Technology Forward

Report and Recommendations by the Massachusetts Innovation & Technology Task Force

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The Innovation and Technology Task Force (Task Force) is a partnership between the Massachusetts Department of Developmental Services (DDS), Massachusetts Association of Developmental Disabilities Providers (ADDP), and The Arc of Massachusetts (The Arc).

Learn more at arcmass.org/technology-forward

ADDP Association of Developmental Disabilities Providers

Community for Living. Community for Life.

The Arc Massachusetts

DDS Department of Developmental Services

Massachusetts Innovation & Technology Task Force

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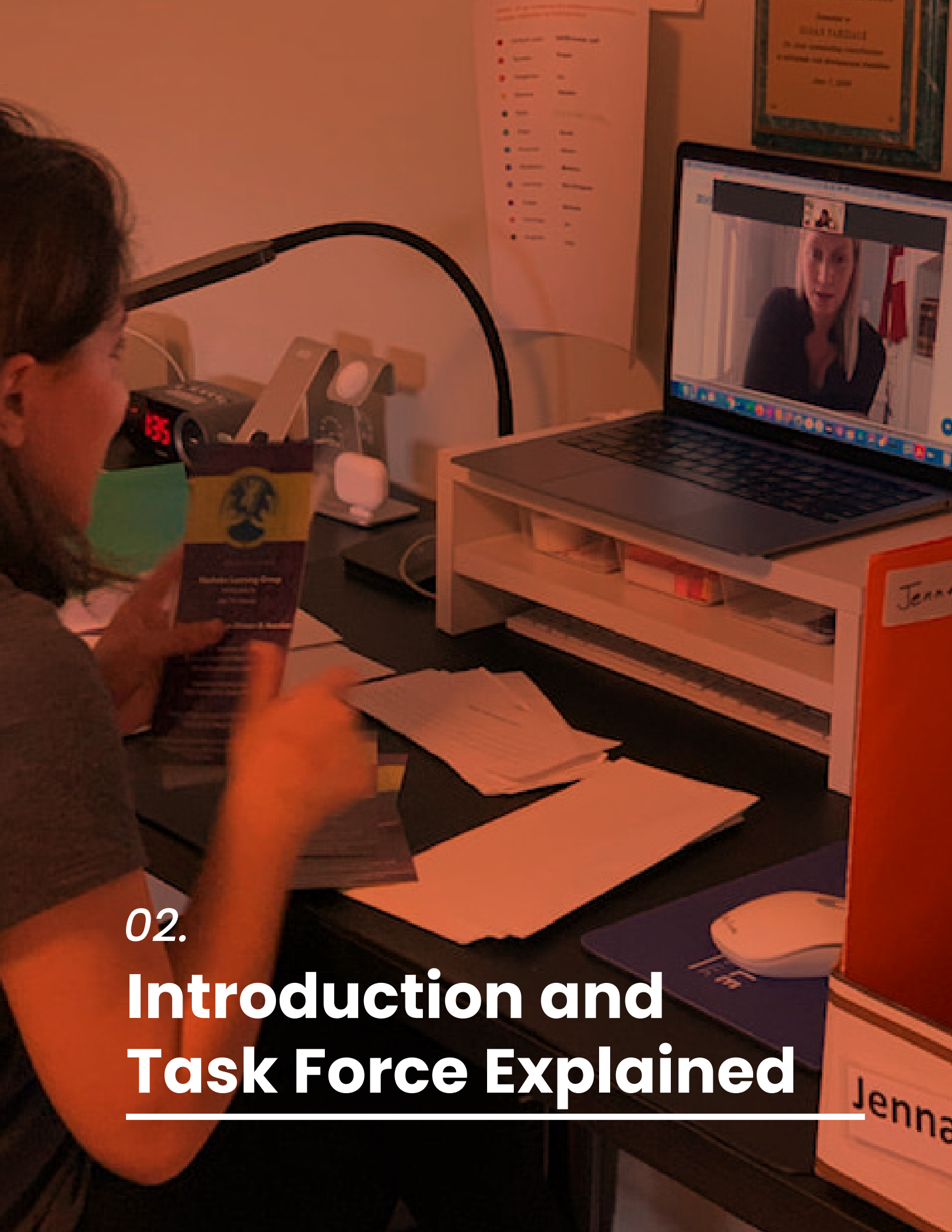
Contents



02.

Introduction and Task Force Explained

Introduction & Task Force Explained

Persons with intellectual and developmental disabilities (I/DD), including autism, have not had the same access as our society has made revolutionary progress with the use of the internet, computers, iPads, iPhones and smart home devices. The average citizen finds educational and employment opportunities online. Social relationships are strengthened through various communications including social media and information is gathered through the internet whether reading newspapers, magazines or listening to podcasts. Our constituents who have faced physical segregation now face barriers of another type - access to technology.

Despite these barriers, many groundbreaking efforts have been made by individuals, family members, staff, and providers to advance access to technology for individuals with I/DD in Massachusetts. These efforts gained attention in recent years through the advocacy of dedicated individuals with disabilities, family members, staff and other allies who championed the cause and need for a coordinated, statewide technology-focused initiative.

In October 2019, ADDP and DDS co-hosted the Talking Tech 2019 conference, featuring success stories from providers here in Massachusetts, vendors from other states, and a keynote speech by John Martin, former Director of the Ohio Department of Developmental Disabilities on Ohio's Technology Story and the implementation of the Ohio Tech First Executive Order.

DDS Commissioner Jane F. Ryder soon launched the DDS *Technology Forward* Initiative, and this Task Force was formed to create a roadmap for the future. This report makes recommendations to Commissioner Ryder for the DDS system.

Introduction & Task Force Explained (continued)

The Innovation and Technology Task Force (Task Force) is a partnership between the Massachusetts Department of Developmental Services (DDS), Massachusetts Association of Developmental Disabilities Providers (ADDP), and its 24 Task Force members represent diverse roles and perspectives from the intellectual and developmental disability community and service delivery system.[1]

The Task Force established three programmatic subcommittees - Employment & Day Subcommittee, Residential Subcommittee, and Family Supports Subcommittee - to focus on specific guidance related to employment and day supports as well as residential and family supports.[2]

The Task Force believes that innovation and technology can be instrumental in assisting individuals with I/DD and autism attain the highest quality of life possible, utilizing a person and family centered approach. They have an equal right to technology and information access. In 2013, the Coleman Institute for Cognitive Disabilities released a Declaration of Rights, which has been endorsed by 645 organizations.[3] The Declaration of Rights affirms that inclusion itself is limited by the lack of technological access. Today much of our learning and connecting is dependent upon the internet and the Declaration states, "The disruptive convergence of computing and communication technologies has substantially altered how people acquire, utilize, and disseminate knowledge and information."[4] Without accommodations, and tools such as text to speech, persons with I/DD and cognitive disabilities are prevented from being included in mainstream society.

[1] The twenty-four Task Force Members include staff from the Department of Developmental Services, The Arc of Massachusetts, the Association of Developmental Disabilities Providers (ADDP) and other experts, service providers, and family members of individuals with I/DD and autism. A full list of members is provided as authors and contributors.

[2] Employment & Day Subcommittee Co-Chairs: Margaret Van Gelder and Ted Horn, Residential Subcommittee Co-Chairs: Chris Thompson and Mary Jo Cooper, and Family Supports Subcommittee Co-Chairs: Karen Waddill and Kerry Mahoney.

[3] Coleman Institute for Cognitive Disabilities Declaration of Rights, https://www.colemaninstitute.org/Map.php and http://www.colemaninstitute.org/wp-content/uploads/2017/01/TheDeclaration.pdf

[4] Id.

In addition, the COVID-19 pandemic in 2020 has illustrated supportive technology's potential in bridging the access issues across healthcare, education, employment training and social connections, as well as helping to lessen the impact of social isolation, service interruption and caregiver burden. The pandemic forced service provider organizations that support people with disabilities to enter virtual programming rapidly with little preparation or training, highlighting the necessity for a thoughtful and strategic approach.

What does supportive technology mean? In Massachusetts, supportive technology refers to devices and technological methods used to increase independence and community integration of individuals with disabilities.[5] It can be used in the home, at work or throughout the community during the day. Supportive Technology includes two services, Assistive Technology (AT) and Remote Supports and Monitoring[6] defined more thoroughly in the next section (See Page 9).

A significant number of individuals with disabilities who are served by DDS, MassHealth and other state government programs would benefit from the prioritization of the further development of supportive technology.[7] Working together and through partnering with those in the technology sector, we can advance the use of technology for the disability community.

[5] Supportive technology is define at https://mass.gov/supportive-technology.

[6] The World Health Organization's (WHO) GATE initiative describes Assistive Technology (AT) as follows "Assistive technology enables and promotes inclusion and participation, especially of persons with disability, aging populations, and people with non-communicable diseases. The primary purpose of assistive products is to maintain or improve an individual's functioning and independence, thereby promoting their well-being. They enable people to live healthy, productive, independent and dignifie lives, and to participate in education, the labour market and civic life." Remote Supports and Monitoring – this service is define as the use of communication and non-invasive monitoring technologies to assist participants to attain or maintain independence in their homes and communities while minimizing the need for onsite staff presence and intervention. The service includes two way "real time" audio/video use technology and will be delivered by staff at a remote location. The service must include an in-person backup plan by service provider. Found at https://www.who.int/phi/implementation/assistive_technology/phi_gate/en/.

[7] As of April 30, 2021, there are about 43,700 individuals (children and adults) who are eligible for DDS services. Studies report that approximately 70% of people with I/DD in the service system have family caregivers, with approximately 18% who are older caregivers. The total number of DDS eligible adults over 22 is 28,900 and the total number under age 22 is 14,700. About 10,000 persons receive 24/7 residential services while about 11,000 participate in DDS funded employment and community-based day services. Approximately 9,000 adults receive MassHealth funded day habilitation services. Many individuals also receive other support services funded through MassHealth, such as Personal Care Attendants, Adult Family Care, etc.

TASK FORCE'S MISSION

The Task Force's mission[8] includes addressing the following needs and objectives:

- Use individually tailored technology to increase independence of people with I/DD and autism.
- Discover efficiencies and increase effectiveness of services.
- Focus on human and civil rights regarding communication and preferences.
- Expand the number of people with disabilities who receive services.
- Address the role AT can play in remediating an uneven transition of persons with I/DD & autism to adult life (e.g., approximately 1,250 persons graduating from high school annually request services from DDS).
- Address shortage of qualified direct support professionals.
- Evolve a system of supports based on person-centered goals and needs.
- Promote equity using technology.

[8] The mission was confirme by Task Force members at the initial Task Force meeting on November 20, 2019.

The Task Force began with developing and accepting the following impact areas of Communication, Residential Demand, and Employment and Community Inclusion as our focus. In particular, individuals turning 22 and their families need additional assistance to plan for adult life:

Communication: Many constituents served by DDS cannot verbally express their needs or preferences. However, strategies and tools exist through assistive technology or augmentative support.

Turning 22: Individuals and families need assistance to plan for adult life. This transition process could be greatly facilitated by using technology. Most striking is the drop in the ongoing support and utilization of technology from school to adult services. For those entering the workforce, technology could be pivotal in providing more meaningful employment as well as supporting training and job coaching. Students turning 22 fall into other impact areas noted in this section.

Residential demand: We are challenged by the increase in graduating students each year combined with the growing number of aging parents exploring housing options for their adult son or daughter. The expansion of assistive, augmentative and supportive technology could be a cost effective, high quality innovation to provide person centered support options other than 24/7 congregate settings.

Employment and Community Inclusion: Many individuals struggle with trying to secure competitive employment that maximizes their skills and allows for advancement and sustained employability. The use of supportive technology would be beneficial in leveling challenges and enhancing equity for individuals with disabilities in the workforce and in their communities.

This report provides our overview of available technology including barriers and technology success stories, our Task Force recommendations to the DDS Commissioner for technology to serve the I/DD and autism community, and our final remarks.

08.

Overview of Supportive Technology Including Barriers

Overview of Supportive Technology Including Barriers

THE ROLE OF TECHNOLOGY IN SUPPORTS AND SERVICES

The broad application of Assistive Technology (AT) and Remote Supports and Monitoring can help in adaptations or enhancements in the home, workplace, continuing education, leisure/recreation, and community activities for disabled individuals. This requires assessment of individuals' needs and organizational capacity to implement appropriate and effective services.

ASSISTIVE TECHNOLOGY

The Assistive Technology (AT) Act of 2004 defines AT as "any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities." This act was subsequently reauthorized through the Workforce Innovation and Opportunity Act (WIOA) in 2014. The AT Act also defined assistive technology services as "any service that directly assists an individual with a disability in selection, acquisition, or use of an assistive technology device."

AT services include:

- The evaluation of the assistive technology needs of an individual with a disability in his/her customary environment and as appropriate to the individual's vision and needs.
- Providing for the acquisition of assistive technology devices by individuals with disabilities.
- Ongoing support needed to adapt, keep current and use the assistive technology devices.
- Coordination and use of necessary therapies, interventions, or services with assistive technology devices.
- Training or technical assistance for an individual with a disability or, where appropriate, the family members, guardians, advocates, or authorized representatives of such an individual.

- Training or technical assistance for professionals (including providers of education and rehabilitation services and entities that manufacture or sell assistive technology devices), employers, providers of employment and training services, or other entities who provide services to, employ, or are otherwise substantially involved in the major life functions of individuals with disabilities.
- Expanding the availability of access to technology, including electronic and information technology, to individuals with disabilities.

Augmentative and alternative communication (AAC)[9] is also a necessary component of AT that enables individuals to share their "voice." It is important to recognize that technology and specialized therapies can advance communication. AAC includes multiple ways to communicate that can supplement existing communication or compensate (either temporarily or permanently) for the impairment and disability patterns of individuals with expressive communication disorders."[10]

REMOTE SUPPORT TECHNOLOGIES FOR COMMUNITY LIVING[11]

Remote Supports and Monitoring, sometimes encompassed in the terms *telehealth*, *telepsychiatry*, or *telecare*, is a newly emerging service model on a national level for individuals receiving long-term supports and services.[12] Remote Supports and Monitoring both broadens the application of assistive technology and integrates it with employment, residential and other supports that assist persons in the community.

Examples of Remote Supports and Monitoring include the use of home-based sensors, two-way communication systems that monitor activity, virtual avatars, and other technologies that allow the individuals to receive remote assistance whether in regard to well-being, augment communication, daily or vocational task execution or to assist in decision-making.

[9] Augmentative and alternative communication (AAC) will be noted as augmentative communication or AAC throughout this document.

[10] American Speech Language and Hearing Association. Found at https://www.asha.org/public/speech/disorders/aac/

[11] Tassé, Marc J. & Wagner, Jordan B. "Remote Technology and Beyond...Supporting Independent Living and Community Engagement" The Ohio State University Nisonger Center, November 2, 2017, https://www.colemaninstitute.org/wp-content/uploads/2018/01/Coleman-Presentation-Tasse-Wagner-and-Davies.pdf

[12] Long-term supports and services (LTSS) is a term used federally to describe habilitation and other related services that assist persons with disabilities (including older Americans) to live, learn, work or participate in other ways in the community. The language of services may diffe based on an agency or budget line item. In Massachusetts, the Executive Offi of Health and Human Services houses several agencies, which provide LTSS.

Some examples of remote support technologies that are accommodations fostering independence, equity and access include:

- remote support or caregiver
- on demand needed support
- sensors for various areas – front door, pantry, bed, bathroom, pill dispenser, and appliances including the stove and refrigerator
- regularly scheduled or intermittent communication

These types of accommodations can safeguard participants in the event an individual needs help. Some examples include producing a sense of security or home safety with sensors and video cameras, avoiding injury due to appliance misuse, opening doors or windows, or assisting with medications through automated dispensers, etc. Remote support staff can also engage in one-on-one communication, using a video chat format or avatar to remediate situations, provide prompts, or conduct a wellness-check. These sessions may be initiated either by the caregiver or the individual with I/DD.

Beyond the home environment there are additional protective measures, which extend throughout the community, including Remote Supports and Monitoring for independent travel (decreasing the need for staff) by utilizing GPS location services such as Follow-Me, Google maps or Wayfinder3, or using task assistance apps like Meminder and Stepping Stones.

In addition to fostering independence, equity and access, Remote Supports and Monitoring can produce cost savings for Massachusetts and its provider agencies due to the reduction of in-person staff and staff time. By introducing more Remote Supports and Monitoring opportunities, available staff can be distributed to other situations that need in-person, hands-on support while reducing the overall need of available staff presence.[13] For individuals with disabilities who want to reduce the physical presence of a staff in their home, Remote Supports and Monitoring can meet a wide range of support needs. People with substantial healthcare needs can reduce their time in waiting rooms through remote visits with health care professionals and receive a quicker response during periods of urgency. Adoption of remote support enables provider agencies to serve more individuals without increasing personnel or overtime hours.[14]

[13] Tassé, Marc & Wagner, Jordan & Kim, Minje. (2020). Using technology and remote support services to promote independent living of adults with intellectual disability and related developmental disabilities. Journal of Applied Research in Intellectual Disabilities. 33. 10.1111/jar.12709.

[14] Id.

BARRIERS TO TECHNOLOGY

The existing funding sources for Remote Supports and Monitoring have either been restrictive or poorly defined, which has been a barrier to access to technology. Further, the limitations in eligibility criteria continue to hamper access to technology and remote support despite documented need and the obvious advantages. Examples include:

- The reimbursement for supportive technology is archaic and mostly pertains to the outdated use of **Durable Medical Equipment (DME).** Under the Social Security Act,[15] DME is defined as "equipment which can withstand repeated use and is primarily and customarily used to serve a medical purpose and generally is not useful to a person in the absence of an illness or injury and is appropriate for use in the home. The need for a medical prescription for DME speaks to the relationship to illness or injury. Price qualifiers referred to as "reasonable and customary" can present barriers given the application and escalated pricing for custom devices.
- Medicare and Medicaid limit the ability to access AT due to "medical necessity" with the following definition: "Services and supplies needed to diagnose or treat an illness, injury, condition, disease or its symptoms and that meet accepted standards of medicine." Our payment system, as it should, values medical care but does not support the whole person even if this support could circumvent a health issue and/or improve quality of life.
- Present Massachusetts' Rehabilitation Commission (MRC) and Assistive Technology Independent Living (MRC IT) programs have waiting lists due to lack of funding, and eligibility for assessments is limited.[16]

[15] Title XVIII of the Social Security Act, Section 1861(n) - Durable Medical Equipment Definition Found at https://www.ssa.gov/OP_Home/ssact/title18/1861.htm#n.

[16] Individuals can apply for AT services and assessments by contacting their regional AT provider who will conduct an intake assessment. Because of funding limitations and the high demand for services, there may be a waiting list for services. Individuals are placed on the waiting list according to regional basis on a firs come firs served basis after determination of financia eligibility and assignment of priority category." Found at https://www.mass.gov/service-details/mrc-il-assistive-technology-program.

SNAPSHOT OF CURRENT ACCESS TO TECHNOLOGY

The Task Force's Family Supports subcommittee surveyed individuals and families, receiving 135 responses. Below are some statistics from the survey and attached is a more detailed summary of the results titled, "Technology Innovation Task Force Family Support subcommittee - Summary of Survey Results 2020."[17]

- **54%** of respondents had not had an assistive technology evaluation.
- Funding of technology came through four sources, with private funds getting **60%** of responses followed by schools, MassHealth and DDS Family Support in the range of **20% to nearly 27%** of responses.
- Respondents noted that technology goals included: Communication, Socialization, Job training, Fitness and Rec/Leisure.
- More than half cited that lack of training was the biggest barrier in using technology, while other barriers included: Understanding Options, Decision-Making on Items, Repairs, and Funding.

[17] The Task Force Family Support subcommittee survey was open to responses from July 27, 2020 to October 5, 2020.

14.

Technology Success Stories

Examples of Technology Success Stories

Provided below are some success stories from across the country of how supportive technology can be used to assist people with disabilities. These are real stories; however, names have been changed for privacy reasons.

EMPLOYMENT:

Jackie has a job alongside other workers preparing detector components. A job coach helps to orient her to the worksite and tasks. She uses an app that provides pictorial "task steps" on her phone for one component after 2 days of training. She also has her job coach's phone number with the ability to use video conferencing for follow up in case of difficulties. The accommodation allows her success on her job in fewer days and the reduction of live coaching per week for the first 6 weeks during her transition period. Jackie also feels more independent.

COMMUNITY OR HOME SUPPORT:

Norma and her guardian disagreed about staffing in her apartment; the latter is concerned about safety as Norma is confined to a wheelchair most of the waking day. Norma likes her privacy and with staff turnover is frustrated by the revolving door of people in her home. She would like to end overnight staff at her apartment. Her apartment is fitted with adaptations and a two-way remote communication system. Norma is able to view who knocks on her door and communicate with on-demand remote support staff located locally. A drill with the fire department determined they could reach her apartment in 90 seconds. Norma and her guardian came to agreement: she is able to avoid overnight staff for the time being, and the costs of overnight staff are eliminated with remote monitoring/supports in its place.

Jack is living independently with drop-in staff three times a week. His self-directed (SD) funding allows him to use a two-way communication system with a virtual avatar 24/7. When he has questions about his coffeemaker, hears strange noises at night, or has trouble picking clothes to go to work, he can talk with a remote staff via his avatar. This has reduced calls to family and additional drop in staff visits. The cost for the avatar is $300/month. As membership increases, subscription costs may decrease.

"Christine," who has Prader-Willi syndrome, was supported to move from a home with 24-hour support to her own apartment with less than 24-hour staffing. Her ability to be successful was through the use of supportive technology. Staff completed an assessment of her skills and barriers to living in her own apartment. Two critical barriers included her inability to have unvetted access to unsecured food and medications. Staff worked collaboratively with engineers and were able to design a refrigerator that had compartments that open at specific intervals of the day. Additionally, an automated medication dispenser was obtained that opens with the appropriate medications accessible at specific time intervals. The medication dispenser also allows for her to gain access to PRN medications as needed in accordance with health practitioner orders. In addition to the assistive technology (AT) identified above, the provider added remote service delivery via technology that allows Christine to get access to staff on an iPad on demand. The combination of AT and remote service delivery has allowed her to live more independently with less hours of in person staff.

COMMUNITY OR SOCIAL INCLUSION:

Ramon loves being with people but had difficulty with communication due to his limited speech. During his school years he used an AAC device. He received ongoing training and his family received training in programming. With his device and the support from staff, Ramon can now effectively communicate with others as he delivers mail at the town hall. He is also able to interact with people when displaying and selling his photography at community events throughout the year.

Kara was struck by a skier at 5 years old, which left her with severe brain injuries. She couldn't walk or talk. She was legally blind, relied on a feeding tube and was prone to seizures. Eventually many of Kara's abilities returned. She was able to walk and talk, but still had significant mental impairments and suffered from seizures. Kara isn't able to read, tell time or do math. Her mother Alice worked tirelessly to make sure her daughter was included and graduated from her local high school. Following graduation, she attended the Colorado School for the Deaf and Blind for a transition program. When she came back home, the family again faced how they would help Kara integrate into the community. Kara started using computer software that would remind her of daily tasks, which dramatically improved her ability to sustain herself. But the software was expensive and prone to crashing. Her mother found some iPad applications (apps) that were inexpensive that worked wonders for Kara's needs. One app would walk Kara step by step through cooking dinner and let her record the reminders in her own voice. But within a few years Apple had changed its operating system in a way that eliminated key features from Kara's main reminders app, called Aida. The application could no longer run in the background and announce reminders when the time came. It would still sound an alert, but the user would have to open the app to see what the reminder was, a crucial step that made it just about useless for Kara. Alice launched a petition and began speaking to the press and at technology conferences about her daughter's situation to move Apple to fix its operating system, which the company eventually did. Linked in the footnote is an article describing the family's inspiring David and Goliath story.[18]

[18] Summerlin, Ryan, "Alice Brouhard went from nurse to tech nerd for her family," Post Independent, July 16, 2016 https://www.postindependent.com/news/local/sunday-profile-alice-brouhard-went-from-nurse-to-tech-nerd-for-her-family/ Accessed November 19, 2020.

Examples of Technology Success Stories (continued)

EMPLOYMENT STORY:

"Mary," who works at the grocery store Stop and Shop, has limited speech and access to a non-electronic communication book, but neither mode of communication was useful when she needed to communicate quickly to interact with customers in the busy store. Mary was becoming frustrated when customers would not wait for her, and customers could become frustrated when they could not get answers to their questions. There was an AAC Evaluation by an Easterseals SLP/AAC specialist to look at options. She initially trialed a "mid-tech" device called a HipTalker with four possible voice recorded messages, but this number proved to be inadequate. She then trialed an iPad with the AAC app Proloquo2Go, which offered her the ability to not only have access to a much larger number of pre-programmed messages but also give her the option of creating novel messages herself by combining picture symbols. The recommendation was for an iPad with AAC app Proloquo2Go with external Bluetooth speaker to boost volume in the store. Mary kept the iPad at her workstation and was able to access it quickly and efficiently. Using this technology, she was able to increase her productivity and successful interactions with customers and obtain her goal of increasing her hours.

19.

Massachusetts Innovation & Technology Task Force Recommendations

The following recommendations to the Commissioner of Massachusetts Department of Developmental Services (DDS) are developed by the Innovation and Technology Task Force.

Task Force Recommendations

Build Supportive Technology Competency & Capacity

The Task Force makes the following recommendations to DDS Commissioner Jane F. Ryder to build supportive technology competency and capacity for individuals with I/DD and autism in the Commonwealth. To begin, we must appreciate the gaps and limitations in technological knowledge of the service provider workforce and the capacity of the organizations in which they work. In addition to the more than 42,000 persons served by DDS, there are nearly 30 state offices, over 100 provider agencies, and thousands of staff funded through DDS. The Task Force recommends a multi-level initiative that enhances capacity at a systemic level encompassing individuals with disabilities, staff, families, agencies and state-level leaders. This section reviews a framework for the DDS system's approach to services.

SAFEGUARDS AND HUMAN RIGHTS

The introduction of emerging supportive technologies comes with a duty of care and ethical application; however, the Task Force recognizes and affirms the dignity of risk, right to self-determination and right to access available technology to advance lives. The Arc's Position on Self-Determination states "To this end, people with I/DD must be able to use adaptive communication devices and other assistive technology and take risks to achieve the lives they desire."

As we advance the right to technological access and support, appropriate safeguards will be necessary to protect individuals with I/DD, who may be vulnerable to others through the internet or email communication. The recommendations will need to be continually reviewed and updated as we further access over time.

As utilization of remote support and AT increases, including of internet usage, there are three areas to consider.

1. **Individual's privacy rights in use of remote monitoring**[1] The rights of persons with I/DD have not yet been universally assured. Remote monitoring has the potential of becoming an undesirable "big brother." In agreeing to remote supports, individuals should have the assistance of family or significant friends. Review of early adopter states' regulations is recommended, for example consent forms for individuals, the ability to turn off non-essential remote devices, the opportunity to meet remote staff virtually or in person to promote trust, and protection of private information.

2. **Back-up systems must be established.** It is probable that remote systems can be temporarily impeded due to cloud or electricity interruptions. Such interruptions should be planned for with back-up plans and set-aside funds for live support.

3. **Guarding against predatory acts on the internet**, such as financial scams, cyber-bullying and abuse of people with disabilities. To safeguard against these, we will require:

   - Protocols regarding cyber security and safe use of AT as a baseline for agencies to adopt. Review of risks based on individual need and capability.
   - Training for constituents to avoid negative experiences. Existing sites for such purposes can be utilized or adapted.[2]
   - Adapting digital citizenship learning is another strategy to address these risks.[3]

[1] Wagner, Jordan B., Tassé, Marc J. Davies, Daniel K., & Stock, Steven E., "WHITE PAPER: Use of Remote Support in Ohio and Emerging Technologies on the Horizon," https://nisonger.osu.edu/wp-content/uploads/2017/02/White-Paper-Use-of-Remote-Support-in-Ohio-and-Emerging-Technologies-on-the-Horizon.pdf, Nisonger Center - Ohio State University, May 1, 2018, see page 6.

[2] Family contract template can be adapted. https://www.commonsensemedia.org/privacy-and-internet-safety Other sites may be available for persons with disabilities and/or older Americans.

[3] Zook, Chris, "What Is Digital Citizenship & How Do You Teach It?" https://www.aeseducation.com/blog/what-is-digital-citizenship, Applied Education Systems blog, December 20, 2019, Accessed October 8, 2020.

BUILD SYSTEMIC KNOWLEDGE AND EXPERTISE

To build systemic knowledge and expertise, we must develop groups of professionals and staff who support people with I/DD across regions for screening, assessment, and consistent implementation of supportive technology through contracted funds. We must also include mechanisms for quality assurance measures. Short descriptions of key elements follow: Consultation Corps, Direct Support Professional Corps at Agencies (i.e., "champions"), and AT Access, Education and Other Resources.

Consultation Corps

- This refers to consultants or contracted agencies such as allied health professionals including Speech-Language Pathologists (SLP), AT Professionals, and Occupational Therapists (OT); although other professionals may also be needed (medical, engineers, etc.) to screen and assess technology needs. Existing resources may be leveraged while DDS develops a broader network:
- The REACH program is one example in the Northeast region;
- Massachusetts Rehabilitation Commission Services;
- Assistive Tech services[4] including Easterseals of Massachusetts, UCP of Western Massachusetts, TechACCESS a program of HMEA, and the Reach Center regional team (and other regional teams may have some Tech capacity). Specific AT related programs include: Tech/Independent Living Program, Assistive Technology Regional Centers and MassMatch.

[4] This is not an exhaustive list of providers. This list includes providers known as of January 2021 and prior to DDS RFR.

Direct Support Professional Corps at Agencies

- Address capacity of agencies (provider and state-operated). It will be critical to have staff at service sites to ensure ongoing use of technology, maintenance, further training, and support of program participants and other staff. Incremental growth will require development of staff competence over a multi-year period.
- Dedicate part-time or full-time "agency champions" (state and provider) who will serve as the lead staff to operationalize technology in an agency. These staff may initially be "house" or "program" manager level, but they will assist other staff to become knowledgeable in technology for the persons whom they serve. Investment primarily should be focused on provider agencies and state operated services at similar ratios. DDS funding for an innovation champion at the Central Office will be necessary to lead research and development.
- Increase the knowledge of direct support professionals to advance the use of supportive technology in day and employment (including day habilitation), residential (including all types of supported living, placement services, shared living, AFC, etc.), and family support. The investments for direct support or service professionals will be in the areas of training. Accreditation and financial compensation should be considered for these positions. They will ensure that devices are used and properly maintained. In addition, over time they will know when further consultation is needed as individuals progress in their use of technology.
- Devote attention to the individuals served by DDS who are primarily supported by family members (estimated 71%). It is critical that we address this extended community and assist family caregivers as well as the individuals served. The progress here may initially be slower due to economic barriers and tech literacy; a sensible plan to build capacity will allow the Commonwealth to be inclusive and equitable.

AT Access, Education and Other Resources

1. Develop funding mechanisms for reimbursement of devices not possible to purchase through insurance which include both generally available (generic, private, etc.) and inexpensive dedicated devices.

2. If a more costly device or system cannot be funded by health insurance, we recommend that approval be based on a professional evaluation and reflect the recommendations of the Individualized Service Plan (ISP) team.

3. Funding mechanisms should reflect the purpose of devices given that these products are being upgraded or changing all the time.

4. Determine process for approved vendors for remote services and monitoring.

5. Develop baseline expectations for remote training or services; consider private or generic resources Apple Teacher[5] or Google Classroom.

6. Address Digital Divide for agencies and families. The wide variability in internet access and devices results in a world of have and have nots. Limited capacity will affect new strategies in employment, day services, and advancing social inclusion. Partnering with existing initiatives in this regard would be cost-effective.[6]

7. Designate at least one lending center in each region. Lending Centers allow for accessible, cost-effective ways to test devices.

8. Review and further develop existing screening/assessment tools for Assistive Technology.

[5] Apple Teacher is a free professional learning program designed to support and celebrate educators using Apple products for teaching and learning. https://www.apple.com/education/k12/apple-teacher/ or Google Classroom is a free and easy tool helping educators efficiently manage and assess progress, while enhancing connections with learners from school, from home, or on the go https://edu.google.com/products/classroom/?modal_active=none.

[6] Massachusetts Broadband Institute: https://broadband.masstech.org/about-mbi.

9. Education and Training activities need to be intensified including:

- Consider one or more technology conference approaches –
  - Technology conference (ADDP/DDS)
  - Collaborate with TechACCESS of RI's Assistive Technology Conference of New England to offer opportunities to families and persons with disabilities (presently, the largest conference in New England)
- Training programs should develop Supportive Technology as a core competency among employment/day and residential staff including a certificate program for DSPs.
  - Utilize teaching frameworks such as Student/Subject, Environment, Task, Tools (SETT)[7] and ensure the entire environment(s) are considered.
  - Establish a library of videos on YouTube which can cover various aspects of standard technology, curated playlist with individualized training tutorials.
  - Develop a robust program for individuals, families and providers.
- Establish a community of practice for providers for peer encouragement and development.
- Leverage the Employment First initiative to capitalize on the investment and activities in place and ongoing.[8]
  - Produce advisories on accommodations for technology in the workplace, home and community access.
  - Roll out employment and day services technology training though ICI and other entities.
  - Utilize Facebook and other social media strategies for dissemination and marketing of the program.

[7] The SETT Framework, created by Joy Zabala, is a four-part model intended to promote collaborative decision-making in all phases of assistive technology service design and delivery from consideration through implementation and evaluation of effectiveness. http://joyzabala.com/

[8] Prepared by Massachusetts Department of Developmental Services, Association of Developmental Disabilities Providers and The Arc of Massachusetts "Blueprint for Success: Employing Individuals with Intellectual Disabilities in Massachusetts," November 2013, https://www.mass.gov/files/documents/2016/07/qc/blueprint-for-success.pdf Employment First Massachusetts: https://employmentfirstma.org/providertraining/ https://employmentfirstma.org/pages/mpte_fe.html.

- Establish strong partnerships with one or more local universities which have significant programs in technology and application to people with disabilities.
- Explore best practices within state and outside of state:
  - Surveys of individuals and families
  - Surveys of providers and state employees (across and within service types)
  - What tools are people/providers already using
  - Contact school systems (residential)
  - Resource pages and locations
  - Accumulation of resources and links
  - Research tech assessments in other states (IN, WY, MI)

Develop Alternative Models/Pilot Programs that Include the Use of Supportive Technology

In the long-term, we hope that our supportive technology models and services system will assist individuals to overcome functional limitations, realize their civil and human rights and maximize their independence. Pilots that focus upon challenging tasks provide the best targets to increase independence while keeping cost-effectiveness in mind. The focus of the pilots should include individuals not presently utilizing supported technology. Please note that reference to remote support is not the same as "virtual service delivery," which has been implemented during the COVID pandemic.

RECOMMENDATIONS FOR ESTABLISHING THE PILOT PROGRAM/ALTERNATIVE MODELS:

1. *100 people supported through 10 agencies should be identified* with regional distribution across the Commonwealth through provider or state operated programs to participate in the pilots for alternative models.

2. *Distribute across residential and day/employment services* – 50 in each service category through a total of 10 agencies. Not all pilot participants will have remote support objectives but a remote support goal for 70 of the 100 individuals is recommended.

3. *Considerations and populations should include*:

   - Persons who can benefit from augmentative communication should comprise 50% of the pilot given that communication is a significant barrier for this population, and this deprives them from inclusion.
   - Employment and Community-Based Day Services (CBDS) participants including some who are engaged completely community based.
   - Targeted remote and adaptive residential supports which can supplement or reduce the use of staff, e.g., "Bill" can now express his needs due to use of augmentative communication, yet still requires staff assistance in activities of daily living.
   - Assessments should be conducted for all pilot participants to identify their AT needs.
   - To meet the definition of remote support, there needs to be the expectation that at any time staff can respond to a call or request for support or personal emergency response system.
   - The pilot activity should not replace ongoing provider or state staff efforts to address AT needs of the persons whom they serve

4. *Adults, whether in the pilots or not, who transition into the adult system of supports with existing AT or supportive technology should be funded to continue to access such supports (Turning 22 - transition adults).*

5. *Tiers for AT and Remote support:*

   - Those who can learn and adapt to be in community with AT alone;
   - Persons who may need support at any time during the day, yet not on-demand. Staff or agency response should be swift but NOT immediate
   - Persons who always require real time remote monitoring or on demand response from remote staff.

6. *Elements of supportive technology being implemented in the pilots could form a foundation for integrating supportive technology across all individuals served by DDS.*

   - Supportive technology should be considered proactively for each participant regarding communication and maximizing independence including daily or intermittent functions in determining periods when staff would not be physically present.
   - Each participant should receive an assessment (or updated assessment if one exists) regarding the assistive technology; a plan developed to address the objectives which includes the training of the individual, training of staff on use of assistive technology.
   - Training of family or significant others (including employers) as needed; modification or customization of the assistive technology; and, identifying outcomes for the individual; and the potential replacement of live support with remote support or devices.
   - When "settings" are involved, the entire setting should be evaluated for adequacy.
   - Backup strategies should be part of the pilot plan in case any AT device crashes, or the support and/or remote component is impaired.

RECOMMENDATIONS FOR FOUR FUNDING CATEGORIES:

Each area below requires a funding mechanism to have successful pilots. The four areas are: funding of pilot agency champions, remote supports, consultation and training, and AT equipment.[9]

[9] Possible funding resource includes $500,000 line-item in the FY21 and potential FY22 budget for supportive technology and remote services for individuals served by DDS.

1. Funding of Tech champions at each pilot agency in the range of .5 Full-Time Equivalent (FTE) to 1 FTE.
   - Champions will train other staff participating in the pilot funding to be designated by agency.
   - Agencies will commit to other staff (program manager) to assist with the 10 pilot individuals – at least 4 staff should be committed to keep the ratio of pilot participants to staff low.
2. Remote Supports contracted for monitoring or on demand access.

3. General training and consultation funding pool to be accessed by all pilot agencies – funds to be utilized for subcontracts to agencies or private practitioners for assessments or consultation; examples include:
   - Agencies such as Easterseals, UCP of W. Mass, and HMEA/Tech Access, REACH (NE Mass) and DDS-AT Centers[10]
   - Assistive Technology practitioners including certified Assistive Technology Professionals (ATP) and Assistive Technology Specialists (ATS)
   - Licensed professionals including Speech-Language Pathologists (SLP), Speech-Language Assistants (SL-A), Occupational Therapists (OT) and Certified Occupational Therapy Assistants (COTA)
   - Special educators with relevant graduate degrees or specialty certification

[10] This is not an exhaustive list of providers. This list includes providers known as of January 2021 and prior to DDS RFR.

- The consultation/assessment should result in a plan that does the following:
  - Leads to more independence in a setting or specific activity and ensures participant, DSP or caregiver adoption;
  - And this funding allows for a community of practice not only for the 10 agencies but also for any other interested agency.The community of practive should include the development of on-line training for pilot agencies and other interested agencies to use.

4. AT equipment and other resources will need to be identified, which are not reimbursable through Medicaid or other insurance.

Recommendations for Pilot's Sample Timeline and Implementation Committee:

We recommend an implementation committee of five people composed of representatives from The Arc and ADDP to assist DDS and other relevant agencies in pilot development and implementation. The partners should have a clear method of monitoring implementation.

The following quarters are an estimated timeline for the pilot. This timeline will be further developed based on exploration during the initial quarters.

QUARTER 1:

1. Refine goals of pilot and develop narrative, application, criteria including agency investment in project.
2. Define consultative and training elements.
3. Establish project budget.
4. Begin work on corresponding rate mechanisms with DDS contract team leading – host two or more meetings to collect information on:
    - Range of supportive technology including but not limited to AT, remote staff, individual training and on-going consultation and AT services
    - service descriptions
    - mutual understanding of basic costs.
5. Initial review of how the pilots will be treated for federal reimbursement; can they be part of the waiver as long as they are added as a defined category with a participation cap.

QUARTER 2:

1. Finalize rate structure and mechanisms after reviewing Quarter 1 work of all groups including rate differentiation; breaking whole into parts to allow for tiers and differing support needs.
    - Tier funding rates, variable and fixed including add-on rates as example
    - Service description and rates
    - Specific items may include staff pay differential, consultant or contracted services, individualized training rate, equipment fee, etc.
2. Decision on incorporation of supportive technology services into waivers.

3. Final decisions on populations targeted. Consideration of targeting agencies for participation based on scaling goals.
4. Develop construct for "community of practice" for pilot agencies and others.
5. Update narrative template and application including criteria.
6. Develop a reporting tool for agencies that allows for project evaluation; revise into an on-line format (survey monkey or higher-level tool); Ensure confidentiality; The reporting tool should include the following:
    - Check off list for AT utilized
    - Range of answers for participant's piloting remote (there should be a comments section for others in case there are indirect time savings)
    - Costs per person which are unique or variable
    - Savings actual, projected or probable
7. Publicize pilots' launch
8. Request responses (RFR) for the implementation of pilot services.
9. Awarding of pilots.

QUARTERS 3-5:

1. Pilots are launched
2. Review of progress at end of quarter; document items that require further consideration.
3. Monthly tracking of certain data.
4. Implement a "Community of Practice."
5. Review status of recommendations identified in previous quarters for carry over to the subsequent quarters.

QUARTER 6:

1. Progress review with a report evaluating pilots and project in general.
2. Address changes to maximize pilot impact.
3. Review status of recommendations identified in previous quarters for carry over to the subsequent quarters.

QUARTERS 7 & 8:

1. Full 18-month review in Quarter 8.
2. Define future objectives and strategies, e.g., estimating costs of scaling the program more broadly; will consultation funds be fixed or variable, based on persons served or agency?
3. Identify learning from pilots, develop recommendations for a 3-year plan for system of support and constituents include additional recommendations from previous quarters.

QUARTER 9 - YEAR 3:

1. Expansion of services based on the results of the pilots.
2. Continue the technology accommodation used by those turning 22.

34.

DDS Technology Forward Update

DDS Technology Forward Update

The Department of Developmental Services (DDS) has made significant progress towards shaping the framework of the Technology Forward Initiative and actualizing recommendations brought forth by the Innovation Task Force and Technology Forward. During the first half of Fiscal Year 2021, DDS has been working hard to plan for and provide services that will promote the use of Supportive Technology as an opportunity for individuals to realize inclusive and independent lives.

DDS SERVICE DEVELOPMENT

DDS has developed two new service models: Assistive Technology and Remote Supports and Monitoring, with an anticipated service roll out in early FY22. DDS is also in process of developing field guidance and identifying training opportunities.

1. **Assistive Technology (AT)** - this service has two components.
    - **Evaluation and Support** - This service will be focused on an evaluation of the assistive technology needs of an individual, including a functional evaluation of available technologies and support the individual requires to achieve outcomes identified in his or her Individual Support Plan. This service includes set-up of AT equipment, education and training that aids an individual in the use of assistive technology equipment as well as training for the individual's support network (paid/unpaid). A written evaluation report and clear recommendations on equipment, training and support needs, and equipment check/maintenance will be provided following each evaluation. An AT Plan must ensure that when support staff change there is a procedure in place to train new staff on how to use technology. AT support may include, when necessary, coordination with complementary therapies or interventions and adjustments to existing AT to ensure its ongoing effectiveness.

- **Equipment** -This service covers the cost of AT equipment recommended by the AT evaluation and may include engineering, designing, fitting, customizing, or otherwise adapting the equipment to meet an individual's specific needs. Assistive technology equipment may include equipment and subscription services used for remote support such as motion sensing systems, radio frequency identification, and live video feed. *Internet access can be included only if it needs to be dedicated or upgraded for specific equipment/operational needs as recommended in the AT Evaluation.

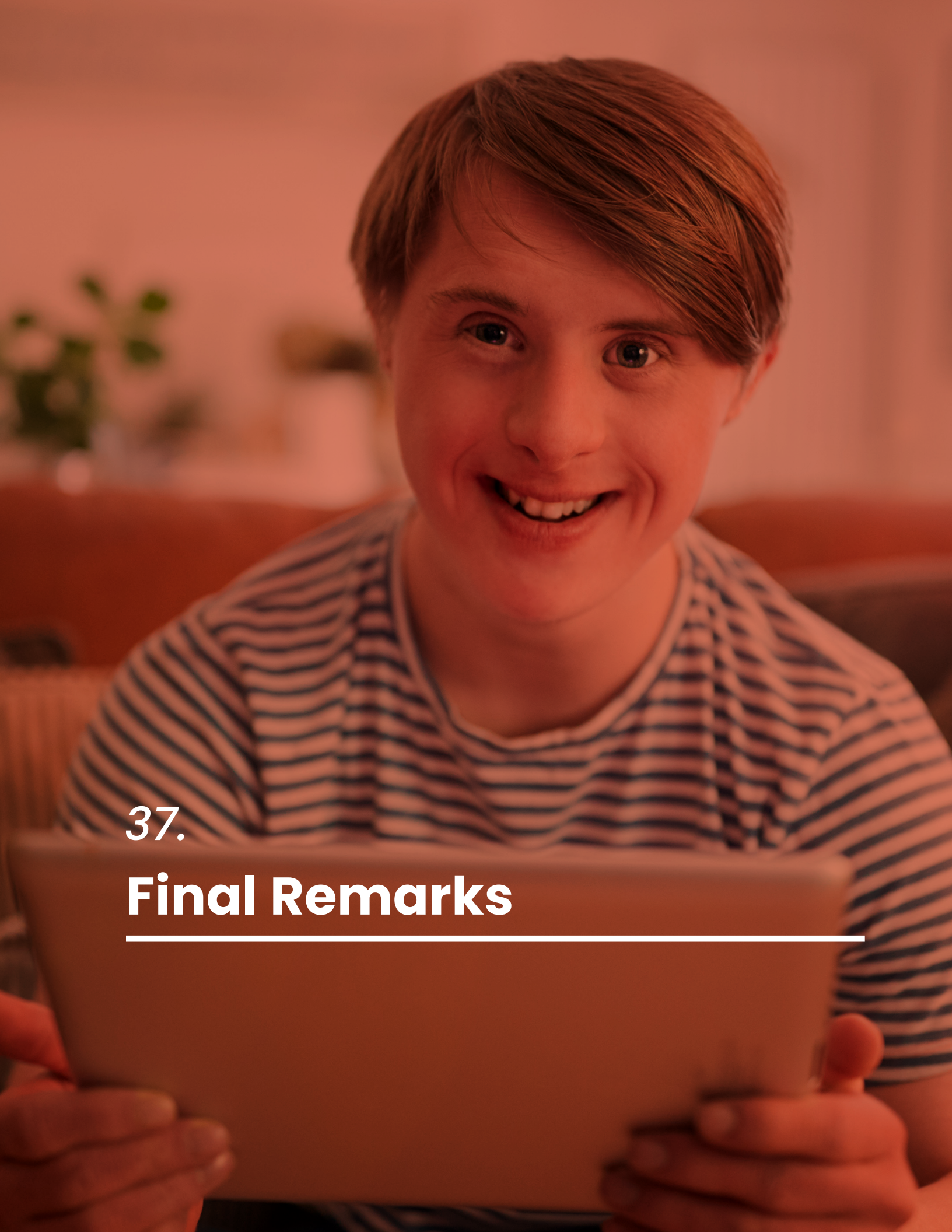
2. **Remote Supports and Monitoring** – this service is defined as the use of communication and non-invasive monitoring technologies to assist participants to attain or maintain independence in their homes and communities while minimizing the need for onsite staff presence and intervention. The service includes two way "real time" audio/video use technology and will be delivered by staff at a remote location. The service must include an in-person backup plan by service provider.

PROPOSED WAIVER AMENDMENT

In spring 2021, DDS proposed amending all three Adult Waivers to include new Assistive Technology and Remote Supports and Monitoring services under Supportive Technology Amendments and submitted to the Centers for Medicare and Medicaid Services (CMS) for approval. It is anticipated that these services will be added to all three ID Waivers in early FY22, and once approved, will allow DDS to claim federal revenue for spending on these services.

SUPPORTIVE TECHNOLOGY INNOVATION FUNDING

To support the Technology Forward initiative, the Governor and Legislature included a new $500,000 line-item in the FY21 budget for supportive technology and remote services for individuals served by DDS. This funding helped act as a catalyst of change to advance organizational capacity and develop expertise within the DDS system to successfully assist individuals to use Supportive Technology. DDS received 28 responses and awarded 11 grants. The projects period will be from April 15 - June 30, 2021. DDS will review summaries of the projects once final and will partner with agencies to review what was learned and share best practices.



37.

Final Remarks

FINAL REMARKS

As this report has demonstrated, individuals with disabilities have been left behind as society has made revolutionary progress with the use of technology in our daily lives. Individuals with I/DD who have faced physical segregation now face segregation of another type - access to technology.

With the right investment, the Commonwealth can move all its citizens forward with access and opportunity by embracing this Technology Forward plan within the decade. We envision persons with communication impairments being able to identify needs and wants; a person with no functional use of her arms able to open her front door and meet a friend; and employees at worksites obtaining job coaching virtually via devices supported by staff located several miles away.

The aim of Technology Forward is to advance participation in one's communities, and further independence in the home and work setting. For many who turn 22 and leave the school setting with assistive technology, this initiative ensures that the progress they have achieved will not be suspended due to lack of staff knowledge or maintenance of tools.

Through Technology Forward, we assist our constituents to protect their own civil rights, develop a more competent workforce, and build services, which are fully responsive. We can empower families who comprise the largest sector of caregivers to support independence more effectively. Reducing caregiver responsibilities allows for a more balanced home.

Technology use should translate into less staff time for individuals needing support. These savings can be used to address the workforce shortage: paying staff a comparable wage to similar staff in other industries and developing certificate programs that allow staff to grow skills in supportive technology. We need to advance the human capital of persons with disabilities, family caregivers and staff simultaneously. Supportive technology provides a path to that goal.

NOTES

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Technology Forward

For more information, please visit arcmass.org/technology-forward

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