips. Sorenson provides communication technology that can prevent these incidents.

Accessible technology goes together with emergency personnel training and ongoing education on the unique needs of the DHH community to prevent tragic incidents and ensure optimal outcomes. Although accessibility is a global problem[xii], with many emergency service providers lacking preparation and training in interacting with the DHH population, this paper will focus solely on U.S. emergency services personnel.

Local and state programs, including emergency services, are subject to Title II of the ADA[xiii]. As DHH individuals fall under the disability umbrella, ensuring their access to "programs, services, and activities" means agencies need to consider solutions like sign language interpreters, video remote interpreting, captioning, and notetakers to communicate effectively.

Overview of Federal Accessibility Mandates

Image description: Sheaf of papers titled "Anti Discrimination Law." A gavel and pen rest on the papers.

For motivation to initiate improvements in technology involving emergency access, one needs to look no further than U.S. federal laws that prevent discrimination against anyone when providing emergency services, including the DHH community[xiv].

Let's touch on some of these antidiscrimination laws:

1. **Communications Act, Section 255**: Companies that create and provide telecommunication products and services must make them accessible to DHH individuals. The FCC ensures mobile devices can access and understand emergency alerts and provide links for more information.
2. **Twenty-First Century Communications and Video Accessibility Act (CVAA):** President Obama passed this legislation in 2010, ensuring that all digital communications and video are fully accessible to people with disabilities, especially during emergencies.

3. **Rehabilitation Act of 1973, Section 508**: This law requires that all federal agencies make their technology-based information accessible to people with disabilities.

Meeting—or exceeding—these requirements mean implementing accessibility in each step of delivering public services.

Emergency communication accessibility often starts before first responders arrive. Title IV of the ADA mandates that all telecommunication equipment be accessible to people with disabilities. This applies to both manufacturers and service providers of telecommunication equipment. The Telecommunications Act of 1996, an amendment of the Communications Act of 1934, covers:

- Wired and wireless telecommunication devices (such as telephones, fax machines)
- Computers

The accessibility standard is that products and services must be easy for everyone to use and control—regardless of ability—to meet Section 255 of the Communications Act's accessibility requirements[xv].

Usability also means providing easy access to guides, instructions, and support services, including customer phone lines and service and repair centers.

If a product or service is not accessible or usable by design, compatibility with special equipment can help:

- Electronic access to all information and controls
- External devices for audio connections
- Compatibility with text telephones (TTYs)
- Ability to use TTYs

Some compatibility examples are assistive listening devices (headphones, amplifiers, loop systems), smartphones with TTY mode, and landline phones in the home or office to enable TTY communication.

State and Local Laws for Effective Deaf and Hard-of-Hearing Services in Communication

Although there are no state mandates specifically addressing equitable communication with the DHH in emergencies, several states have codified the same requirements for equitable access that exist at the federal level.

The National Association of State Agencies of the Deaf and Hard of Hearing (NASADHH)[xvi] has a list of state agencies servicing the DHH communities. You can find your local agency and advocacy groups online if your state is not on the list. States with dedicated agencies for the DHH provide equitable communication and advocacy services during emergencies. The NASADHH can be valuable if a DHH person's home state provides 24/7 communication services during emergencies.

To shape state and local laws to aid equitable communication in emergencies involving the DHH, local public services can follow federal mandates outlining effective communication between first responders and the DHH. The Department of Justice (DOJ) provides a helpful checklist for maximizing effective communication[xvii].

Current State of Accessibility in Emergency Services for the Deaf

At a DeafNation Expo in 2022, a group of Deaf attendees were standing outside near a food truck when a vehicle struck them. One died, and many others sustained severe injuries[xviii].

AnnMarie Killian, CEO of TDI Access, was there and said it was "absolutely devastating." She emphasized that emotional support services came to the injured's aid, but no one knew sign language, so communication access was lacking.

For Melissa Keomoungkhoun, a Deaf attendee who sustained severe injuries in the incident, her manager (who was also a sign language interpreter) was able to facilitate

communication between Ms. Keomoungkhoun and first responders. Upon arrival at the ER, however, her manager was not allowed to stay with her. When the ER staff realized Ms. Keomoungkhoun was Deaf, they set up video remote interpreting (VRI).

Moreover, when the police arrived to take Keomoungkhoun's statement, the police officer knew sign language, but unfamiliar signs made it difficult for the two to understand each other. After struggling to fully understand the incident, the police officer agreed to allow Keomoungkhoun's colleague to interpret their conversation.

Law Enforcement

In a situation where a Deaf person calls the police department, the number one priority, according to Los Angeles Police Department (LAPD) Captain Rich Gabaldon of the West L.A. Division, is to obtain information immediately upon meeting the Deaf caller[xix]. The LAPD has 10 officers who are well versed in American Sign Language (ASL) and whom they call upon for these specific situations. If an ASL officer is unavailable, someone can contact them at home and facilitate communication between the Deaf caller and the ASL officer. The ASL officer then completes the crime report to satisfaction. Captain Gabaldon emphasizes, "Having officers that can sign is an advantage that most smaller agencies do not have."

The resources LAPD has as a more prominent agency offer better telecommunication options for its community. In addition to VRS and IP CTS for emergency phone calls, Los Angeles County offers text-to-911 technology to the public. Updated communications like these encourage faster and more effective emergency communications between law enforcement and the DHH community.

Image description: A woman with her fingers at her temple, looking worried. She is communicating with a police officer.

Improving communication yields benefits to both sides. The American Civil Liberties Union (ACLU) monitors incidents of police brutality[xx] that can tarnish departments' public image. Many of these incidents stem from miscommunication between Deaf people and law enforcement, as in these cases:

- Deaf woman gets $750,000 from NYPD[xxi]
- Deaf man and wife sue San Marcos PD for alleged excessive force[xxii]
- Deaf man sues officers and county commissioners over traffic stop tasering[xxiii]
- Deaf discrimination lawsuit names businesses, village, and police[xxiv]

Such cases are potentially avoidable. The National Association of the Deaf (NAD) put out a powerful statement on needless deaths in the DHH community resulting from the worst of these encounters, pointing out the dangers to DHH people when police assume individuals can hear and react to spoken instruction[xxv].

Fire and EMS

Similar to law enforcement, firefighters and EMS personnel[xxvi] struggle with effectively communicating with the DHH. Defaulting to pen and paper is sometimes not fast enough and can cost precious time in emergencies.

- In a fire, are there more people inside? Are there hazardous/explosive materials in the building? Are there signs of a gas leak?
- In medical emergencies, are there any allergies or drug interactions? Is the patient experiencing symptoms that require immediate action?

When first responders can access more efficient communication methods (such as on-demand interpreting), they can handle the situation quickly and efficiently, leading to better outcomes.

Opportunities for Communication Accessibility in Emergency Access

Improving accessibility for DHH individuals is an ongoing process. With ever-changing technology and increasing awareness, there are plenty of opportunities to upgrade emergency communication access for the DHH community.

For communication technologies currently in use, the Telecommunications Relay Services (TRS), part of Title IV of the ADA, enable "functionally equivalent" phone calls between people with speech and hearing disabilities and hearing people[xxvii]. These services include video relay service (VRS) — which uses a sign language interpreter to pass messages between Deaf and hearing callers — and IP CTS that provides live transcripts of phone conversations for individuals with hearing loss who need captions to use the phone.

Sorenson, the world's leading communications provider for DHH people, makes calling 911 simple. When a DHH person calls 911 through VRS, CaptionCall, or CaptionCall Mobile, the local 911 center receives the call and recognizes the E911 location registered to their account[xxviii].

Promising Emergency Communications for Deaf and Hard-of-Hearing Services

Image description: A female 911 operator, wearing a headset, types while taking a 911 call.

New developments in communication technologies useful in emergencies include:

1. **Text-to-911 services:** The ability to send texts in dangerous situations is crucial for saving lives. A DHH user can make a 911 call from their mobile phone. Text-to-911 is a valuable tool for DHH individuals to quickly request help, but it's not available everywhere. At this time, just over 50% of 911 call centers have text-to-911 capabilities.

   accesSOS, the 911 app, aims to expand the service to people whose area doesn't offer it by acting as a third-party provider[xxix]. accesSOS is currently live in Santa Fe, Albuquerque, and Bernalillo County in New Mexico; and Berkeley, California.

   The FCC rules mandate that cell phone companies must be able to send emergency text messages to 911 call centers that want this capability. If a 911 call center requests this, the cell phone company must set this up within six

months. This requirement is for all businesses that offer text services that can connect with other text messaging services.

2. **Next Generation 911 (NG911):** This 911 service is the digital enhancement to the current 911 system, making it a "faster, more resilient system that allows voice, photos, videos, and text messages to flow seamlessly from the public to the 911 network." NG911 is meant to replace the current 911 system[xxx].

3. **Sorenson Express:** On-demand video remote interpreting (VRI) is a recent innovation with significant implications for spontaneous communication needs. The subscription service provides instant access to a qualified sign language interpreter on a tablet or mobile device with a click of a button[xxxi]. It's an ideal solution for closing the communication gap between DHH individuals who use ASL and first responders in emergencies.

Much debate has covered the benefits and downsides of on-site ASL interpreters versus VRI[xxxii]. The table below indicates both the advantages and challenges of using either service. While many DHH people prefer in-person interpreters, VRI fulfills the requirement for effective communication under Title II—with the added flexibility of on-demand access in emergencies.

Table 1: Comparative Analysis of In-Person ASL Interpreters and VRI

Communication Mode	Advantages	Challenges
In-person ASL interpreters	Personal interaction, a better understanding of context, best for sensitive dialogue	Costly, limited availability, requires planning or travel time
VRI	Beneficial for patients in rural areas, ideal for emergency services, available on-demand	Need reliable high-speed internet or mobile data service

The Need for Ongoing Training and Increased Awareness in Emergency Services

To encourage public service providers to perform their jobs well, save lives, and comply with federal mandates, training and awareness can help achieve equitable communication with the DHH community:

1. **Specialized training:** Boost programs to include training on Video Relay Services (VRS) and emergency alert systems. This training can consist of lessons in basic sign language, learning strategies for effective communication, and cultural and linguistic characteristics of the DHH community.
2. **Awareness programs:** Create awareness campaigns highlighting the experiences of DHH people during emergencies. This could mean creating videos showing a DHH person's perspective and conducting workshops where first responders can interact with the DHH community.
3. **Simulation exercises:** Create scenarios involving DHH individuals in emergency drills. For example: simulations where emergency personnel must rescue someone who communicates through sign language or interactive scenarios involving assistive technologies as part of a training exercise.
4. **Communication guidelines:** Develop clear communication guidelines for interacting with DHH people during emergencies. This can include visual guides for emergency personnel, detailing communication methods such as gesturing, pointing to printed phrase cards, writing notes, or using text-based messaging apps.

A user guide for first responders is available to learn how to meet DHH people's communication needs, which also provides tips on learning the ASL alphabet and basic signs[xxxiii].

The Potential Impact of Improvements for Deaf and Hard-of-Hearing in Emergency Access

Achieving effective communication will provide emotional and medical support and ultimately save lives. Such support requires two-way communication between first responders and all members of the public.

These are the benefits of supporting equitable communication access in emergencies:

1. **Increased safety:** Improvements in emergency communications can reduce response times and produce better outcomes.
2. **Equal access to services:** Using new technologies can provide equal access to emergency services, which aligns with the ADA.
3. **Increased independence:** Being able to receive and understand emergency alerts without outside help reinforces an individual's freedom and autonomy.
4. **Data-driven insights:** Analyzing data from positive emergency responses can improve protocols and communication technology to meet the specific needs of the community.

Improving emergency communication access and raising awareness will create an emergency management system with faster response times, higher survival rates, fewer lawsuits, and less risk of regulatory fines.

To State and Local Government Decision-makers

Image description: Group of diverse colleagues seated at a conference table.

State and local government decision-makers can directly impact the availability and quality of access to emergency services through laws and funds allocation for initiatives that improve those services.

Funding decisions are critical for continuing improvements in emergency access, including the implementation of emergency services, technology infrastructure, and training that bring inclusion and accessibility to the forefront.

As state and local government decision-makers, you can:

1. **Enforce FCC and ADA compliance**: Recognize the basic need for equitable emergency services. Understand that access to these services is a fundamental right for everyone.
2. **Invest in Assistive Technology**: Equal access includes integrating communication technologies that allow seamless communication for DHH

individuals. On-demand VRI can fulfill the need for fluid communication in emergencies that until now has been a challenge for first responders.

3. **Allocate Funds**: Set aside funds specifically for developing and maintaining equitable communication technologies and training emergency personnel in their use.
4. **Oversee Audits and Reviews**: Monitor the execution of initiatives with emergency personnel to keep emergency systems up to date.
5. **Include the Community**: Involve the DHH community in the decision-making process. Their insights can guide effective services that meet their unique needs.
6. **Take Accountability**: Establish an accountability system to ensure that improvements to emergency access remain a priority, defining clear milestones and regular progress reports.

With technology, you can build a system where everyone, regardless of disability, can count on their responders for help in an emergency.

Conclusion

Gaps in Deaf and hard-of-hearing services in emergency services persist despite FCC and ADA mandates and assistive technologies, with unnecessary challenges, inefficiencies, and risk to people and property.

Addressing them is about more than adhering to legal mandates for accessibility and equity; it's also about the tangible benefits that equitable emergency services can deliver: improvement in response times and survival rates plus reduced financial and regulatory costs associated with noncompliance. It's about ensuring that every DHH individual can summon help in crises without hindrance and that first responders can provide the selfless services they've dedicated their lives to.

By committing to equitable communication access for the whole community, you're investing in a system where the metrics that matter—from improved survival rates to decreased litigation costs—bear substantial benefits. In doing so, you champion a pragmatic and measurable approach to safeguarding lives and reinforcing public trust in our emergency services system.

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About Sorenson Communications

Sorenson is one of the world's leading language services providers and the leading provider of communication tools for Deaf and hard-of-hearing people. We combine patented technology with human-centric services to connect signed and spoken languages: captioning and video relay services, over-video and in-person sign language and spoken language interpreting, translation and localization services.

Our company impact extends beyond the connections we support. Under Sorenson's Impact and ESG (environmental, social and governance) criteria Vision and Action Plan, we're reviewing our carbon footprint, addressing accessibility and advancement barriers for Deaf employees, and implementing a supplier diversity program.

Sorenson is a minority-owned company committed to expanding opportunities for underserved communities and championing a culture of belonging.

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Connect Beyond Words.

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