

Living Safely

with disabilities and special health needs

Inclusion in Innovation

Recommendations to inform best practices for safety education and provider training using augmented and virtual reality

These practices set the groundwork for equity in innovation as it applies to living safely – a fundamental human need for people with and without disabilities.

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This report has been written in plain language to benefit all readers, including people with cognitive and learning disabilities, low reading literacy, and people who are unfamiliar with the topics or language discussed. In order to remove unnecessary barriers to understanding, we have avoided or defined complex terminology.



Children's Specialized Hospital

Children's Specialized Hospital, an RWJBarnabas Health facility, is the nation's leading provider of inpatient and outpatient care for children from birth to 21 years of age facing special health challenges – from chronic illnesses and complex physical disabilities like brain and spinal cord injuries, to a full scope of developmental, behavioral, and mental health outcomes.



NJ Division of Disability Services Inclusive Healthy Communities Grant Program

This whitepaper has been developed by Children's Specialized Hospital Living Safely with Disabilities and Special Health Needs, an initiative funded in part by an Inclusive Healthy Communities Grant from the Division of Disability Services, New Jersey Department of Human Services.

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Executive Summary

Disabled people are a large and growing population who are often unprepared for situations that may put their safety at risk, or cause injury. The content and format of current safety education typically do not address the needs of disabled people.

To be effective, people with disabilities need to be included in all phases of safety education and professional training. Emergency planners want to work with the disabled population but have a hard time identifying who they are, where to find them, how to find them, and how to meet their needs.

While augmented and virtual reality (AR/VR) do not replace human interaction in safety education and training, the use of AR/VR in this field holds much promise because program settings can be customized to meet the needs of various users which creates safe spaces to practice both prevention and response to emergencies. Programs can be adjusted for those with trauma history, help non-disabled users experience what it is like to be disabled to improve sensitivity and response, and can include built-in outcome measurement tools.

The cost and time needed for initial AR/VR program development is the main barrier to wide-scale use. Equity, funding, and sustainability are the keys to effective safety education and training.

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One important way to change invisibility is to seek out the perspectives of people who are, or risk being, the most excluded by a solution. Often, the people who carry the greatest burden of exclusion also have the greatest insight into how to shift design toward inclusion.

Kat Holmes

Approximately sixty-one million adults in the United States have some type of disability (CDC, 2020), and more than seven million students receive special education services (National Center for Education Statistics, 2021). People with disabilities are more likely to be injured than those without disabilities (Xiang, Wheeler, & Stallones, 2014). Yet, safety education and planning often do not consider the needs of people with disabilities.

To focus on this problem, Children's Specialized Hospital was awarded an Inclusive Healthy Communities grant in 2021 from the New Jersey Division of Disability Services, Department of Human Services. *Living Safely with Disabilities and Special Health Needs* is a partnership with disability advocates, organizations, agencies, and caregivers focusing on improving equity, accessibility, and functionality of safety education and injury prevention.

We found that when safety education and resources are provided, they might not be relevant, understandable, or accessible to those with disabilities. Also, emergency responders and direct service providers (DSPs) reported they are typically not trained to recognize and address the safety needs of disabled people. As a result, people with disabilities are often unprepared for safety situations and more prone to injury. When safety education is provided, little to no efficacy data is collected and currently, there are no national data samples or much research on the effectiveness of safety education and training for people with disabilities and emergency responders.

To better understand the issues and develop recommendations for improving safety education, we held nationwide brainstorming summit discussions called *Inclusion in Innovation*. A diverse group of thought leaders, people with disabilities, law enforcement and emergency responders, caregivers, health care providers, therapists, educators, researchers, and others participated. This summit series provided the opportunity for people with disabilities, service providers, researchers, and others to directly interact to share experiences, perspectives, and ideas. Summit topics identified as high impact included: law enforcement interactions, fire safety, elopement, and recognizing and communicating personal violence and abuse.

Summit discussions identified the importance of including people with disabilities in creating safety training to ensure training modules are realistic and helpful. Augmented Reality/Virtual Reality (AR/VR) was discussed as a promising way to provide safety training because it can be customized to include various situations and adjusted to be relevant across situations, types of disabilities, and diversity of identities. AR/VR encourages safe practice and can be used for training people with disabilities, caregivers, emergency responders, educators, other service providers, and people interested in safety. AR/VR can also help track the effectiveness of training in real time.

Our intended audience for this whitepaper is EVERYONE – including people with disabilities, caregivers, municipal planners, technology developers, emergency responders, government officials, legislators, writers, editors, bloggers, community members, educators, researchers, academic professors, healthcare providers, and others.

Informed by those who participated in the summit, this whitepaper aims to guide the development of safety education using AR/VR, inclusive of people with disabilities. Our main goal is to set the groundwork for equity in innovation as it applies to living safely – a fundamental human right.

Historically, data collected from public safety education within community risk reduction programs have excluded people with disabilities. Minimal outcome measures and data are available on public safety education and people with disabilities – considered a high-risk population. This whitepaper advocates for establishing best practices in safety education through emerging technology that includes people with disabilities and provides documented outcome measures to evaluate and universally improve public safety.

In order to use language respectful to a variety of readers, the terms “disabled people” and “people with disabilities” are used interchangeably within this report. The American Psychological Association and the National Center on Disability and Journalism recommend first-person language. The preference for those with disabilities varies from person to person. The best practice is to respectfully ask the person how they choose to be referenced.

Access and Functional Needs

People with access and functional needs are those who need help due to any condition (temporary or permanent) that limits their ability to act, get, or use information. Access and functional needs do not require the individual to have any diagnosis or specific evaluation. ([Online source of information about access and functional needs from FEMA](#))

Accessible

Ready for people to reach, enter, communicate, or use as intended as a result of its design, modifications, or accommodations.

Augmented Reality

An interactive experience within a real-world environment where objects in that environment appear to be enhanced or changed through technology. These experiences can be enhanced with visual images, sounds, smells, and other sensory input.

Disability

A physical or mental impairment that substantially limits one or more major life activities (such as walking, talking, seeing). This includes people with a record of such an impairment, even if they do not currently have a disability. It also includes individuals who do not have a disability but are regarded as having a disability. ([Online source for this definition from the ADA.](#))

Elopement and Wandering

Leaving a safe place such as a home, school, recreation center, or store. People who elope and wander might go to places where they are not around caregivers or others they are familiar with who usually support their safety.

Emergency Responder

Someone who is trained to help during unsafe situations. An emergency responder may be a firefighter, police officer, emergency medical technician (EMT), paramedic, or someone trained in searching and rescuing people who are lost. Emergency responders are sometimes called first responders.

Equity

Every person lives with different circumstances and has unique needs. People with disabilities may experience things differently and certain activities may be more challenging. Providing varied and relevant resources, products, and services can help make things more equitable.

Fire Safety

Understanding the uses and dangers of fire. It involves a person's ability to prevent fires and to be safe or to leave when necessary if there is a fire. Fire safety can include learning how to control and put out a fire.

Haptic

Technology that provides the user with a physical sensation as a result of interaction with the technology. For example, if a person touches or moves in a certain way, the person will experience a sensation as a response to that touch or movement.

Interpersonal Violence

Physically or emotionally hurting or threatening to hurt someone else.

Law Enforcement

People who are trained to make sure people are safe, help people when they are having trouble, and respond to situations where someone might be breaking a law. Police officers are the most common type of law enforcement.

Measurable Outcomes

Collecting and using information to see how something (a program, service, activity, lesson, or treatment) turned out. For example, did a program have the effect that was intended? Did the activity cause a positive change in people's lifestyles?

Provider Safety Training

Information given to people to help them learn how to keep others safe. There are many types of providers, including emergency responders, law enforcement, teachers, social workers, doctors, and nurses.

Safety Education

Teaching and sharing facts, knowledge, and experiences to help improve safety by preventing accidents, avoiding and caring for injuries, preparing for emergencies, and making safe decisions during daily activities.

Sensory Toolkit

A portable box, bin, or bag containing different objects that can help calm or focus a person. The items in a sensory toolkit are associated with the different senses. Each person has different preferences, and the need may change based on different situations.

Universal Design

A way of designing a product, service, lesson, or environment so that anyone with or without a disability can access, learn, or use it as easily and as fully as possible.

Virtual Reality

An interactive computer-generated experience that seems as if it is real. A person can use different types of equipment to interact in different types of fake scenarios called simulations. When using virtual reality, a person's actions determine what happens in the simulation.

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Bringing emergency responders and people with disabilities together to learn from each other is what is needed. You need interaction to reduce apprehension.

- Summit Participant

Background and Assumptions

- Approximately sixty-one million adults in the United States have some type of disability (CDC, 2020) and more than seven million students receive special education services (National Center for Education Statistics, 2021). Yet, people with disabilities are typically not considered in community and personal safety education and planning.
- People believe false societal assumptions and stereotypes about people with disabilities. Despite disability rights laws such as the Americans with Disabilities Act (ADA), people with disabilities are often considered helpless, unable to care for themselves, or make their own decisions. They are repeatedly denied opportunities to participate in safety education and are not empowered or prepared to respond to dangerous situations, which can result in a higher risk of injury when compared to their non-disabled peers.
- People with disabilities have higher rates of injury than people without disabilities. Disabled people, especially those from marginalized socio-demographic populations, are more likely to be injured or harmed (“Forcibly displaced...”, 2022; Tiruneh et al., 2016) and may have reduced trust in first responders (Abrams, 2020)
- Caregivers and service providers may assume that disabled people are unable to contribute to their own safety or that they will be supervised at all times and do not need to know how to keep themselves safe. Safety education is often provided to parents, caregivers, and service providers rather than to people with disabilities themselves. When safety education is provided directly to people with disabilities, the content is often irrelevant or inaccessible.
- People with disabilities may not recognize safety hazards and, as a result, are at a higher risk for injury and abuse. According to our safety needs survey, people with disabilities and caregivers of people with disabilities identified several topics where more education is needed. Educators identified areas where they need more information and resources to provide safety education.

- Current events, life experiences, and social media have contributed to negative community perceptions of law enforcement and emergency responders as helpers, especially for people with specific racial, ethnic, language, income, and gender identities. This influences when, where and to whom people choose to disclose their disability.
- There is a need at municipal, state, and federal levels to have accurate information on how many people have disabilities. If the population count is underestimated, safety needs are far less likely to be identified and addressed.
- Emergency responders vary in ability to identify, prevent, and respond to situations involving individuals with disabilities.
- Emergency responders and those involved in public safety typically have insufficient understanding regarding how to appropriately and respectfully interact with people with disabilities.
- Safety training programs do not adequately include the safety needs and appropriate accommodations people with disabilities need.
- Inadequate provider training can injure and traumatize disabled people and those who care for and about them.
- The safety needs of people with disabilities vary widely. Needs depend upon the person's level of independence, method of communication, level of mobility, health and medical conditions, and access to supports and services.

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You can leverage your privilege in big ways.

- Summit Participant

As the disabled population increases over time, understanding and including disability awareness and competencies in public safety policy and practice is crucial.

Emergency responders and public safety stakeholders have expressed interest in connecting with disabled people in their communities to learn more about how to better support their safety needs.

- Everyone deserves to be safe.
- Emergency responders can help people be safe when they know what people need.
- Safety training helps people to stay safe, reduce injury, and prepare for and respond to emergencies.
- Safety training and education should reflect real-world situations and takes practice.
- Augmented and virtual reality programs create safe spaces to practice prevention and response to emergencies and other potentially dangerous situations and should be considered when designing safety training and education materials.

General Findings – Safety Education and Provider Training

To ensure that safety education and provider training are relevant, people with disabilities must be involved in all stages of development, including the concept, program design, delivery, and evaluation of effectiveness. While it is important for disabled people to direct and develop this work, they may not have the access or training to do so. For example, they may not be able to afford unpaid or low-paid internships as methods to gain training and experience.

While it is important that people with disabilities inform and participate in diversity, equity, and inclusion (DEI) efforts, it should not be assumed that solely because they are disabled, they will be willing to participate/lead such efforts.

Safety education and provider training should be funded as core components of safety programs. Additional funding can be sought through organizations.

It is important to pay people with disabilities as subject matter experts and safety consultants in ways that do not jeopardize their access to life-sustaining supports and benefits.

Providers and responders sometimes incorrectly assume that people with intellectual and developmental disabilities cannot make decisions or cannot advocate for themselves. Training on consent and guardianship laws is needed.

Universal 911 registration is a potential resource for sharing information about the safety needs of disabled residents. Well-designed serviceable systems must be established for dispatchers to alert emergency responders of the needs of residents with disabilities.

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When there are [safety] trainers, they are typically expected to train so many and are spread too thin to effectively train.

- Summit Participant

Specific Findings – Safety and Disability

Disability and Fire Safety

- The National Fire Incident Reporting System (NFIRS) has established guidelines for coding fire-related incidents. There is a voluntary system that gathers and tracks fire loss and incident data by state. This system can help identify patterns that can help inform training. Data can also track the effectiveness of programming.
- It may be difficult to evacuate people with physical or cognitive disabilities from a fire.
- In an emergency, some people run back into the home, hide, or elope from the location. This makes safe rescue difficult.

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Listening is ear responsible.
- Summit Participant

Disability and Law Enforcement Interactions

- Identifying the safety-related needs of disabled people helps law enforcement and emergency responders prepare for and respond to calls. However, it is often impossible to identify those with disabilities once on the scene.
- Life experience, past and current events, and media may negatively influence community perceptions of law enforcement and emergency responders as helpers. This may be especially true for those from multiply marginalized populations.

Disability and Elopement and Wandering

Group homes and other care facilities may hesitate to report elopement due to fear of perceived neglect. When someone leaves a facility without permission, delayed reporting can be life-threatening.

Challenges for search and rescue teams (SAR) related to elopement and wandering include:

- Missing people are often found in structures. Not all are necessarily attracted by water. Typically, those missing do not travel far.
- Most accidental deaths of individuals with autism spectrum disorder who have eloped are water-related.
- Immediate response is critical to positive outcomes.
- It remains unclear if the missing person crossing county lines affects the method and effectiveness of response and rescue.
- Families may downplay prior elopement activity (often referred to as ‘frequent flyers’) because of embarrassment. They may not call for assistance because they are afraid of being reported to child or adult protective service agencies.

There are personal tracking devices available to locate individuals who elope. The technology used in these locators varies (e.g., radio signal, GPS, satellite). While these devices assist in locating missing people with diagnosed cognitive disabilities, their use is unlikely with people in mental health crises. Personal tracking devices have various features, and it is essential to evaluate which devices will meet the needs of an individual. Issues involving these devices include cost and reliability. It should be noted that many people consider personal tracking devices a violation of privacy and other rights.

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If I don't disclose, the choice is made for me about how I'm viewed. If I do disclose, I can frame how [information] is disclosed... I see the power of expressing myself for who I am, not just with first responders. That's more powerful than fear of judgment.

- Summit Participant

Disability and Interpersonal Violence

Disabled people may not have received relevant sexuality education during their school years, resulting in limited understanding of personal autonomy, boundaries, consent, and anatomy and function. Many disabled people are taught to comply with authority which may contribute to their vulnerability and increased risk for interpersonal and sexual violence.

Challenges related to interpersonal violence:

- It takes an average of seven victimization events before many report/attempt to leave
- The elderly experience increased rates of violence and abuse and may feel uncomfortable reporting due to their dependence on caregivers
- Some disabled view forms of behavioral intervention as abusive and traumatizing
- While it is important to identify early, not all know how to recognize the signs and symptoms of abuse

It is important to note that direct service providers may receive inadequate training about how to effectively work with disabled people. This may lead to abusive and traumatic interactions.

Augmented and Virtual Reality Technology in Safety Education and Provider Training

There is a lack of safety education for adolescents and adults with and without disabilities. Training and education efforts must address those who become disabled in adolescence and adulthood. AR and VR can be a helpful addition to in-person safety education and provider training but should not replace in-person training completely.

Income and location may limit access to broadband, hardware, and the ability to stream.

Benefits of using AR/VR in safety training include:

- Situations and scenarios are customizable and can more closely match user characteristics to increase relevance. In this way, AR/VR can help address intersectionality issues better than other forms of training.
- The environment allows for unlimited, safe practice of a multitude of safety scenarios.
- Trainers, educators, and facilitators can monitor users' physiological responses, which can help measure instruction outcomes. For example, a user may experience less anxiety when experiencing a specific scenario.
- Scenarios can be chosen, paced, and adjusted more easily to meet the needs of users, particularly those with a history of trauma
- AR/VR can measure what the user is looking at and attending to. This technology can measure and track the frequency and patterns of physical reactions.

Multiple methods for accessing technology include voice, fingerprints, typing, and facial recognition.

Similar to other virtual forms of training, there are no geographic limits to participation.

AR/VR can be used to simulate experiences commonly encountered by people with disabilities, such as falling out of or being pulled from a wheelchair. These experiences can promote more respectful, empathetic, and safe response methods.

The initial cost of developing universal AR/VR design is high. However, there is significant cost and complexity in effectively implementing recurring in-person safety education and provider training. Once developed and used comprehensively, AR/VR costs may provide substantial investment returns.

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Data drives the need for [safety] training and justifies the time and resources.

- Summit Participant

Conclusions

Augmented and virtual reality are promising additions to safety education and provider training but should not completely replace human interaction.

Without a clear definition of disability, governmental agencies are likely to underestimate the numbers of people with disabilities and, as a result, inadequately identify or address public safety concerns impacting those with disabilities.

Emergency planners want to work with the disabled population but have a hard time identifying who they are, where and how to find them, and how to meet their needs.

It is essential to involve disabled people in all phases of safety education and training, from the creation and design of the program, running the program, and program evaluation, in order to promote safety. This will require a shift in power and training for both professionals and people with disabilities on how to collaborate effectively.

Safety education and provider training need to be universal, relevant to the learner, occur routinely throughout the lifetime and be provided in multiple formats and settings, ideally in multiple languages. Teachers and instructors need training and quality resources to provide safety education and provider training. Personal and public safety topics need to be relevant to each person and included in every individual education plan (IEP).

Safety education and provider training must be funded as core components of safety programs. Ongoing, sustainable evaluation and reinforcement must be built into the development of all safety training and education efforts.

As augmented and virtual reality technologies are developed and implemented, it is imperative that access be equitable. Marginalized groups, including the disabled, continue to have the least access to AR/VR.

The initial years of AR/VR program development and implementation likely won't be profitable. However, once developed, they become quite cost-effective, customizable, and impactful over time.

Augmented and Virtual Reality Recommendations

- As augmented and virtual reality technology is developed and implemented, access must be available to all. Don't exclude those with limited access to communication. Safety education should be provided in shared/equitable locations like senior centers, libraries, and centers for independent living. Use trusted people in the community to help make sure everyone knows about it.
- Establish an order for the education or training. Start with basic lessons or situations, provide AR/VR, then transfer and practice in real life.
- Prior to use, evaluate for sensory issues, including the potential for motion sickness. Adapt the technology or lesson accordingly. (e.g., If a person gets motion sickness easily, augmented reality may be preferred as it involves less intense movement.)
- Use various formats to access AR/VR technology, such as fingerprints, typing, voice, and facial recognition.
- Make sure that AR/VR is accessible to people with any disability, including blindness or deafness. For example, haptic feedback such as using a cane with sensors may help supplement AR/VR.
- Add AR/VR in all stages of training direct service workers and managerial staff. Consider making tenure or promotion contingent on completing designated AR/VR provider safety training.
- AR/VR is more engaging than standard presentations. Recognize benefits of AR/VR, which include the ability to practice, not relying on the complexity of field settings, and opportunities for customization.

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All issues are disability issues. If you use universal design, you don't need to retrofit a program to meet the needs of disabled.

- Summit Participant

Understand that the results from AR/VR safety education and provider training may change based on what is prioritized. For example, if the person engaged in the scenario is screaming and you focus on that, you may miss a better opportunity to respond to something else in the scenario.

Train responders, direct service workers, and disabled people together so they can navigate and observe scenarios as a group and provide feedback to each other.

Adjust the experience for those with potential trauma history.

- AR/VR may be less traumatic than other forms of training since the person can be removed from the experience more easily. Sensors can identify physical responses, allowing educators or trainers to get a sense of when the individual is becoming distressed. The sensory stimuli can be reduced, the scenario can be changed, or the session can be stopped.
- The ability to escape a triggering scenario must be incorporated so the user can exit the scenario. Pre-training needs to occur to help identify potential triggers and to alert the user in order to control the AR/VR experience.
- Include trauma therapists in the development stage as well as during use. Build VR experiences in such a way that they can be measured and adjusted as needed. Trauma-informed therapists can assist with de-escalation if needed.
- Incorporate signed waivers or releases prior to participation.

Train service providers to understand 'big trauma' and 'small trauma' (for example, using the wrong gender, violating personal space, and not giving choices). Repetitive small traumas can have cumulative effects.

Pay attention to implicit bias when selecting AR/VR scenarios. Make sure that people of all colors, genders, ages, and disabilities are not only involved in creating scenarios but are visually represented as well.

Consider incorporating these recommended AR/VR scenarios within safety education:

- Transportation and how to use it
- Housing and discrimination
- Understanding disasters, sheltering in place, and what to expect in a shelter
- Preparing for medical visits
- Self-advocacy
- How to give and deny permission to be touched
- How to handle sexual harassment in the workplace
- How to disclose needs and preferences
- How to get help
- Discussion with the employer about alternative payment methods, spreading out compensation, etc.
- Scenarios involving financial abuse (for example, the effects of people with vision impairments who cannot see denominations of paper money or practicing how to avoid being misled.)

Ensure AR/VR fire safety scenarios are relevant to people with disabilities.

- Develop lessons to promote independence while showing safe actions such as cooking.
- Review local data to identify patterns in the types of fires in a specific area. This can help in the development of relevant scenarios. For example, if most fires involve stoves, grills, and space heaters, design scenarios showing how to use those tools.
- Show potential fire safety issues with wiring, plugs, chargers, outlets, materials too close to a heat source, etc.
- Go through each virtual room to show what can cause a fire. Show how to scan a room for two exits whenever you enter. Which method would not be an option based on disability?
- Provide ways to pre-plan, such as identifying exits and different types of smoke alarms
- Show how fires can grow
- Show what to expect when there is a fire and how to cooperate with firefighters

In AR/VR scenarios for the safety training of firefighters, include interviews with disabled people about their needs

AR/VR provider training for emergency responders related to elopement and wandering:

- Incorporate AR/VR scenarios involving people with dementia, autism spectrum disorder, suicidal thoughts, and others in despair.
- Develop scenarios to train dispatchers on the types of questions to ask for these types of calls (for example, likes, dislikes, favorite places, where likely to hide, how to calm, etc.). Design these scenarios to help dispatchers recognize when a caller may have impairments that affect safety.
- Include relaying this critical information to others involved in the rescue.

AR/VR safety education for individuals and families related to elopement and wandering:

- Develop safety education scenarios on how to partner with local providers to safely secure a home or apartment to prevent elopement.
- Develop scenarios for reporting an elopement to emergency responders. Include questions that will likely be asked by a dispatcher or others on the search and rescue team. Include questions about the person's clothing, local water sources, favorite places to visit or hide, and recently visited locations.
- Develop scenarios to educate a person who is lost (in various environments.)
- Consider developing scenarios where users can “choose my adventure.” Incorporate situations where there are outcomes after a person makes a choice (for example, delaying a call for help, asking a person where to get help, etc.

AR/VR provider training for schools related to elopement and wandering:

- Develop scenarios for student outings and school field trips, including.
- Show how easy it is for a student to elope or wander.

When evaluating effectiveness,

- Compare the effectiveness of AR/VR to other forms of safety training. Who responds best to what? Do effects generalize to the real world? How long after training do improvements last?
- Explore social validity of AR/VR: Is it easy to use for both the trainer and the person receiving training? Are the scenarios realistic? Do users feel that it is helpful? Are users comfortable with the content? Can users fully access it? Is it acceptable to trainers?

Content and Structure for Safety Education and Provider Training

As part of the *Inclusion in Innovation Summit* series dialogue, people with disabilities, service providers, researchers, and others shared their knowledge and experience. They advocated for increased awareness and development of specific aspects of public safety. We are sharing the highlights of this content to support this advocacy and to further increase knowledge among safety stakeholders. Content is arranged by safety topic areas.

General Content

- Governmental agencies must establish a clear definition of disability to accurately estimate the number of people with disabilities. This will increase the likelihood of adequately identifying and addressing public safety concerns impacting those with disabilities.
- Ongoing, sustainable evaluation and reinforcement need to be built into the development of all safety training and education efforts.
- Simple instruction is not enough. Safety education needs to be as universal and individualized as possible.
- Use modeling, role-playing, coaching, feedback, and practice as the framework. Repetition aids retention.
- Focus on what the person should do, not what the person shouldn't do.
- Use universal design. Don't limit discussions to disability. Focus on what helps everybody.

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Involve the people we are serving.
Pay them for their work.

- Summit Participant

Interactions with Law Enforcement and Emergency Responders

- Promote disability registries and develop ways of accessing and sharing information across counties in case of emergency. Provide a liaison for every registered person to promote communication and an easy, low-tech way to update information quickly and efficiently. For example, New Jersey implements the Register Ready emergency preparedness voluntary database for residents with access and functional needs.
- To build relationships between community members and law enforcement, create multiple opportunities to discuss needs and how to keep safe. There is power in disclosure and preparation.
- Develop provider training content in collaboration between people with disabilities and emergency responders. Emergency responders and people with disabilities should deliver training together to build trust and promote mutual understanding between both communities. Follow up after training by asking officers if they've encountered a scenario that hasn't been included in training so that it can be incorporated in the next training session.
- Consider these key concepts for provider training:
 - Don't assume negative intent
 - Anxiety does not mean the person did anything wrong
 - Don't insist on eye contact as that may be painful for some people
 - Recognize that meltdowns may be triggered by sensory overload
 - Recognize that many disabled have a trauma history that may be triggered when stressed
 - Direct your communication to the disabled person and not only the caregiver
 - Don't grab the arm of a blind person. Let the person take your arm.
 - Don't assume that all Deaf people use sign language or can write to communicate. Ask what method of communication a person prefers.
 - Restraining a person's hands may remove their ability to communicate.

Develop common scenarios for provider training, such as

- Identifying medical issues that may influence behaviors
- Reviewing various methods for a person to disclose their disabilities or needs
- Recognizing and supporting the needs of people with disabilities

Inquire about the NAMI (National Alliance on Mental Illness) training programs for recognizing and helping people with mental illness.

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There are so many expectations of police. [We walk] a tightrope to not be forceful or judgmental. [We] will be judged by others. You can't train someone with a judgmental attitude. Acknowledge the good in the police or the police won't listen.

- Summit Participant

Fire Safety

Formalize fire safety education for the entire community, including those in licensed facilities, schools, and workplaces. Use multiple formats such as video modeling, role-plays, coaching, feedback, real-life practice, and supportive tools and resources. Repetition aids retention.

Drills in schools, workplaces, and the community should be universal and proactively include people with disabilities.

Partner with fire professionals and people with disabilities to design, implement and evaluate training and education efforts.

Ways to measure the effectiveness of safety training include:

- The ability to identify hazards in virtual or real-time
- Monitoring data such as the number and severity of fires; the cost of fire losses and recovery, relocation, and rebuilding; the number of fire-related deaths; the number of calls to group homes or other care facilities. This data should fully include people with disabilities living in their homes/apartments, group homes, workplaces, and actively engaging in the community.
- Conversations during walk-throughs at people's residences
- The number of correct answers during safety education or provider safety training

Be aware of specific concerns impacting people with disabilities. Engage participation in safety education and provider safety training. For example, use Public Service Announcements (PSAs) to share impactful stories from fire survivors involving people with disabilities. This is an effective way to reframe the non-inclusive safety messaging. Also, engage people with disability within PSAs to share prevention information and strategies.

Determine if modifications to smoke or other alarms are needed due to the needs of the disabled person and the environment. Assist with coordinating access or supplying adaptive equipment such as bed shakers, strobe lights, and mechanisms using a caregiver's recorded voice.

To support risk reduction, fire professionals can engage with their community by educating those areas with high numbers of false alarms or other safety concerns.

Establish lessons so they are relative to daily living. One example is cooking safety tips. Incorporate these lessons within special education IEP goals.

Educate about what fire is. Then address those who understand fire but use it dangerously.

Consider giving the disabled person a job to do related to building a fire. For example, the job is to scrunch papers for a fireplace or to gather wood for a fire pit.

Teach in steps. For example, bring over the lighter for the caregiver to use. Eventually, the person with a disability and the caregiver operate the lighter together.

- Avoid using the term “play” with fire as it is not a toy.
- Acknowledge mixed messaging related to fire. For example, a person hears, “Don’t touch the stove. You’ll get burned.” However, the parent or caregiver uses a stove and doesn’t get burned. Incorporate messaging focused on tools. A more effective message is, “You are not ready to use this tool right now. I will teach you when you are ready.”
- Prepare high school students with lessons that include scenarios about what to do if a fire occurs in a college dorm or residence.
- Assess a person for a history of trauma and stress. Treat that as prevention of fire-setting.
- Include fire misuse as part of home safety curricula.
- Reach out to adults post high school. Use state developmental disability agencies, centers for independent living, and others to train how to incorporate fire safety training in the residence, community, and workplace.
- Distinguish toys versus tools. Use the caregiver’s actions as teaching how to use the tool. Show how tools make life better and rules for the use of tools. For example, this is when we use candles. These are rules for electricity. Here is how the fire pit should work.
- Include methods to develop a safety plan for a person’s home or apartment. Scenarios can consist of how to create the safety plan, ways to identify exits, where to find fuses, etc.
- Firefighters and others involved in fire safety prevention and education may benefit by incorporating the practices that special education teachers use to redirect children who are hyper-focused on fire. Safety teaching should focus on what the person can do depending on age and ability.
- Use visual cues such as placing stickers of a large red circle with a line through it, around the house. Place them in areas where it’s not safe to touch (oven, space heater).
- Fascination with fire may be a way of getting the caregiver’s attention. If they don’t get what they need, behavior may escalate.

Elopement and Wandering

Programs created to manage elopement should have a secure funding source and be ongoing throughout the state.

To support prevention, offer child/adult protective services as a resource for working with family/program to identify concerns and implement appropriate individualized safeguards.

Those with a history of wandering should have access to personal locator devices.

Community policing, education, and outreach:

- Teach safety skills and assess families' homes or apartments to identify ways to prevent elopement. Safety education and provider training on this topic may help reduce the risk of lawsuits.
- Develop individualized elopement prevention plans by working with the caregivers, teachers, and therapists to identify reasons for the elopement, favorite places, patterns, and calming strategies. Unfamiliar settings, holidays, vacations, and transitions may also trigger elopement.
- Working with parents and caregivers to provide pre-scripted information can help to provide detailed information to SAR teams quickly (e.g., age, height, weight, clothes, and shoes a person was wearing when last seen). Take photos of students at the start of a field trip to record what they are wearing in case any go missing.
- Personal locator technology can make search and rescue more efficient and effective for SAR teams.
- Preemptively, parents or guardians of those who frequently elope can provide articles of clothing to assist SAR dogs in locating the missing person.
- Once a person is found, sensory toolkits can help the person calm and focus. Kits can be carried in Search & Rescue (SAR) and other emergency responder vehicles.

Recognizing and Communicating Abuse

Survivors' communication skills may significantly change when stressed. Victims need to be believed, regardless of disability status and communication skills.

The presence of the abuser may limit information revealed during an intake. When the caregiver or partner is in the same room, it can make it more difficult for the victim to communicate. A caregiver or partner may be an abuser.

Disability competency training for service providers is available from accredited organizations such as University Centers for Excellence in Developmental Disabilities Education (UCEDD).

Domestic abuse hotlines and other similar services and people with disabilities.

- Become more informed about trauma. Lead with “how can I help you?” This question allows the survivor the opportunity to disclose.
- Ask respectful questions that can help uncover disability characteristics that the victim may be reluctant to disclose.
- Intake counselors need to ask questions to determine if the victim is being abused because of the disability.
- Responses from a person with autism spectrum disorder or other disability may be literal.
- Recognize that a change in a person's typical behavior may be a way to communicate something upsetting, including potential abuse.
- Program accessibility must be built in from the very beginning to ensure inclusion.
- Provide resources that are relevant and accessible. (Are there physical barriers? Are resources understandable and functional? Are interpreters available?)
- Offer universal resources to all survivors. Don't expect anyone to disclose their disability status.
- Survivors have rights, regardless of guardianship status.

Accessibility

- Include all people, including those with the most severe impairments to those who have minimal support needs. Don't exclude those with alternate or limited access to communication.
- Include people with various disabilities in the development stage to ensure each group's needs and requirements are included. While focus groups are one way to collect viewpoints, not all are comfortable participating in focus groups.
- It is important to consider universal design. Recognize some people with disabilities move differently. Perspectives at various eye levels must be taken into account.
- Don't retrofit disability into safety education after the fact.

Impact of Demographics on Safety Education and Training

- To involve traditionally marginalized people, identify and engage those who provide services to disabled communities, such as faith leaders.
- To encourage disabled people to become technology developers, address pipeline issues related to getting training in technology fields. Be mindful that people with disabilities may not be able to afford to take unpaid internships.
- Pay disabled consultants for their expertise and be prepared to address income restrictions associated with life-sustaining benefits the person may be receiving. Be flexible about payment structures and timetables. Ask subject matter experts and consultants how and when they can be paid.

Technology Development

- It is vital for disabled people to direct and develop safety work, but they may not have access to participate. It is essential for technology and product developers to recognize that people with disabilities are part of a large and growing group of potential consumers with unmet needs.
- Collaborating with those disabled people can increase access and use, generate a higher return on investments, and maximize safety more comprehensively. It may be difficult for technology companies to measure the benefits of accessible AR/VR design and the indirect costs of not considering universal design from initial development.

Research

- Include people with disabilities as collaborators to ensure the relevance of research.
- Provide training on how to collaborate. Collaboration among people with disabilities, universities, technology developers, health care systems, educators, research institutions, caregivers, emergency providers, and other safety stakeholders will significantly decrease injury for all.
- Identify ongoing and sustainable core funding sources for disability safety research. Pay disability advocates for their participation in all areas of research.
- Determine an accurate number of disabled people by category of disability, demographic characteristics, and the intersection of identities.
- Develop meaningful outcome measures to determine the effectiveness of safety education and training, including education/training, focused on interactions with law enforcement, fire safety, elopement/wandering, and interpersonal violence.
- Although pre- and post- Likert scales can be effective ways to measure outcomes, they may not measure what is important. Scales and surveys need to be formatted for accessibility.

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Project Leads

Jill Harris, PhD
*AVP, The Research Center and
Coordinator, The Autism Program*

Adrienne Robertiello
Special Health Care Educator

Assistant Project Coordinators

Ingrid Boardman
Project Assistant Coordinator

Miranda Jakubek
Project Assistant Coordinator

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Core Partners

Matt Asner
Kelly Boyd
Marlene Brockington
Kate Cerino
David Chakrin
Lauren Choi
Kevin Craig
Nicole DeAugustine
David Dianni
Jasmine Doughty-Whitous
Caitlyn Foelsch

Rebecca Gallanter
Millie Gonzalez
Sheldon Green
Stephen Gruzlovic
Alycia Halladay
Lindsay Hauptman
Beth Kelley
Charles Lavin
Maria Leary
Michael Loberfeld
Johanne Mayer

Corinna McElwain
Michael Moran
Kevin Nuñez
Navah Paskowitz-Asner
Ashley Quinones
Manuel Ramirez
Ashley Ritchey
Colleen Roche
Julia Simko

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Those who sit on top of the disability hierarchy with closest proximity to white, cis, neurotypical, male, and abled are heard most often.

- Summit Participant



Children's Specialized Hospital, an RWJBarnabas Health facility, is the nation's leading provider of inpatient and outpatient care for children from birth to 21 years of age facing special health challenges – from chronic illnesses and complex physical disabilities like brain and spinal cord injuries, to a full scope of developmental, behavioral, and mental health concerns. Our pediatric specialists partner with families to make our many innovative therapies and medical treatments more personalized and effective so each child can reach their full potential.

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Email us at LivingSafely@childrens-specialized.org