



Supportive Technology – Technology First Assistive Technology and Remote Supports & Monitoring

Technology Forward Initiative

- Through the Technology Forward Initiative, Massachusetts DDS has developed an initiative to promote the use of **Supportive Technology** to increase the opportunities for individuals to achieve greater independence in their lives.



Barriers to AT in I/DD

Policy

Funding

Lack of Access to
Assessment

Unawareness/Lack
of training

Understudied
Population/Subject

Need

Gap in access to technology leading to barriers in:

- Community access
- Vocational opportunities
- Social participation

Significant health inequities

- Higher mortality rate from preventable diseases
- Communication difficulties

Addressing Barriers to AT Access

Barrier



Device mismatch



Lack of buy-in



Roles are unclear



Funding



Team is underprepared/lacks training



Maintenance



Understudied

Approach

- Person-centered assessment
- Team-based assessment
- Frameworks
- Tiered Model
- Training/Resources
- Ongoing supports
- Outcome surveys and research

What do we mean when we say Technology Forward?

Massachusetts is one of the first states to embrace the Technology Forward Initiative for individuals served by Dept of Developmental Services through Supportive Technology initiative

Supportive Technology allows the use of assistive technology to increase the opportunities for individuals to achieve greater independence and function in their lives

Supportive Technology should be considered when authorizing services for a person with a disability before utilizing direct, professional support services to assist a person in an area that they could potentially be self-sufficient with appropriate assistive technology.

DDS AT Program = Facilitators

Policy: DDS created a program that addresses these policy barriers.


Funding: Waiver service addresses Insurance funding gap

Lack of Access to Assessment: 12 agencies with expert providers.

Unawareness/Lack of training: Team based assessment and built-in training hours for whole team

Understudied Population/Subject: Innovation grants offer opportunity for studies

DDS Tech Forward Initiative

- 2018: ARC of MA Innovation and Technology Task Force
 - April 2021: DDS launched the initiative.
 - Address the gap in technology access for people with developmental disabilities
 - Increase access to AT
 - Address chronic staff shortages
 - Increase functional independence for individuals
 - **Shifts thinking to Tech Forward****Supportive Technology should be considered as a primary service for all adults.**
- 

WHAT IS ASSISTIVE TECHNOLOGY

Assistive Technology (AT) According to ATIA: AT is any item, piece of equipment, software program, or product system that is used to increase, maintain or improve the functional capabilities of persons with disabilities.

AT can be no tech, low tech, or high tech.

AT can improve daily function based on a domain area of focus, including the use of Remote Supports and Monitoring (RSM) when appropriate



Why Assistive Technology?

- For a person without a disability, technology makes things easier....
- For a person with a disability, technology makes things possible.
- **TIP: USE AT.** I have yet to meet a successful student with disabilities who doesn't use Any AT.



Supportive Technology at DDS

3 Areas under Supportive Technology

- Assistive Technology (AT) Assessments & Services
- Remote Supports and Monitoring (RSM)
- Assistive Technology Centers (ATC)

Assistive Technology Services involve 3 distinct components

Assistive Technology consultation/evaluation – The individual is referred by their Service Coordinator to engage in an assessment of need by a qualified AT Provider of their choice. Needs focus on domain areas where functional improvements can be made with AT.

Assistive Technology devices - The cost of assistive technology equipment or devices (e.g. door alarm, stove sensors) purchased per the AT evaluation and the related goals. Various funding options are explored, including DDS.

Assistive technology training/support - This is the set-up of AT equipment, education and training how to use the assistive technology, as well as training for the individual's support network (paid/unpaid) or who are otherwise substantially involved in activities being supported by the assistive technology equipment.

AT assessment is a collaborative process, not just a one-time event by a specialist

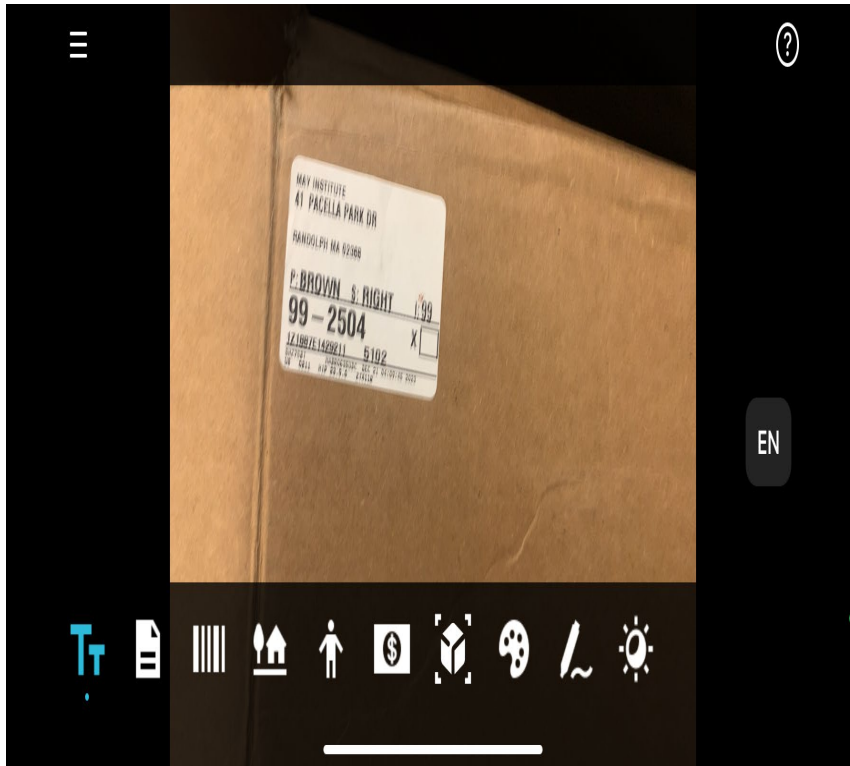
- **Collaborative Process between multi-disciplinary team**
- **Unique perspective of each person where they support the person (home, day, work)**
- **AT Provider gathers information and addresses the area where AT may increase function and independence**
- **Set up and training occurs for the individual and the support members of the team**





AT Domains

- Vision
- Hearing & Listening
- Communication access
- Technology access
- Environmental Access
- Hygiene
- Daily living
- Safety
- Learning and cognition
- Employment
- Organization and executive function
- Community safety and memory
- Leisure and recreation



Literacy

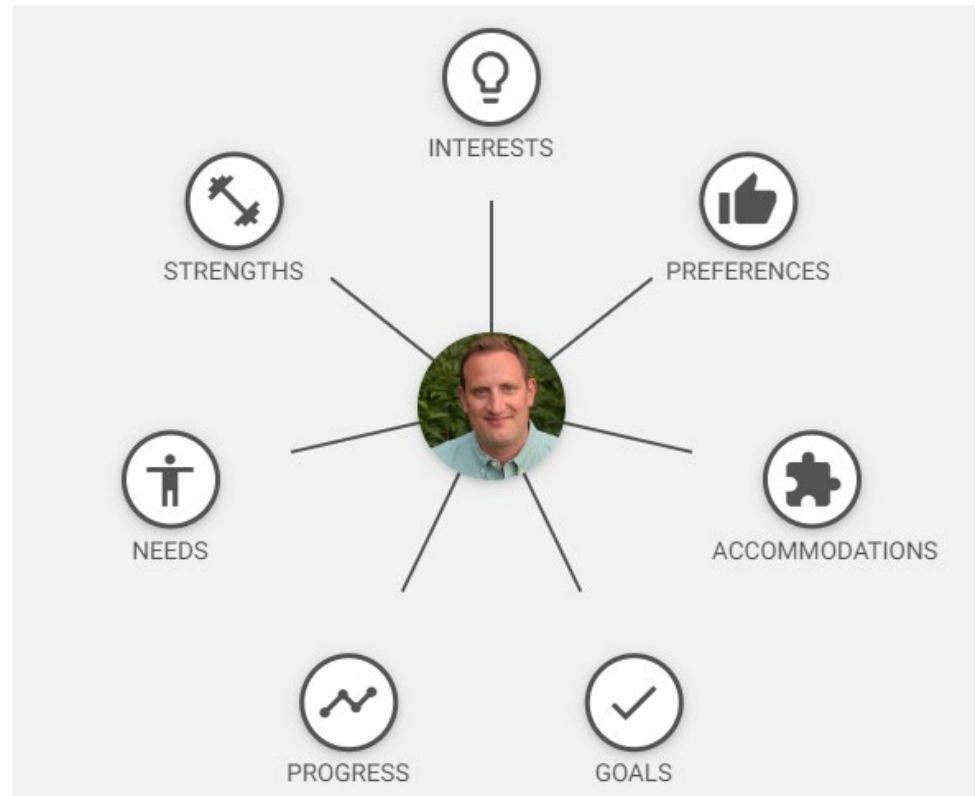
- Speech to text/text to speech apps
- Laser readers
- Google Accessibility
- AI-based apps
 - Grammar
 - Social language

Communication



*Vocational/Educational/
Life Planning/Organization*
COGNATOPIA

- Scheduling apps
- Goal setting apps
- Executive Functioning
- Predictive AI/voice recognition
- Establish routines and use of QR codes to support caregivers and individuals alike for consistent learning.



Health/Medical/Biometrics

- Wearable/Environmental
- Blood pressure
- Oxygen saturation
- Breathing rate
- Fall alert
- Seizures
- Increased exercise
- Mental health



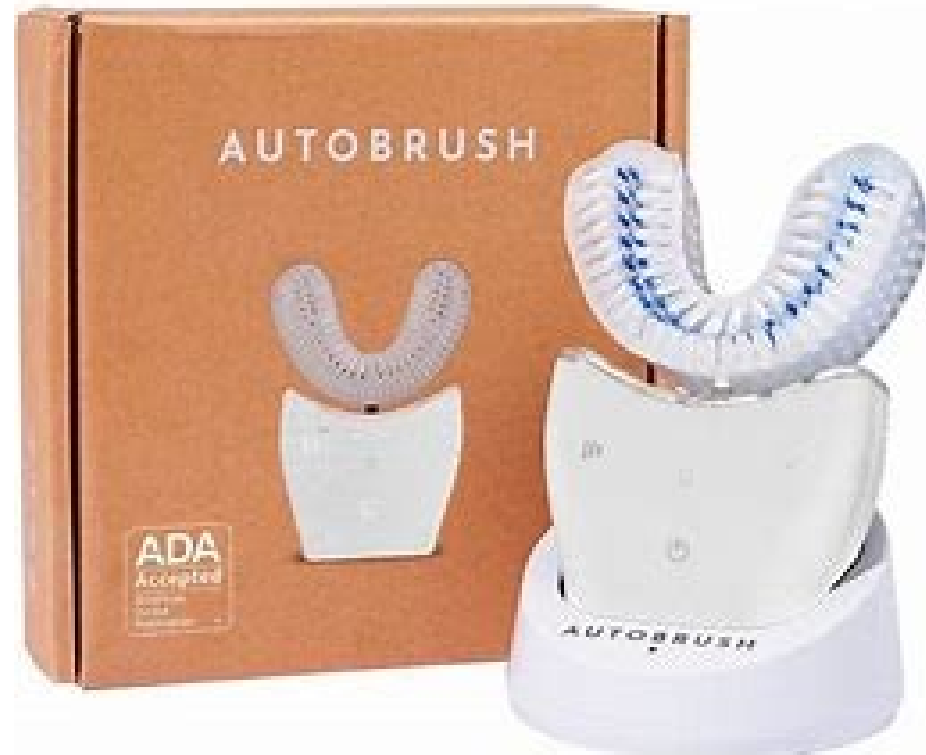


Hygiene

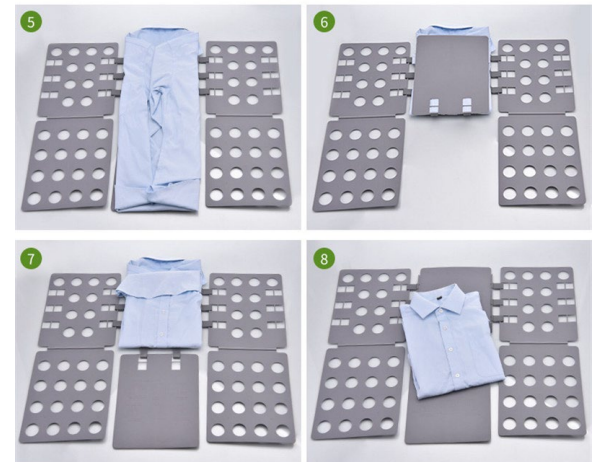
- Soap dispensers
- Shower speakers
- Temperature gauges
- Bidets
- Body dryers

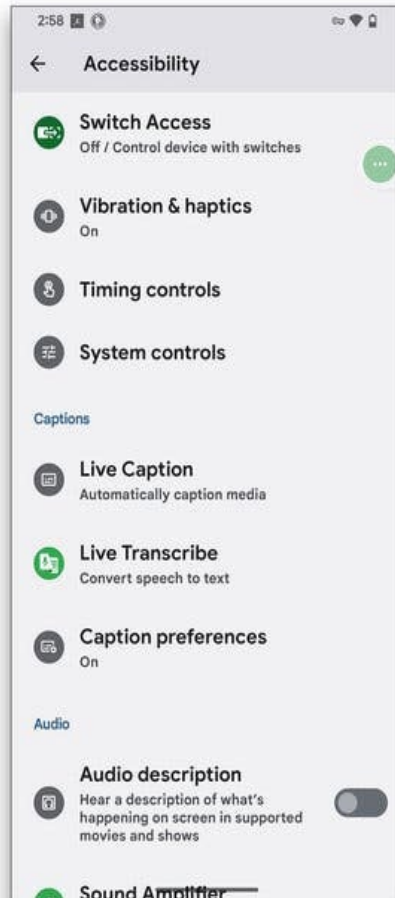


Various Toothbrushing Options



Simple integration of AT to help everyone





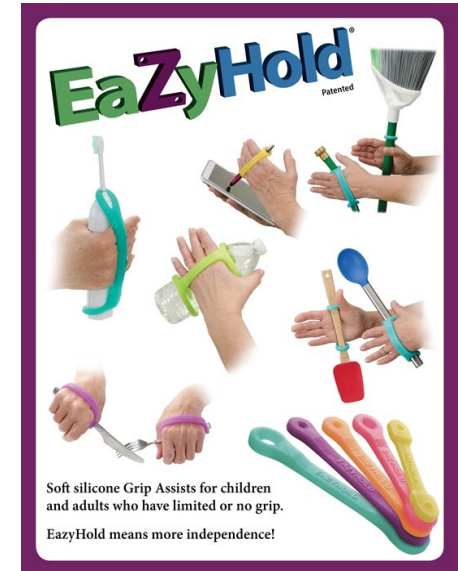
SMART PHONE ACCESSIBILITY AND APPLICATIONS

- Display Text Size
- Motion Alerts
- Audio Descriptions
- Switch Access
- Live Transcribe
- Voice Over/Voice Control

Some Low Tech/No Tech Options



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Impact Stories

RL was provided with Voiceitt, a first-of-its-kind speech recognition tool that uses AI technology to learn his unique speech patterns and translate his unintelligible speech into recognizable speech. This allows him to repair communication breakdowns with communication partners who do not understand his speech. This provides RL with a sense of independence, as he no longer needs to rely on his mom to translate for him.

Additionally, Voiceitt's integration with ChatGPT gives him the ability to ask questions relative to his favorite celebrities and get detailed answers, something he could not do using the regular speech-to-text option on search engines as a result of his unintelligible speech.

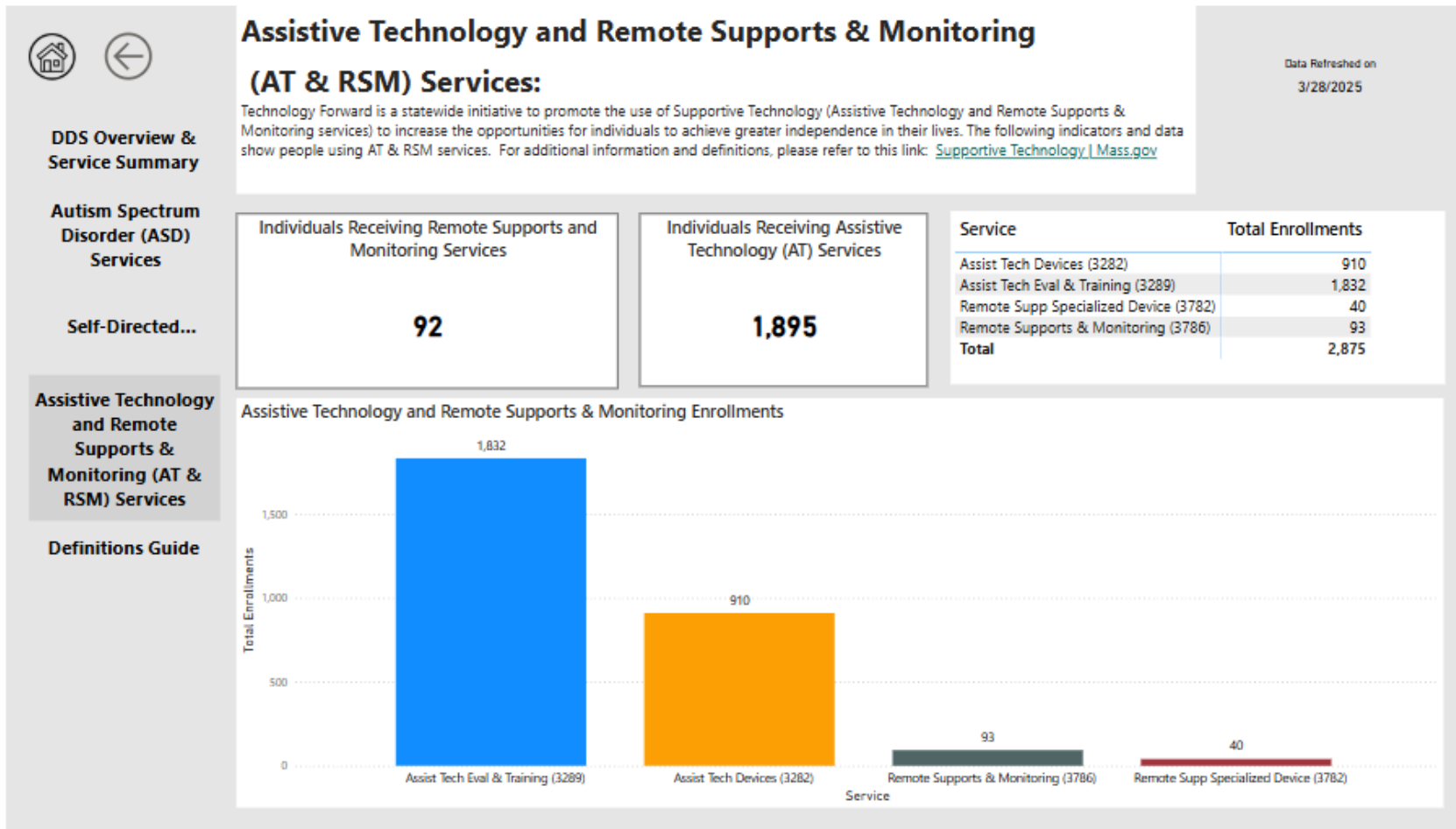
Impact Stories

RS is full of great ideas and is an enthusiastic learner. He expressed wanting to help out his mother with cooking and participate more in games. We got a switch-adapted vegetable peeler that peels potatoes rapidly with the push of a button. .



RS and his family joked that he always has dirty glasses and asked if there is any AT that could help with that, expecting there not to be. But we found a glasses cleaner that involves immersing the glasses in solution and then pushing a button, which is much easier for RS than using a cloth. I love when we can find creative solutions, especially for an area that someone feels is outside the realm of AT.

Data Analytics



PROVIDERS

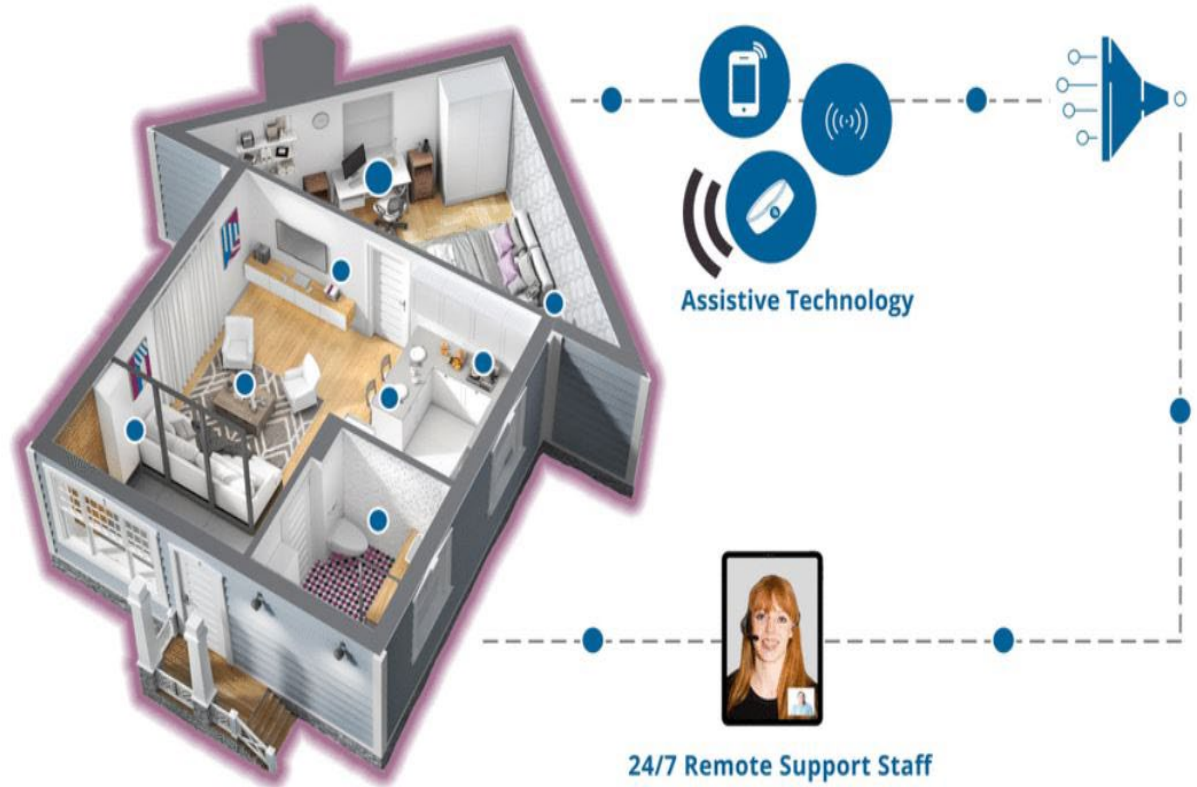
- There are currently 14 Assistive Technology Providers across the state. Not all providers serve every region, but each region has multiple providers. Individuals are encouraged to choose the provider they would like to work with.
- There are currently 10 Remote Supports and Monitoring Providers across the state. Subcontracts exist within each provider with Safe in Home, Night Owl and Simply Home to provide Remote Supports and Monitoring options to individuals.
- There are several projects through EOHHS funding including a Massachusetts based call center using the Simply Home and Boundary Care platforms.

Remote Supports & Monitoring

- Safe in home
- Simply home
- Boundary Care
- Night Owl

How Remote Supports Works

SafeinHome's intelligent system integrates multiple technologies and sensors for superior accuracy and real-time 24-hour response.

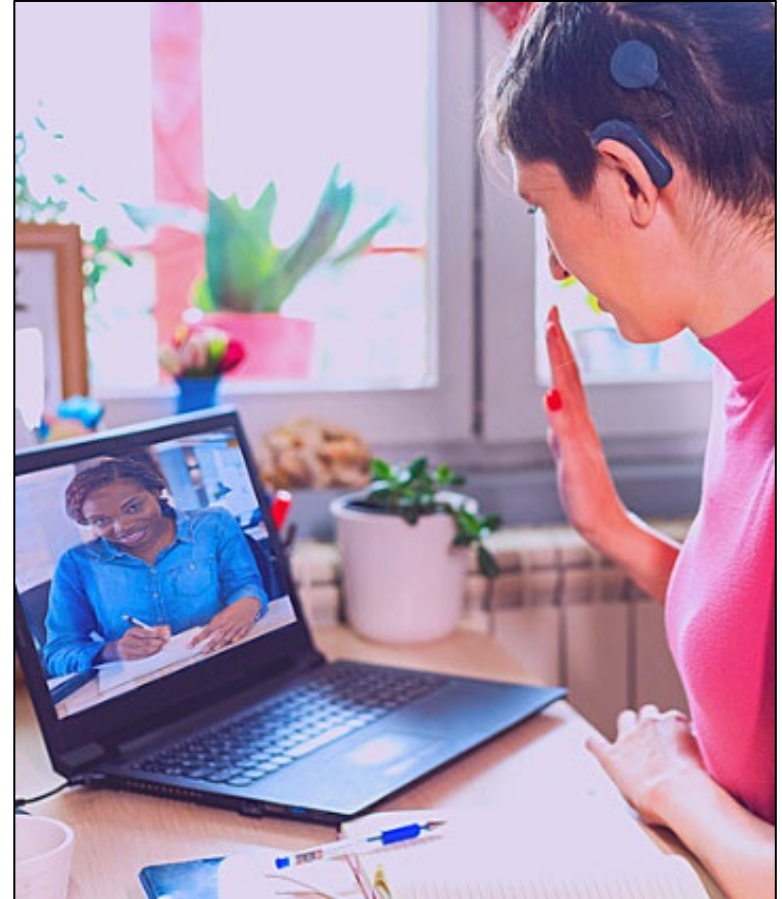


What is Remote Supports and Monitoring?

- The use of two-way, real-time technology, such as a tablet, to provide support and/or supervision to individuals by a staff at a remote location.
- Communication and non-invasive monitoring technologies to assist individuals to attain or maintain independence in their homes and communities.
- Platforms integrate information from sensors, Ring doorbells, wearables and other technology to give information to the call centers.
- Systems are personalized based on individualized goals, concerns and outcomes to determine when the person needs assistance.

FEATURES AND OPTIONS of REMOTE SUPPORTS & MONITORING

- Individual receives personal prompts throughout the day, such as when it is time to get up and get dressed, or to take medication, etc.
- Alert if there is no noted activity on sensors for a given amount of time.
- There is always an identified paid support to respond within 30 minutes
- Notifications to a caregiver in emergency responses are activated
- Can have services for specified times or for 24 hours a day.
- The individual may also have a Personal Emergency Response System (PERS) as part of their plan.



Personal Emergency Response System (PERS)

- Enables an individual to secure help if an emergency using an electronic device.
- An electronic device(s) that is programmed to signal a response center once the help button is activated and/or sensor triggered.
- The emergency response activator must be able to be activated by breath, by touch or some other means and must be usable by any person who may be visually or hearing impaired or physically disabled.



Examples of Assistive Technology Use with Remote Supports & Monitoring

Electronic motion sensor devices

Door alarms

Sensors that detect that a stove has been left on

Telephones with large or picture buttons/flashing lights

Device on wheelchair or walker to send an alert if the individual falls

Bracelet that detects seizure activity

Devices that enhance images for people with low vision

Voice activation of lights, appliances, doors, etc

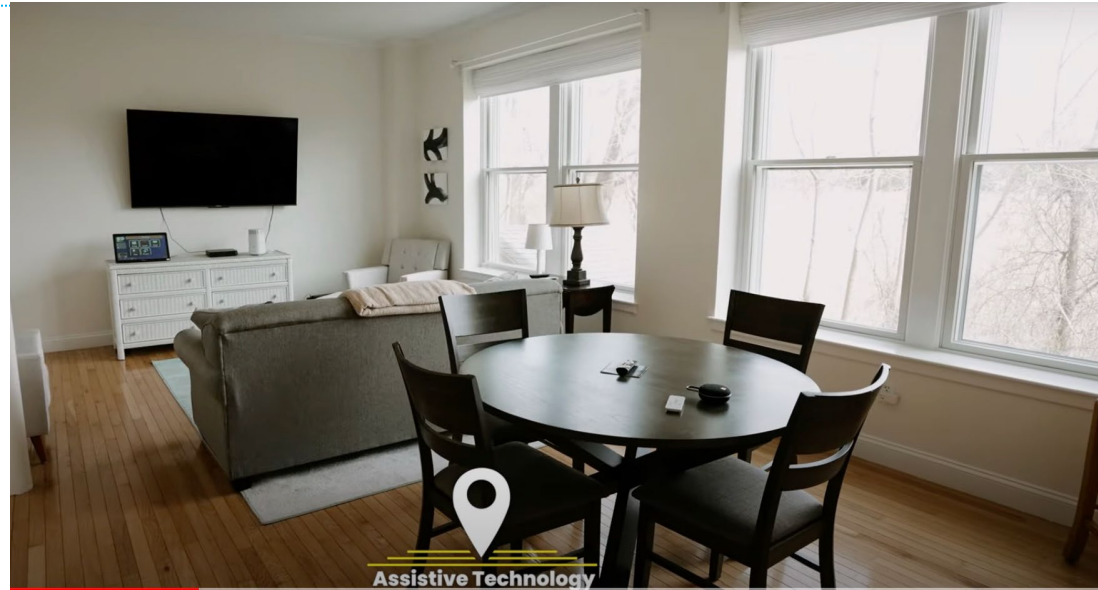
Hand-held computer devices

Levels of RSM

- **Level A** – RSM services that require two-way video/audio feed for staff to provide support real-time scheduled check-ins and supports by remote caregiver, on-demand support initiated by the individual. This level of support provides in-person backup support. **This level provides up to 15 hours per week of scheduled, on-demand, or individual-initiated remote supports.**
- **Level B** – Same as Level A, plus: The provision of an enhanced personal emergency response system (PERS) which requires sensors or other safety mechanisms to send an alert to the remote monitoring center identifying an emergency, per an individual's plan, to initiate appropriate emergency response or in-person backup support. **This level provides 16-25 hours per week of scheduled, on-demand, or individual-initiated remote supports.**
- **Level C** – Same as Level A and B, **This level provides 26 or more hours per week of scheduled, on-demand, or individual-initiated remote supports.**

PUTTING IT ALL TOGETHER

South Shore Support Services has outfitted an entire “smart apartment” with a calm living space and cutting-edge Assistive Technology (AT) in charming Cohasset Village. The goal of the apartment is to help individuals with complex needs learn basic independent living skills in a safe and supported environment. The apartment offers 24-hr staff and various AT to assist with apartment duties.



Through the use of AT and RSM supports, individuals are able to trial and train on various AT to improve their independence through a Respite Model.

23 have stayed, 3 pending
3 moved to their own apartments

Addressing needs and training in multiple life domains

Individuals work on: meal planning, meal prep, laundry, activities of daily living, community skills, and general housekeeping and safety skills with access to 24-hour staffing.

Safety and AT Features include:

- Simply Home Monitoring and Communication device
- Ring Doorbell Monitoring for entry to/from the apartment
- Apple Airtag when in the community
- Fire Detection/Stoppers in the stove area
- Auto shut off when stove is left on unattended
- Auto shut off for shower if water becomes too hot
- Kitchen assistive technology tools
- Bathroom bidet to support hygiene
- 24hr support both remote and in-person depending on individual preference and abilities



RSM Impact Story

NL is a young woman who lives in her own apartment. When she was having trouble remembering to get everything ready for work, completing her morning routine on time and calling her cab for a timely arrival to her job, her sisters would call several times a day to prompt her through the process. Since NL is the oldest sibling, the role her younger sisters had to take put a tremendous strain on their relationships. NL started receiving RSM and had full input into her support plan. She receives a call after she arrives home from work with reminders to wash her uniform if needed and make her lunch. In the morning, she receives a wakeup call with reminders about her routine before work. She then receives a second call to be sure she has called the cab. NL is thriving with these supports and her boss has indicated it has resolved any issues. Her sisters also report they have gone back to the role of sisters and their relationship has improved.

What's Next? EOHHS Grant



Increased Remote
Support Capabilities



Medication
Management
Systems



Biometric Health
Monitoring to
address Fatal 5



Automated
documentation

THE FUTURE with SUPPORTIVE TECHNOLOGY

- Supportive Technology is a key component as we look to greater independence and success for the individuals' we serve in their homes and community.
- Through embracing AT and RSM, DDS eligible individuals engage in more independent and functional lives, whether it is through communication, health and safety, employment or activities of daily living. Individuals are discovering new potentials through this service.
- In addition, the use of AT can assist our work force situation through supporting workers in their jobs and by increasing independence for those we serve.

QUESTIONS