

# Welcome!

Thank you for joining us today.

The webinar will begin momentarily.

Please note: This webinar is being recorded and the materials, including a transcript, will be placed on the National Disability Institute Assistive Technology Loan Program site, along with our other AT [Spotlight](#) Webinars.

## Submitting Questions or Technical Difficulties

**For Q&A:** Please use the Q&A box to send any questions you have during the webinar to Laurie Schaller.

If you are listening by phone and not logged in to the webinar, you may also ask questions by emailing [HPrice@NDI-INC.org](mailto:HPrice@NDI-INC.org)

# National Disability Institute

## Assistive Technology Loan Program

### Ensuring Your Home Works For You: Aging In Place

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## National Disability Institute (NDI)

- We envision a society in which people with disabilities have the same opportunities to achieve financial stability and independence as people without disabilities.
- Our Mission is to collaborate and innovate to build a better financial future for people with disabilities and their families.

## NDI's AT Loan Program

NDI received grant funding through the U.S. Department of Education's Rehabilitation Services Administration;

**Our services include** outreach and promotional webinars, financial education and guidance on spending plan development, referrals to financial counseling or programs that can help people get assistive technology.

*The contents of this orientation were developed under a grant from the Department of Education. However, the content does not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.*

## Orientation Welcome

**Today we spotlight Home Accessibility Features and Services that can help people live in their community and age in place. We will review:**

- **Universal Design**
- **Examples of Home Modifications**
- **Augmented Caregiving Services and**
- **Examples of Tele Health Medicine**

[This recording along with our Assistive Technology spotlight webinars are recorded and posted to our site for future viewing.](#)

Introducing:

**Sheena Jaffer:** has a Bachelor of Arts degree (Economics) from the University of Alberta, and a Certificate on Aging from Johns Hopkins University.

Sheena is a graduate of the inaugural class of the 2012 Leadership Academy of the American Society on Aging, has acquired the CASP (Certified Aging Services Professional designation from the University of North Texas, a Certificate in Gerontology from the University of Southern California, as well as the Certified Aging-in-Place Specialist (CAPS) designation through the National Association of Home Builders, Washington, DC.



## **Rapidly Aging Population USA**

- By 2020, **56 million** Americans will be 65 or older
- By 2050, **84 million** Americans will be 65 or older
- By 2040, the number of Americans older than 85 will triple





## **What is Aging in Place?**

**The US Centers for Disease Control and prevention defines it as “the ability to live in one’s own home and community for a lifetime or as long as possible safely, independently and comfortably regardless of age, income or ability level..”**

**AGING IN PLACE IS A MORE COST-EFFECTIVE OPTION AND PROVIDES BETTER OPTIONS FOR HEALTH OUTCOMES THAN LONG TERM FACILITIES.**



## **The Case for Aging in Place Planning**

- 90%+ want to remain in their own homes
- Most Housing Does Not Meet these Needs



**Why is this important?**

**According to statistics, out of every 100 people,**

- 21 will have arthritis
- 7 will have diabetes
- 17 will have respiratory challenges
- 5 will have orthopedic issues
  - 3 will have effects from strokes
  - 3 will have Multiple Sclerosis, Parkinson or ALS



## Important Considerations

- **The House/Home**  
Home Maintenance/Safety
- Proximity to Family/Friends
- Health/Access to Healthcare
- Transportation
- Financial Resources
- Community  
Resources/Connections
- Supports & Services/e.g.  
Grocery Access



Home modifications are changes made to adapt living spaces to increase usage, safety, security, and independence.

--AMERICAN OCCUPATIONAL THERAPY ASSOCIATION

**Install a ramp**  
with handrails to the  
front door.



**Reduce fall hazards**  
by placing no-slip strips or  
non-skid mats on tile and  
wood floors or surfaces  
that may get wet.

**Place light switches**  
at the top and bottom of  
stairs and remember to  
turn on night lights.

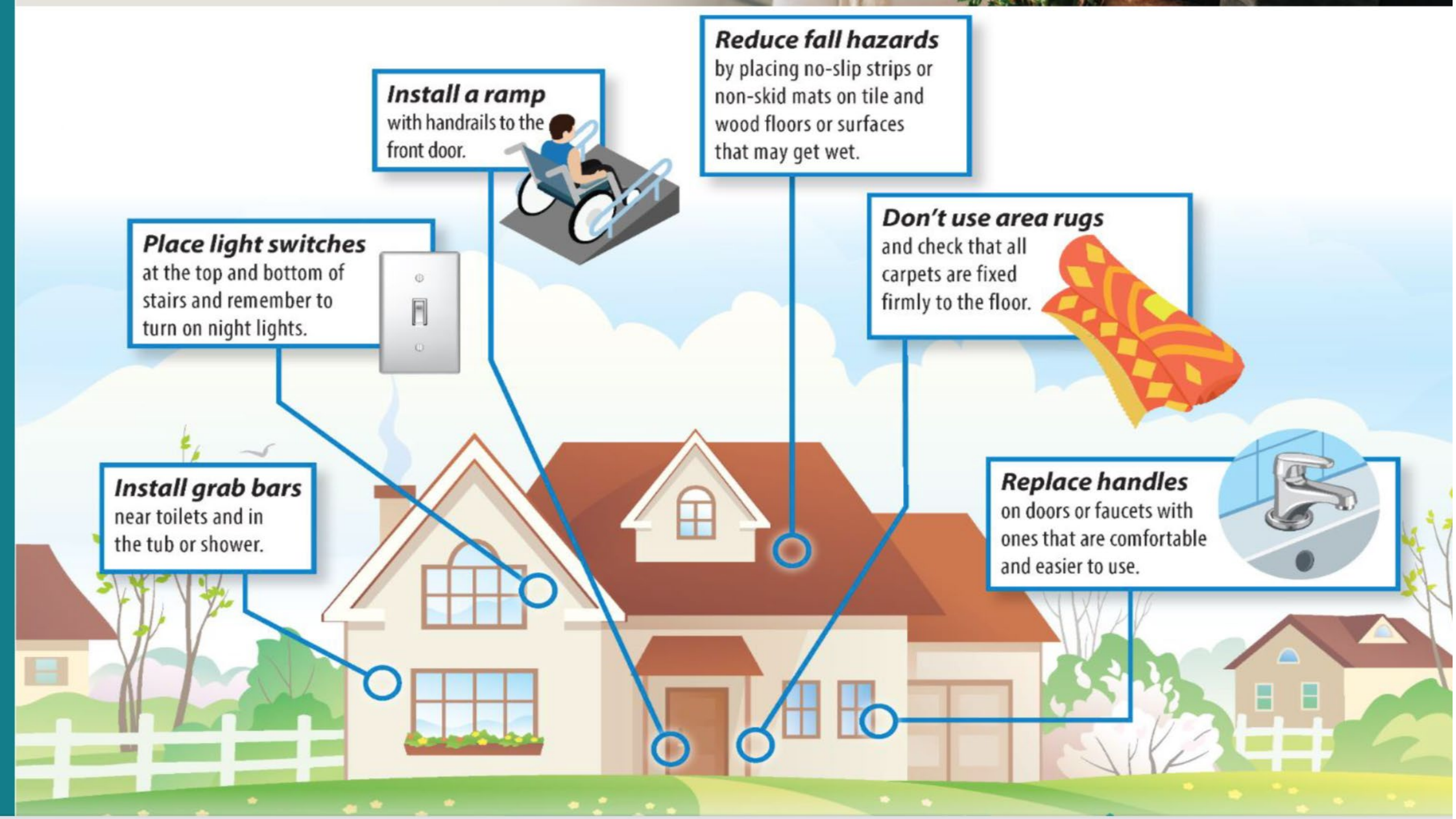


**Don't use area rugs**  
and check that all  
carpets are fixed  
firmly to the floor.



**Install grab bars**  
near toilets and in  
the tub or shower.

**Replace handles**  
on doors or faucets with  
ones that are comfortable  
and easier to use.





## Types of Home Modifications

- Major Home Modifications
- Minor /"Do it Yourself" Home Modifications
- Regular Repairs
- Assistive Technology
- Durable Medical Equipment

# What is Universal Design?

A movement and approach to designing products and environments that can be used by all people.





# Universal Design Principle 1: **Equitable Use**

Useful to people with a  
diverse range of abilities.

- Example: No step entry.



## Universal Design Principle 2: **Flexibility in Use**

Accommodates a wide range of individual preferences and abilities.

- Example: Scissors designed for right-or left-handed users.



## Universal Design Principle 3: **Simple and Intuitive Use**

Easy to understand,  
regardless of the user's  
experience, knowledge,  
language skills, or current  
concentration level.

Example:

Single handle lever faucet,  
touchless faucet.



# Universal Design

## Principle 4: Perceptible Information

Communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

- Example: Round wall thermostat incorporates enlarged visual information, tactile lettering, edge texture, and audible click stops at 2-degree intervals.



## Universal Design Principle 5: Tolerance for Error

Minimizes hazards and the adverse consequences of accidental or unintended actions.

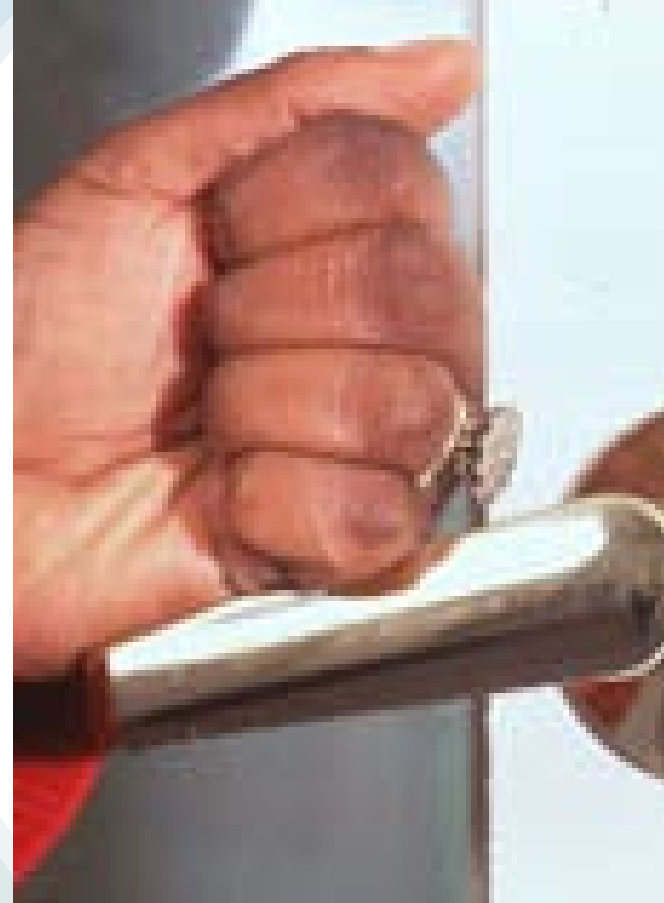
- Example: An “undo” feature in computer software that allows the user to correct mistakes without penalty.



# Universal Design Principle 6: **Low physical effort**

Can be used efficiently and comfortably and with a minimum of fatigue.

- Example: Lever or loop handles on doors and faucets.



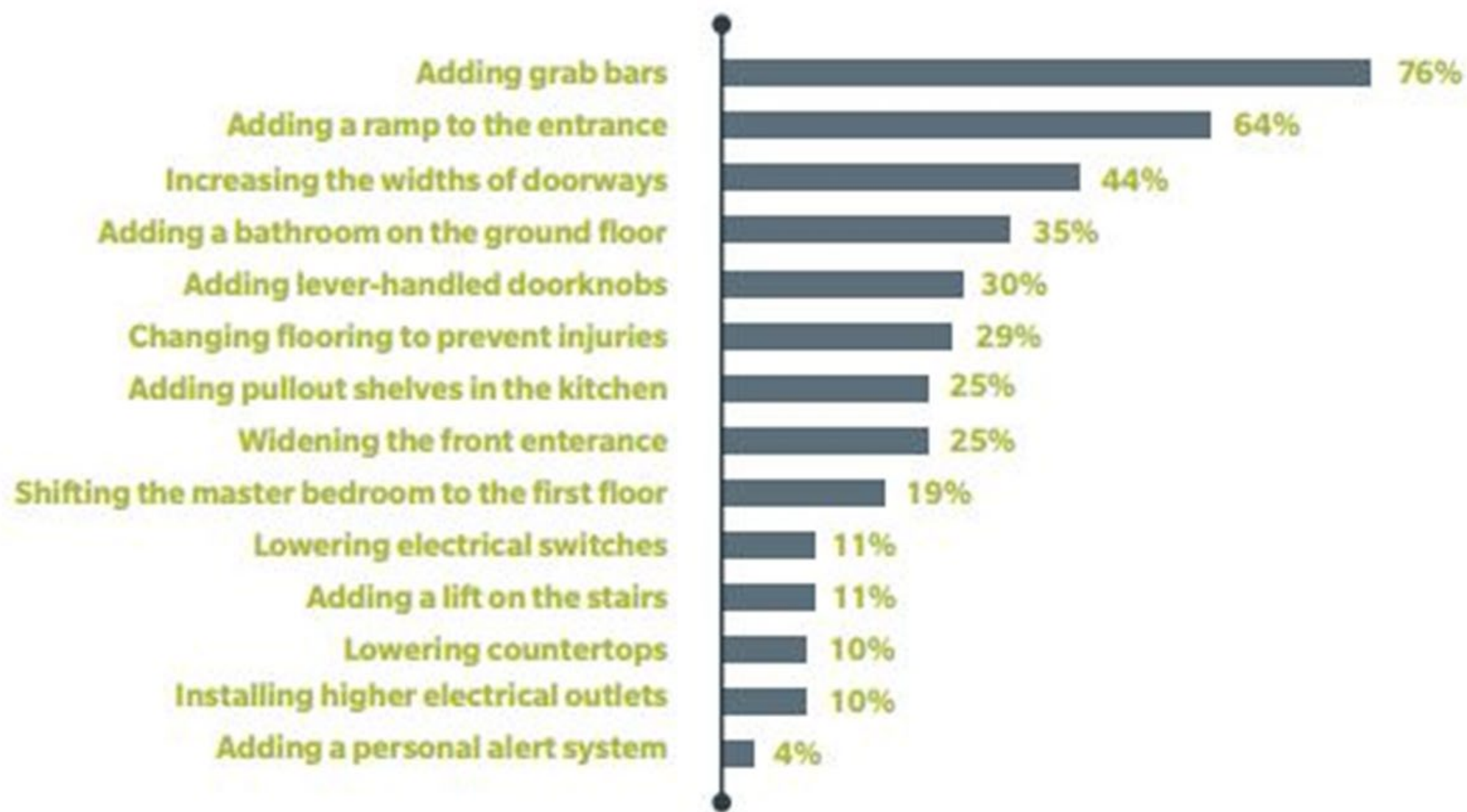
# Universal Design Principle 7: Size and Space for Approach and Use

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body, size, posture, or mobility.

- Example: Bathroom with Universal Design features.



## Most frequently completed projects for homeowners looking to age in place





# The Smart Home

Latest technology and home automation devices can transform any home into a remote-controlled smart home.

- Manage your door locks, lighting, thermostat and more with a tablet, computer or smart phone.





## Proactive Planning to Age in Place

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Make remodeling your home a part of retirement planning strategy.

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Educate yourself on Home Accessibility Remodeling

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Undertake the livability and safety assessment of your home by mobilizing a Certified Specialist

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Aim to learn from an accessible or already remodeled home

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Get at least 3 quotes for modifications that you need

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Find out programs in your city/state that offer support and subsidies

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# How to Pay for Home Modifications

- Private Pay
- Statewide Programs/Waivers
- Federally Funded Programs
- Seniors, Special/Subsidized Programs in Cities
- Assistive Technology Act Programs: NDI AT Loan Program

# RESOURCES

- Housing and Services Resource Center

<https://acl.gov/HousingAndServices>

- Centers for Independent Living

<https://www.ilru.org/home>

- State AT Programs

<https://at3Center.net/explore-at/>

- US AGING/Area Agencies on Aging

<https://www.usaging.org/>

- The Home Modification Network

<http://homemods.org/acl/hmin>

- Smart Home Made Simple

<https://smarthomesmadesimple.org/resources/guide>

# Introducing:

**Vicki Spraul:** Founder and President of Gray Matters Alliance, LLC. has over 30 years of experience in various industries. She holds a B.A. in Business Administration. Vicki's passion for the older population led her to create Gray Matters Alliance in 2014. It was down the road that she discovered our disabled population shares a lot of the same trials and tribulations as our seniors and she wanted to serve those individuals as well.

**Aaron Milligan:** is a certified and licensed Occupational Therapy Assistant. He graduated from Meramec Community College with an Associate's Degree in Applied Sciences. While working through school, Aaron began working as a rehabilitation technician and continued his work, through the years, in Acute Hospital Rehabilitation, Geriatric rehabilitation, Long Term Care, Home Health, and Administration of Rehabilitation Facilities since 1996.

# What is Assistive Technology

Assistive technology products, equipment, and systems that enhance learning, working, and daily living for persons with disabilities.

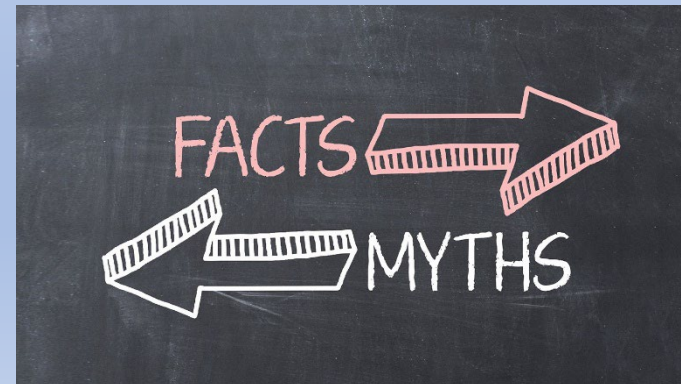
It can be any item, piece of equipment, software program, or product system that is used to increase, maintain, or improve the functional capabilities of persons with disabilities.

Assistive Technology can be low tech or high tech and can include things such as:

- Mobility devices like wheelchairs and walkers, braces, prosthetics
- Mounting systems, switches, keyboards, communication boards, screen readers, eye tracking
- Electronic devices/ADLs assists
- Specialized learning materials and curriculum aids
- Much more.....

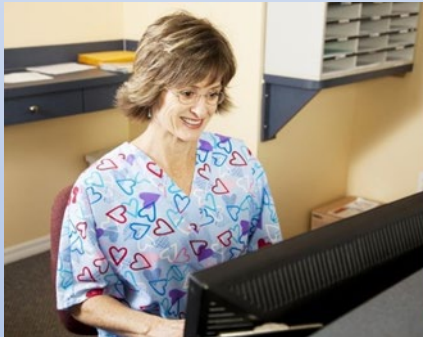
# Assistive Technology Misnomers

- It will take the place of human caregivers
- It's too intrusive
- It opens it up to security risks/hacking
- Mom won't know how to use technology
- I will lose my job in healthcare
- It's too complicated to learn, I will just do things the old way
- It's too expensive
- Hard to manage and administer



# What is Augmented Caregiving Using Assistive Technology?

Augmented Caregiving is the ability to use additional tools and technologies to optimize professional caregiving.



Hi Jane. It's Nancy your caregiver, you pressed your help button. Is everything okay?"





## What Forces Have Caused Assistive Technology To Occur

Technology is all around us and impacts most parts of our daily lives, so it's only a natural evolution to have it also help with caregiving, but there are other external causes that is forcing it to become more of a necessity.

- Aging population growing: 10,000 a day will turn 65 and will continue to 2030, outpacing the number of current and new caregivers available
- Disabled population is also growing, and they are aging too
- Staff Shortages, small pool of candidates
- More chronic conditions that require many levels of management/non-compliance
- Medicare and Medicaid are the biggest portion of the federal budget
- Raising health costs, less insurance options, costly 30-day readmissions

**Then along came COVID...**

# Chronic Disease Management

Chronic disease is responsible for 60% of all deaths worldwide with almost half of chronic disease deaths occurring in people under the age of 70.” (Source – WHO)

A significant portion of these hospitalizations and deaths are due to poor understanding and poor self management of chronic disease.

## **EXAMPLES OF COMMON CHRONIC DISEASES**

CHF (Congestive Heart Failure)

COPD (Chronic Obstructive Pulmonary Disease)

Diabetes

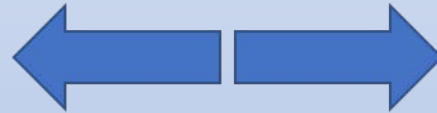
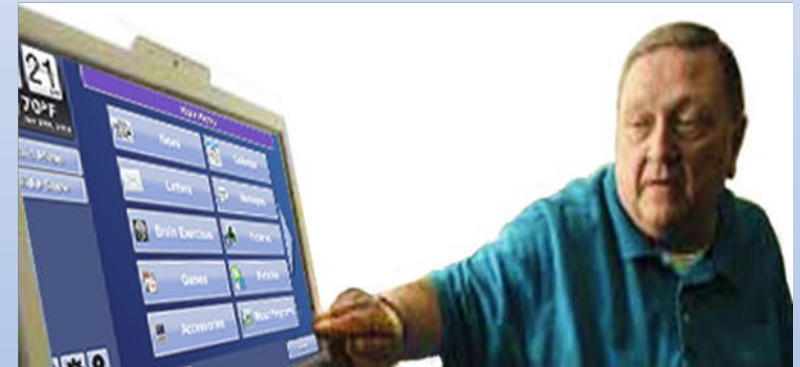
# HOW DOES ASSISTIVE TECHNOLOGY WORK?

## *Care From Anywhere*

**Remote  
Provider/Family/Caregivers**



**At Point of Care  
In the Patient's Home/Community**



2-Way communications Telehealth, Notifications, Reminders, Visual Assessments

# What Part of Daily Living Can Assistive Technology Be Utilized?

- Daily Vitals
- Medication Management
- Socialization
- Educational/Lifestyle Tutorials
- Exercise/Activity
- Smart Home/Home Safety
- Communication among all caregivers

- Nutrition/Hydration
- Oral Hygiene
- Memory Assists
- Rehabilitation/therapeutic
- Scheduling/ADL Tasks
- Provide instant, mass messaging to entire groups
- Check Ins/peace of mind



# Bluetooth Enabled and Virtual Vitals

- Blood Pressure/Pulse
- Glucose/Blood Sugars
- Oxygen Saturation
- Weight
- Temperature
- Objective, customized, personal assessment (pain scale, mood scale)



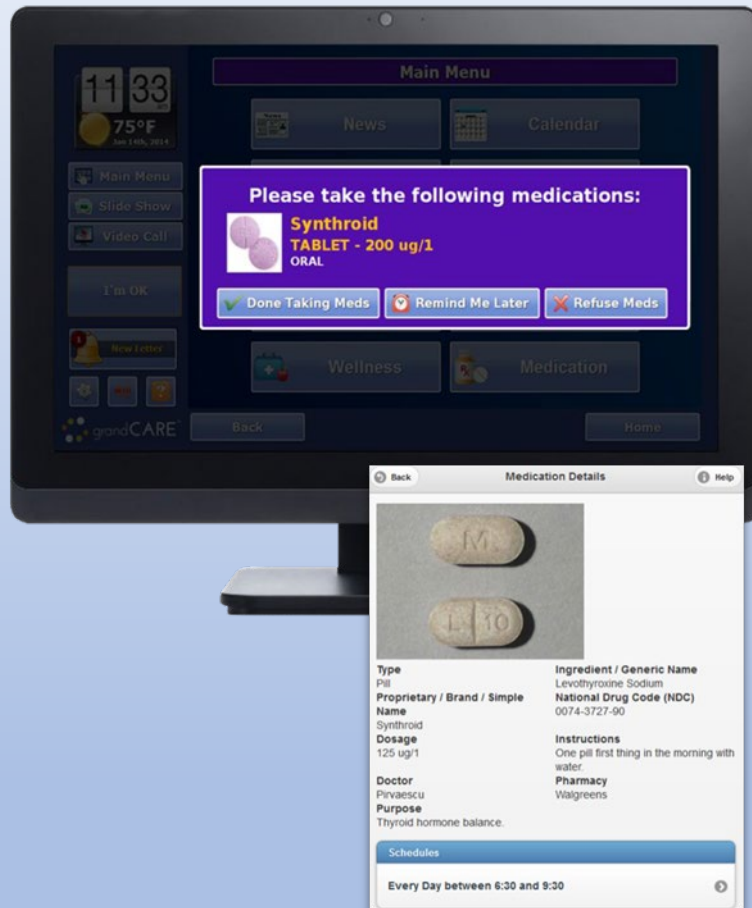
Wireless Bluetooth®



## FDA Class II Bluetooth Health Devices

Automatically record, track and trend vitals and biometric readings

# Medication Management Alerts and Reminders



- Allows for setting medication schedules and reminders via audible and visual alerts on the monitor. Caregivers can also be alerted via call, text, or email if a client has or has not taken their medication
- Picture and purpose with instructions on how to take the medication, are also listed on the monitor, eliminates medication error, mix-ups and adverse side effects
- If need be, can visually watch a person take their medications
- Reminders work for self-administered or caregiver dispensed medications

# Medication Management Compliancy & Reports

Acknowledgement, date and time stamped logs whether self administered or dispensed by a caregiver/staff

07/09/2020 10:45a	Lisinopril with Hydrochlorothiazide	9:45am - 10:15am	NOT CONFIRMED
07/08/2020 2:53p	Lisinopril with Hydrochlorothiazide	2:45pm - 3:00pm	Taken
07/08/2020 10:33a	Lisinopril with Hydrochlorothiazide	9:45am - 10:15am	Taken
07/07/2020 1:31p	Synthroid - Synthroid	1:15pm - 2:00pm	Taken
07/07/2020 1:31p	Lisinopril with Hydrochlorothiazide	9:45am - 10:15am	Taken
07/07/2020 1:31p	good sense ibuprofen cold and sinus	1:15pm - 1:45pm	Taken
07/07/2020 1:23p	Lisinopril with Hydrochlorothiazide	9:45am - 10:15am	Refused
07/06/2020 4:15p	Lisinopril with Hydrochlorothiazide	4:15pm - 4:30pm	Taken

Reports and compliancy records are available on the caregiver portal

**Medication Compliance**

Medication: Synthroid (Levothyroxine Sodium)  
 NDC: 0074-3727  
 Class: l-Thyroxine [EPC], Thyroxine [ChemicalIngredient]  
 Reason:  
 Status: Current  
 Start Date: Wednesday, August 23rd, 2017  
 End date: Wednesday, August 23rd, 2017  
 Schedule: 9:15am-9:30am  
 Average Time: n.a  
 Total: 1  
 Acknowledged: 0 (0%)  
 Refused: 0 (0%)  
 Unacknowledged: 1 (100%)

ASG 2017

23	24	25	26	27	28	29
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2

**Medication**

Options Help

Medications and Schedules New Medication

**Losartan/HCTZ**  
Losartan Potassium and Hydrochlorothiazide

**Synthroid**  
Levothyroxine Sodium

Medication Rules New Rule

On  IF Any medication is not acknowledged as taken THEN send text message to Charles Hillman

**Medication Schedule**

Name	Day	Timeframe	Purpose
Synthroid	Every Day	6:00am to 8:00am	Thyroid replacement
Plendil	Every Day	6:00am to 8:00am	Reduce chest pain
Lipitor	Every Day	4:00pm to 7:00pm	Reduces cholesterol
Lanoxin	Every Day	4:00pm to 7:00pm	Strengthen the heart

Refresh

# Home Safety and Smart Home

Multiple items that can improve safety and independence

- Motion and Activity Sensors
- Contact Sensors
- Environmental Sensors- (good for stove area or to determine temperature in the home)
- Pressure Mats
- Emergency Pendants (neck or wrist)
- Internet of Things (IoT)- such as Pathway lighting and Smart Plugs
- Outside perimeter cameras  
(inside cameras are available on a case-by-case basis and should require the client's/family approval)





# Scheduled Check-Ins

PEACE OF MIND  
IS EVERYTHING OK?



# Activity Monitoring & Alerts

**Assistive Technology provides multiple items that can improve safety and independence and avoid the wondering.**



- Did mom get out of bed?
- Is there excessive motion in the bathroom?
- Did Mary access the kitchen at mealtime?
- Did Dad take her medications?
- Was the window left open?
- Is the home at a comfortable temperature?
- Did the front door open at 1 am?

“No news is good news”  
Receive alerts only when  
something is unusual.

# Video Chat- Engage with Family and Friends








- Stream Events
- 2-Way Communication
- Customized Contact Lists
- Ability to-auto answer
- Initiate phone call from any smart device
- Monitor works as a phone, w/caller ID
- Always 100% HIPAA Compliant

• Combat Isolation • Keep Engaged • Therapeutic



# Scheduler:

Schedule To-Do's, Appointments, Tasks, ADL's, Events, Holidays

**Before Work Tasks** 7:00am Reminder

1. Take a shower and get dressed 
2. Make Breakfast 
3. Brush your teeth 
4. Grab your tablet and pack your backpack 
5. Be outside at 8:45 so your ride can pick you up 

**May, 2020**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 May Day	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21 Toothbrush Call	22	23
24	25	26	27	28	29	30
31						

**Add Event**  
Step 1 of 5

Event Basics

Select a Type of Event:  Event Date:

Event Description:

Basics **Time** Repeat Remind Details

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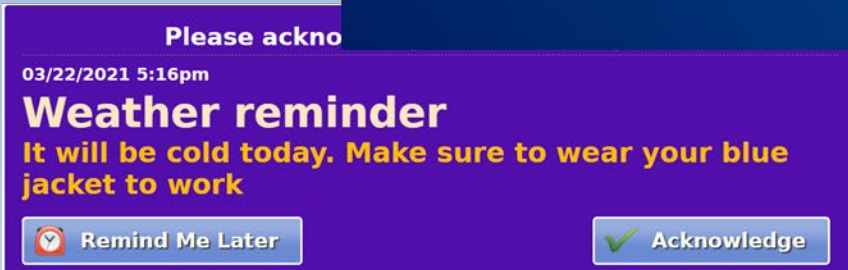
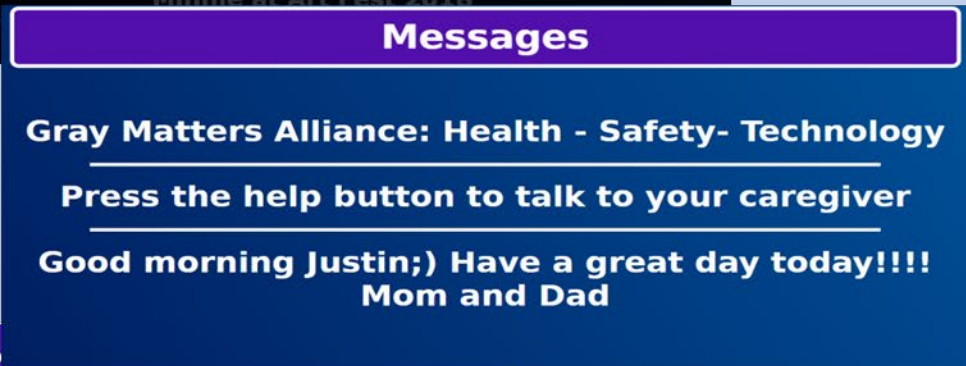
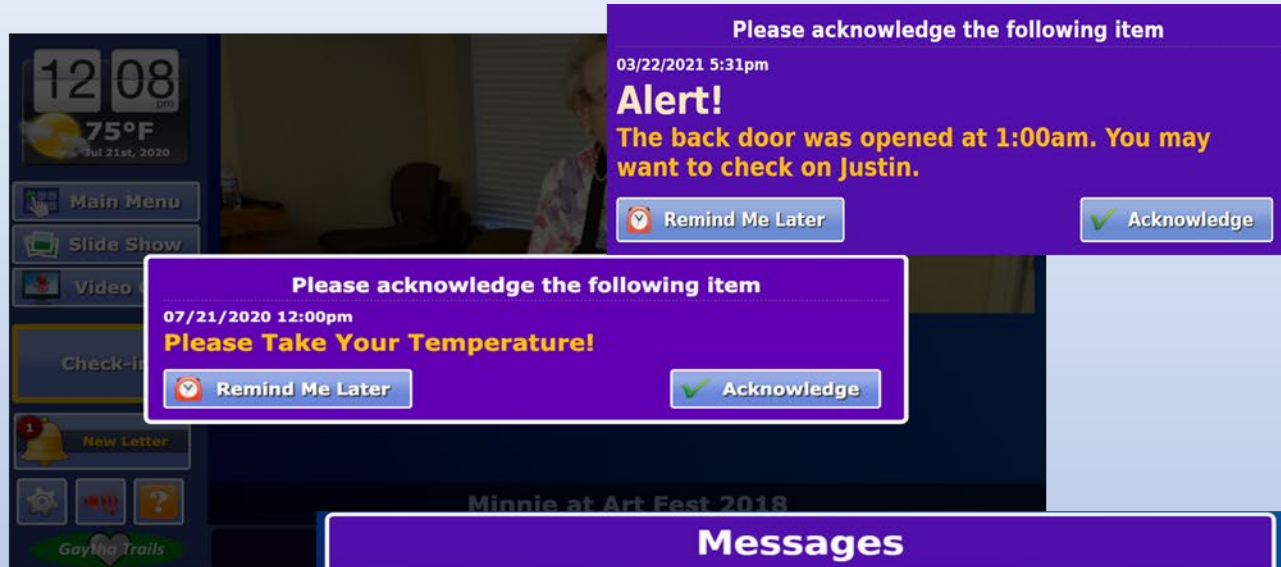
**Today's Schedule**

- Bathing 11:15am
- Lunch (no milk) 12:45pm
- Light housekeeping 3:00pm

**It is currently 3:04pm**

- Foot wound care (left ... 4:15pm
- Laundry 5:30pm
- Dinner 5:30pm

# Reminders & Messages



- Anything can be a reminder!
- From vitals, medication refills, drink water, time to move, lock the door before bed to it's your mom's birthday today, call her
- Send messages on the fly... don't forget your umbrella, it's going to rain, your caregiver is running late, or make someone's day by sending an inspirational message-Have a great day, you're amazing!



# Case Study

## 80 yr old-Aging-in-Place

Mary is an 80-year-old, who has lived in her home for 50 years and wants to age in place. Mary loves to cook. Mary still goes into the community to meet friends.

She needs the following assistance at home for ADL's/ IADLs and has diabetes, on several medication, and is a fall risk.

### **Assistive Technology Can Assist in Allowing Mary to Continue to Age-In-Place:**

**Scheduler w/Reminders:** for maintaining daily/weekly appointments, events, doctor appts, hygiene schedule, medication, feed the dog, etc. Family members can input information directly from the system. Set alerts for reminders. Medication reminders.

### **Home & Community Safety/Fall Risk:**

Contact sensors on doors and windows to alert for anyone coming or going in the house. Motion sensors to make sure Mary gets out of bed in the morning and is moving around. Emergency pendant or bracelet to call for help if needed. Quick and easy visual and audible contact to check on Mary if alerted or called. Perimeter cameras to see who is at door, have 2-way communication before opening the door. Pathway lighting to guide Mary to the bathroom. Since Mary cooks, smart knobs on the stove that will monitor if the stove has been left unattended while on. A pendant that can be used in the community for those times Mary leaves the home.

**Diabetic Management:** Bluetooth glucometer to automatically input the reading, tutorials on eating correctly, videos on diabetic recipes, telehealth for doctor visits.

### **Socialization:**

Allow for telechat with family and friends, stream church services or grandchildren sporting events, activities can be performed within a system to keep Mary engaged, provide therapeutic games and Games can be therapeutic for recall, memory assist, cognitive support.

# Assistive Technology



GMA offers a wide array of assistive technologies to keep people independent and safe!

## AT Systems



## Eye Tracker



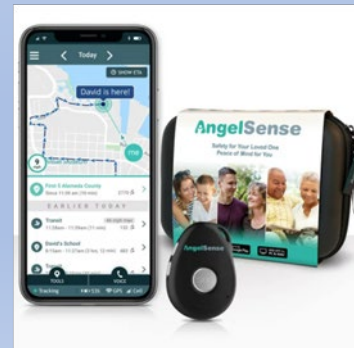
## Orcam MyEye



## Smart Monitor Watch Seizure Solutions



## Angel Sense



## Smart Stove Knobs



## OBI-Robotic Feeder



# Contact Information

## Gray Matters Alliance

[www.graymattersalliance.com](http://www.graymattersalliance.com)

[info@graymattersalliance.com](mailto:info@graymattersalliance.com)

314-266-2678 (Office)

314-537-0532 Aaron Milligan, COTA/L (Cell)

314-322-3875 Vicki Spraul (Cell)

112 W. Pitman St  
O'Fallon, MO 63366



# How to Save and Afford AT

Social Security Administration provides work supports for SSI and SSDI beneficiaries who work: the **Impairment Related Work Expense (IRWE)** may allow a person to purchase AT while retaining benefits longer or at an increased level.

SSI and many types of Medicaid have resource limits of \$2,000 for an individual, \$3,000 for a couple; may be more, for larger households.

However, there are protected savings opportunities available that allow SSI and Medicaid beneficiaries to save more and continue to receive SSI benefits and Medicaid.

- **Plan for Achieving Self-Support (PASS)** to save income towards education that leads to employment goal expenses; and
- **Achieve a Better Life Experience: (ABLE Act)**

[SSA information on protected savings.](#)

# ABLE Act

A person who has a disability since before age 26, may open an ABLE savings / investment account at any age.

New Jersey and New York offer ABLE savings accounts; other ABLE plans are available to choose from too.

- Savings up to \$100,000 does not count towards the **SSI resource limit of \$2,000**.
- Any amount of ABLE savings does not impact any type of **Medicaid** eligibility.

An ABLE account owner, friends and family, Special Needs or Pooled Trust or a 529 college savings plan may **contribute** up to \$17,000 into ABLE annually.

An ABLE account owner who works and does not have contributions deposited into a retirement account may contribute up to an additional \$13,590 from their employment **earnings** into their ABLE account.

ABLE contributions can total **\$30,590 for 2023!**

[The ABLE National Resource Center Provides Free Information](#)

## ABLE Qualified Disability Expenses:

- Assistive technology;
- Education;
- Basic living expenses including food and shelter;
- Housing including utilities, rent, modification, purchase, property taxes;
- Transportation;
- Employment training and support;
- Personal support services and respite care;
- Health care expenses;
- Disability related vacations and recreational activities;
- Legal fees and financial management;
- Funeral and burial expenses.

## NDI's AT Loan Program (continued)

- NDI partners a bank and credit union to issue and service pre-qualified AT loans up to \$30,000+ for residents of New Jersey and New York;
- NDI buys down the interest rate to 6% and 4% interest;
- NDI has deposited funds with these institutions to guarantee defaults, allowing for more favorable lending terms;

**Our services include** outreach and promotional webinars, financial education and guidance on spending plan development, referrals to financial counseling or programs that can help people purchase an item at no cost and explore AT resources available in NJ and NY.

[Our site spotlights new AT equipment and products](#)

## NDI AT Resource Guides

- The NDI AT Resource Guides list grants, lending programs and other service providers who can help you select the best and most cost-effective AT to meet your needs;
- There are AT Demonstration programs listed where you can try out or borrow AT, sometimes - indefinitely;
- There are AT assessment services that can help you evaluate AT to meet your needs, abilities and activity levels and environment.

[Assistive Technology Guide for New York](#)

[Assistive Technology Guide for New Jersey](#)



# FINANCIAL RESILIENCE CENTER



**Online Resource Center for  
People with Disabilities and  
Chronic Health Conditions**

**[Financial Resilience Center](#)**



## Questions?

NDI AT Loan Program Contact:

Laurie Schaller

[lschaller@ndi-inc.org](mailto:lschaller@ndi-inc.org)

Manager, Financial Empowerment

[AssistiveTechLoans.com](http://AssistiveTechLoans.com)

Phone and FAX: **(202) 449-9521**

[Webinars are recorded](#)

Community presentations available

## Post webinar survey:

- What information was most helpful?
- Do you need help finding a job?
- What type of AT would you like to know more about?
- Do you want to schedule an NDI AT Loan presentation for your agency or community organization?