Accommodation Problems and Solutions Associated with Telework
Version 2.0

As we adjust to a world with Covid-19, many employees find themselves working from home. Employees find themselves dealing with new technology, new methods of communication, new workstations, and new ways of managing time. Unfortunately, some of these changes will pose barriers to people with various disabilities.

This document outlines potential accommodation problems resulting from telework, and when possible, lists ideas for accommodation solutions. It has been developed with the help of crowd sourcing, and is part of the Work ACCESS project's efforts to develop an online tool for conducting workplace accommodation assessments. Additional input is welcome. Please email us about accommodations that we might have missed.

General Teleworking Problems

Before we discuss problems unique to employees with disabilities, it is important to recognize and address several problems that can potentially impact any teleworker, with or without a disability.

- Home internet connection:
    - Lack of availability
    - Lack of bandwidth when also used by other family members
    - Slower rural vs. urban internet speeds
    - Cost [but this might be an employee responsibility]
    - Connection not stable / power outages

- Security:
    - Corporate machines are not allowed to connect to telework software
    - Home computer cannot connect through firewalls
    - File storage does not meet security rules
    - Family members overhear calls [maintain privacy by wearing headphones]

- Increased power bills

Technology Issues (Impact: All disabilities)

Potential Problems	Possible Solutions

Computer hardware (e.g., computer processor, monitor, keyboard) used at home is inferior (e.g., slower, smaller, less ergonomic) to what would normally be used in the workplace	*Approach: Use better equipment*
	• Ask if work equipment can be brought home.
	  o Make sure that employees know the process for these requests.
	  o Equipment might need to be shipped or delivered if the employee normally relies on public transportation.
	  o The employee may need help getting borrowed/new equipment set up.
	  o Some equipment is not easily movable (e.g., shared printers and scanners).

Work applications or assistive software used at home are inferior to what would normally be used in the workplace	*Approach: Use better software* • Transfer software licenses to the home computer or purchase new software copies. • Find out if assistive software is licensed for use on a second computer. o Cloud-based software can be accessed on multiple computers. However, that approach will reduce internet speed. • If the assistive software is unavailable, explore options built into the computer and phone (e.g., Voiceover (iOS), TalkBack (Android)).

Remote work software (e.g., file sharing, teleconferencing,) is not be accessible	*Approach: Change conferencing system*
	• Switch to a teleworking software platform that has the needed compatibility (see CIDI's telework software matrix).
	• Use phone conferencing on a speaker phone instead of video conferencing.
	• Continuously track revisions for currently used and other remote work software.
	  o Some revisions may cause the current technology to stop working.
	  o The employee may want to switch software when revisions improve access.

Assistive technologies conflict with telework software or slow it down	*Approach: Change conferencing system* • Switch to a teleworking software platform that has the needed compatibility (see CIDI's telework software matrix). • Use phone conferencing on a speaker phone instead of video conferencing. *Approach: Use faster internet* • Upgrade to broadband internet. *Approach: Reduce the processing demands* • Turn off video features. • Turn off microphones so 1-2 are on at once. • Use the built-in sound card plus an additional USB sound card/digital signal processor to separate screen reader (or speech-to-text) and teleconferencing audio processing. This will result in better quality audio.

Employee and/or Employer don't know how to set up or use the accessible features offered by the online meeting platform	*Approach: Learn how to use the software*
	• Provide training on the accessibility features.
	  ○ Use annotated screen shots as a guide on where to find software controls.
	  ○ Use videos to show step-by-step instructions.
	  ○ Use screenshare features built into some remote software. During one-on-one remote training, ask the person to share the screen and go through the process of setting up/using the software.
	  ○ Use computer support software that allows a person to temporarily take control of a remote computer. Set up the accessibility features for the employee.
	• Practice before sessions.
	• Provide sufficient time to setup the technology and learn to use it.
	
	Approach: Provide technical support
	• Have a meeting co-host assist with problems.
	• Contact product technical support.

Communication Issues (Impact: All / Depends on problem)

Potential Problems	Possible Solutions

Employee's voice or other participants' voices are too soft to hear over the conferencing system, or the home work environment is too loud (Speech, Hearing)	*Approach: Maximize the quality of the audio*
	
	• Adjust the speaker and microphone settings.
	
	• Use headset microphones instead of the computer microphone.
	   o This will also reduce echo.
	
	• Use a good omni-directional cardioid microphone. Remember to face it.
	
	• Try using a headset to listen instead of computer speakers (or reverse).
	
	Approach: Avoid background noise
	
	• Ask all participants to join the meeting from a quiet location if possible. Avoid engaging in noisy activities while listening (e.g., using sink).
	
	• Ask participants to turn off microphones when they are not speaking.
	   o The host may also turn off microphones, but have a method for participants to indicate when they want to speak (e.g., "raise hand" indicator in the software).
	
	• Establish a process to keep participants from talking over each other (e.g., raising hand, getting attention in chat).
	
	Approach: Communicate with text
	
	• Use chat features within the software instead of communicating by voice.
	
	• Use captioning features built into some conferencing software (see CIDI's telework software matrix).
	   o Use closed captioning (shown only to employees who want it) rather than open captioning (shown to all) if possible since it might be distracting for some employees.

Teleconferencing platform does not support captioning (Hearing)	*Approach: Use telework software with the needed accessibility features* • Use captioning features built into some conferencing software (see CIDI's telework software matrix). *Approach: Activate the accessibility features* • Use grid view (e.g., Zoom's gallery view) so remote captioning can be pinned to screen to make it always visible.
Teleconferencing platform does not support sign language (Hearing, Speech)	*Approach: Activate the accessibility features* • Use grid view (e.g., Zoom's gallery view) so the interpreter can be pinned to screen to make him or her always visible.
Communication device (AAC system) voice output cannot be heard over conferencing system (Speech)	*Approach: Maximize the quality of the audio* • Use external speakers (wired or Bluetooth) for the AAC and point it toward the microphone. • Use a good omni-directional cardioid microphone. • Try a different AAC voice to see what carries best over the conferencing system (e.g., a lower frequency male voice). *Approach: Avoid background noise* • Turn off participant microphones when they are not speaking. • Establish a process to keep participants from talking over each other (e.g., raising hand, getting attention in chat). *Approach: Communicate with text* • Use chat features within the software instead of communicating by voice. • Link the AAC device output to a phone line and use phone conferencing (or just phone-based audio) instead of video conferencing. *Approach: Have someone translate AAC messages* • As a last resort, have a caregiver assist by reading text messages out loud over the system.

Employee has difficulty jumping into the conversation in a timely manner (Dexterity and operation of microphone controls, Speech)	*Approach: Take turns communicating* • Establish a process to keep participants from talking over each other (e.g., raising hand, getting attention in chat). Wait while chat and AAC users finish typing. • Ask participants to use chat features within the software instead of communicating by voice. • Avoid large meeting groups, if possible. *Approach: Avoid having to operate controls* • Work from a quiet location and leave the microphone unmuted.

Teleconferencing presentations are difficult to see or cannot be seen (Vision)	*Approach: Provide a separate copy of the slides*
	• Send materials to employees for viewing with their own computer settings, separate from the screen sharing of teleconferencing systems.
	
	Approach: Make presentations accessible
	• Follow guidelines for making presentation slides accessible. For example:
	    ◦ Avoid presentation clutter
	    ◦ Use a font size large enough to be readable when the screen is shared.
	    ◦ Resource: https://www.w3.org/WAI/teach-advocate/accessible-presentations/#preparing-slides-and-projected-material-speakers
	• Provide training to both host and participants on accessibility for online meeting software.
	• Provide an auditory description of graphics.
	    ◦ This could distract some employees.

Chat features do not work with the employee's screen reader (Vision)	*Approach: Use telework software with the needed accessibility features* • Switch to a teleworking software platform that has the needed compatibility (see CIDI's telework software matrix). *Approach: Switch communication methods* • Use email instead of chat to communicate with participants or the meeting host.

Online meeting participants have difficulty staying focused (All, Cognitive)	*Approach: Limit focus to short periods* • Keep track of time; make the meeting concise. Give breaks as needed. *Approach: Engage employees* • Engage employees by asking questions. Give them time to think about responses. *Approach: Use multiple communication methods* • Use multiple communication methods for different learning styles. Combine verbal, picture and text format. • Be visible on screen. This helps some people hear and understand better. • Use captioning features built into some conferencing software. See CIDI's other resources on teleworking software platforms. *Approach: Share meeting notes* • After the meeting, share materials (notes, transcript, recording) in an accessible format. Helpful resources: • https://www.w3.org/WAI/teach-advocate/accessible-presentations/#planning-your-session-speakers • https://www.w3.org/WAI/teach-advocate/accessible-presentations/#provide-accessible-material-and-media-organizers--speakers • https://www.peatworks.org/content/checklist-accessible-virtual-meeting-presentation
Teleworking technology complicates the process of reaching out to colleagues with questions	*Approach: Simplify communication process* • Use phone calls or chats instead of complicated conferencing systems for some communication.

Working Space / Ergonomics Issues (Impact: All, but particularly motor and vision)

Potential Problems	Possible Solutions

Working areas at home are not set up for long-term work and may further aggravate existing motor conditions (Motor)	*Approach: Follow ergonomic guidelines*
	
	• Set up a dedicated work space
	• Follow guidelines for ergonomic workspaces as much as possible.
	   ○ Laptop computers are not designed to be used on a person's lap.
	   ○ Sit in a firm chair with good back support.
	   ○ Use a work surface that allows the employee to access the keyboard with a neutral arm position, without having to reach significantly up or down.
	   ○ Use bricks or books to adjust table height.
	   ○ Use books or boxes to adjust monitor, keyboard and mouse heights
	
	Approach: Use better equipment
	
	• Ask if work equipment (e.g., chair, keyboard tray, laptop docking station) can be brought home.
	   ○ Make sure that employees know the process for these requests.
	   ○ Equipment might need to be shipped or delivered if the employee normally uses public transportation.
	   ○ The employee may need help getting borrowed/new equipment set up.
	
	Approach: Take breaks
	
	• Take regular, short breaks to alleviate stress on the back and to avoid repetitive stress injuries.

Heavier use of computer and conferencing software is causing eye strain	*Approach: Follow ergonomic guidelines* • Set up a dedicated work space. • Set monitors at a right angle to windows to avoid glare. • Use books or boxes to adjust monitor height.

	Approach: Use better equipment • Ask if larger monitors and/or monitor stands can be brought home from the workplace. 　○ Make sure that employees know the process for these requests. 　○ Equipment might need to be shipped or delivered if the employee normally uses public transportation. *Approach: Reduce visual concentration* • Take regular, short breaks to avoid eye strain. • Hold phone-based or audio-only conference calls instead of video meetings.
Monitor placement is not ideal to maximize vision (Vision)	*Approach: Follow ergonomic guidelines* • Set up a dedicated work space. • Set monitors at a right angle to windows to avoid glare. • Use books or boxes to adjust monitor height. *Approach: Use better equipment* • Ask if larger monitors and/or monitor stands can be brought home from the workplace. 　○ Make sure that employees know the process for these requests. 　○ Equipment might need to be shipped or delivered if the employee normally uses public transportation.

Time Management (Impact: All, but particularly cognitive disabilities)

Potential Problems	Possible Solutions

The employee has difficulty remaining focused on task (e.g., from interruptions, noise from family members)	*Approach: Determine why the employee is off task*
	• Figure out why the employee is off task so that the problem can be best solved. For example, the employee might be physically or mentally tired, have excess energy, forget what needs to be done, be distracted, or be overwhelmed by the work.
	
	Approach: Follow a schedule
	• Follow a set work schedule / routine.
	
	Approach: Provide a checklist of tasks or task steps
	• Use a paper or app-based list of the steps needed to complete the work for the day and have the employee check items off as they are completed.
	  o Use a format that the employee understands (e.g., text, images, color coding).
	  o Seeing the whole work task list at once can be overwhelming. When using an app, consider showing only one task at a time as they are checked off.
	  o Laminated paper schedules provide a way for tasks to be easily checked off, then erased and reused the next day.
	  o Both people with and without disabilities use this type of memory aid, so its use does not mark the employee as "different".
	• Use a to-do list app that a manager or coworker can use remotely to check or reinforce progress.
	
	Approach: Channel excess energy
	• Use hand-held fidgets.
	• Use a ball chair for temporary alternative seating.
	• Use a sit-stand workstation to allow the person to change positions occasionally while working.
	• Use an exercycle under the workstation to pedal while working.

	Approach: Avoid sensory distractions
	
	• Find a dedicated isolated area for work.
	
	• Use headphones to block out noise distractions.
	
	• Use music or white noise to block distracting noises.
	    ○ Music with a beat may encourage the worker to keep moving.
	    ○ Avoid music that is itself distracting (e.g., with lyrics). Try classical music, instrumental meditation music, or soundtracks.
	
	• Block visual distractions. Position the employee's workstation or put up dividers to reduce visual distractions from other parts of the home.
	
	• Make sure these solutions are compatible with the tasks the worker is doing (e.g., safety issues aren't created by blocking out auditory or visual warnings).
	
	Approach: Change tasks during the work day
	• Switch tasks several times during a work day and use the time between tasks as a "break" to stretch and reset.
	
	Approach: Provide extra, short breaks to refocus
	• Provide hourly, short (e.g., 2-3 minute) breaks to allow the employee to stretch and reset.
	    ○ Use a reminder app to announce breaks and when the employee needs to end the break.
	    ○ Use the time needed to switch tasks as a "break". However, changing tasks too often can be distracting.
	
	Approach: Self-monitor work
	• Have employees self-monitor their work by using an activity log to record activity at 15- or 30-minute intervals. Increase the time or reduce logging periods as productivity grows.

The employee has difficulty separating work and home activities	*Approach: Follow a set work schedule*
	• Follow a set work schedule / routine. Keep separate work and non-work hours.
	• Use a time management app to track home and work tasks.
	• Set aside specific times for responding to emails or other messages; avoid these outside of those set times.
	Approach: Avoid family interruptions / distractions
	• Try to find a dedicated, isolated area for work.
	• Provide a signal to indicate whether or not the employee can talk now. For younger family members, try color coded signals (e.g., piece of red or green paper on door).
	• Use separate devices for work and play. For example, a laptop might be used for work, but an iPhone might be used for social media and games.
	Approach: Schedule non-work breaks
	• Include breaks and home activities in the daily schedule.
	• Try the Pomodoro technique, which breaks work into set intervals separated by short breaks. https://en.wikipedia.org/wiki/Pomodoro_Technique
	• Include breaks to exercise or simply relax.
	• Use an app to help the employee relax (e.g., Zen Garden, Breathe2Relax, Bubble Wrap Popping).

Teleworkers may have different work hours (e.g., to accommodate school)	*Approach: Set work/home boundary expectations* • Let employees know what is expected in terms of off-hour communications, etc. *Approach: Follow a set work schedule* • Follow a set work schedule / routine. Keep separate work and non-work hours. • Set aside specific times for responding to emails or other messages; avoid these outside of those set times. Sign out of emails if done for the day. *Approach: Respect employee/coworker work schedules* • Share the work schedules (and preferred communication times) of the employee and/or coworkers if they are working non-standard days/times. • Set up employee "office hours" with preferred communication times. • Make use of email features that delay the sending of messages until standard work hours.
Managers are concerned about whether the employee is working	*Approach: Track assignments and deadlines* • Use time management apps, to-do lists, or other reminders to keep track of assignments and deadlines. • Use a to-do list app (on tablet or cell phone) that a manager or coworker can use remotely to check or reinforce progress. *Approach: Communicate frequently* • Set regular times for employees to discuss assignments and track progress (e.g., check in at beginning and end of the shift). • Have a supervisor, mentor, or supportive coworker check in periodically to ask how things are going (both for accountability and for support).

Mood / Health / Stress Management (Impact: All)

Potential Problems	Possible Solutions
Employee feels isolated from the rest of the team	*Approach: Communicate frequently* • Use chat messages to check in with people regularly. • Have a supervisor, mentor, or supportive coworker check in periodically to ask how things are going (both for accountability and for support) *Approach: Create opportunities for team communication* • Create opportunities for the whole team to get together virtually. This might include fun activities and challenges to maintain morale.
Employee feels pressured to work more; loses work and life balance	*Approach: Follow a set schedule that includes non-work breaks* • Follow a set schedule / routine with separate work and non-work hours. Include breaks and home activities in the daily schedule. • Share employee's work schedules if they are working non-standard days/times. • Set aside specific times for responding to emails or other messages; avoid these outside of those set times. o Use email features that delay the sending of messages until standard work hours. • Try the Pomodoro technique, which breaks work into set intervals separated by short breaks. https://en.wikipedia.org/wiki/Pomodoro_Technique • Include breaks to exercise or simply relax. • Use an app to help the employee relax (e.g., Zen Garden, Breathe2Relax, Bubble Wrap Popping).

Some of the solutions listed in this document come from the following references:

"Tips for Being an Effective Teleworker" by the Partnership on Employment & Accessible Technology (PEAT)
https://www.peatworks.org/content/tips-being-effective-teleworker

"Inclusive Remote Work Environments", a presentation for the Virtual AFB Leadership Conference 2020 by Erin Lauridsen and Tanner Gers
https://www.afb.org/about-afb/events-and-awards/afblc-2020-overview/virtual-afblc/inclusive-remote-work-environments

"Time Management: Working from Home", by Dave Crenshaw
https://www.linkedin.com/learning/time-management-working-from-home

"If you have ADHD, here's how to manage working from home", by Kristen Rogers, CNN
https://www.cnn.com/2020/05/29/health/working-from-home-coronavirus-adhd-wellness