

Assistive Technology and Environmental Design

Dementia Friendly
Massachusetts: Creating
Welcoming Communities

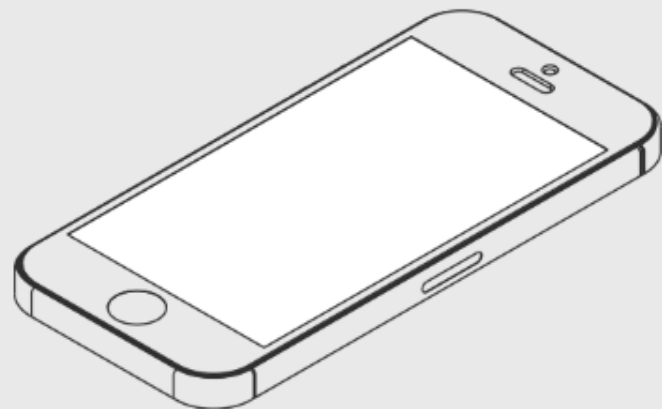
11/9/2017

Go to **www.menti.com** and use the code **12 02 03**

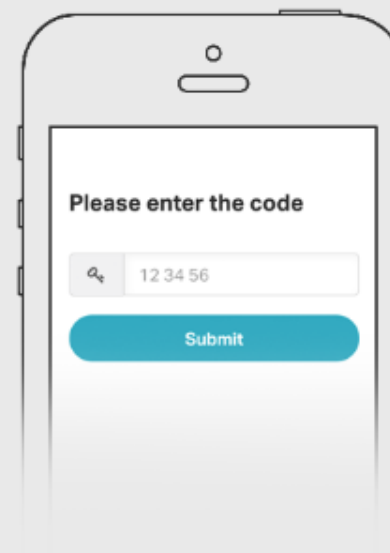


Mentimeter

Who is in the audience?



www.menti.com



1 Grab your phone

2 Go to **www.menti.com**

3 Enter the code
12 02 03 and vote!

0
person with
dementia

0
caregiver of
someone with
dementia

0
clinician

0
legal
professional

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professionan
working in the
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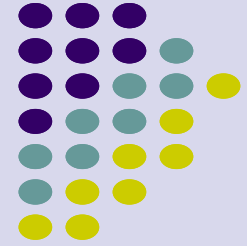
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other



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<https://www.mentimeter.com/s/df0b0627e345114bcba6634b2f195e2e/7be9d3f5d246>

Environmental Design of a Dutch Assisted Living Village & Mahoney's Adoption of Home Monitoring Predictive Model



Diane F Mahoney PhD, RN, FGSA, FAAN

Principal, EDDEE Consulting, Charlestown,

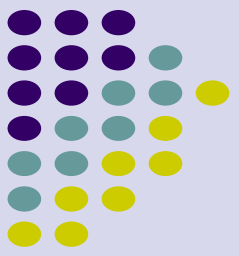
Professor Emerita, MGH Institute of Health

Professions, Boston, MA,

Senior Scientist, Mass General Hospital's

Munn Research Center

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My Visit to the Village of Hogeweyk

Amsterdam suburb, Netherlands, 2009

My visit – 2012 - day long observation

Residence conducts no scientific research to date; “protect residents”; they think they do better than similarly funded nursing homes (anecdotes but no evidence)

hogeweyk@vivium.nl



(Ho’give way)



De Poort

The Entrance Gatehouse

- Single entrance visitor and resident check in and out through security gatehouse
- 4 Acres designed as an enclosed secure Village but without fences!
 - 24/7 TV monitoring by entrance guard of perimeter and public spaces
- 23 “houses” including 16 ground level residences and 7 upper level (elevator sensors), theatre, restaurant, wine bar, activity center, health center, supermarket and stores.



“Resident” (152 residents)

Used in P-R materials

Qualifications – Severe “not mild dementia”; needs 24 hour support

Ave Length of Stay has increased from original 2 ½ to current 3 ½ years



Colorful artistic designs throughout

Environmental low tech support



Boulevards signed and coded

Different plants; colors



Typical Dutch design

Birdfeeder in rear



Integrated seating areas on walking path

Plantings everywhere!



Children encouraged to visit

Chess game offers users a pleasing activity

Common visual areas to attract and entertain residents



Main shopping mall boulevard

Aka walking path



Most popular stop

Habitual routines

Normalization



Cognitive stimulation

Engagement



Productive visit

And sometimes not!



Flower stall

Sensory smell, visual, and touch stimulation

Flower fairs are very popular!



Hair salon

Everyone is groomed and dressed





Memory store

Stimulation of long term memory of work history and habits – sewing, fixing things, talking on telephone



Music store

&&&&&&&&&&





Nome ID

Home signal



Strategic trees

First floor unit



4 Unit choices

Indonesian/ ethnic; lower class group; middle class solo; upper class

Aristocracy difference



Indonesian courtyard

Ethnic pictures and statuary



Shared unit kitchen and courtyard

Visual stimulation



Helpers

Tailor activities to person's habits



th Waldegrave

Ubiquitous TV lounge

No ZZZZZZ



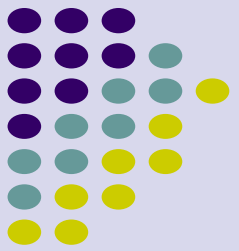
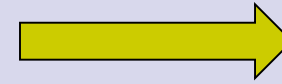


Wine Bar

!!!!!!!!!!!!!!



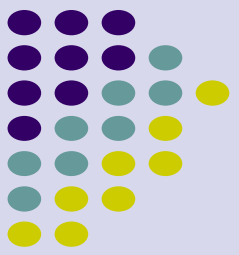
Introduction - IOT



Sensor Monitoring technologies are moving into the home at a rapid pace being adopted by consumers for :

- Home safety: fire, CO2, break-ins
- Environmental control: Thermostats, shades,
- Mood: Music, Lighting
- Fitness: Exercise, Stress reduction, vital signs
- Food: inventory, menus, grocery orders
- Information and Assistance: Alexa, Echo

65+ Usage by Yr of Internet / Phone



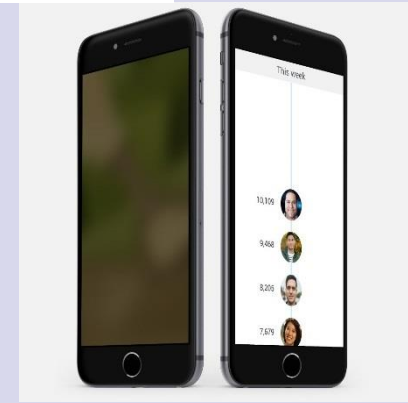
- 2000 14% Internet / 90% Telephone

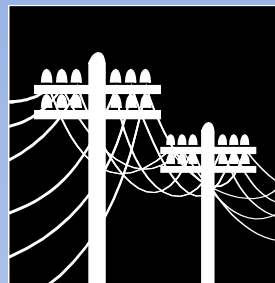


- 2013 58% “ ” / 77% Cellphone



- 2016 67% “ ” / 43% Smartphone





REACH for TLC - Telephone Linked Computer IVR Interactive Voice Response for caregiver/ elder respite, tailored education, stress monitoring, and health counseling

First AD Internet support group analysis

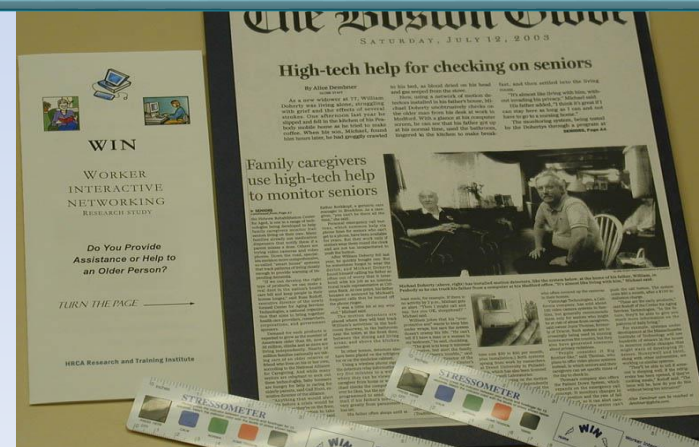
RECALL – Forgetfulness: What's Normal & What's Not

TLC Eldercare - automated geriatric assessments compared to in- person and MSW telephone assessments for homecare services

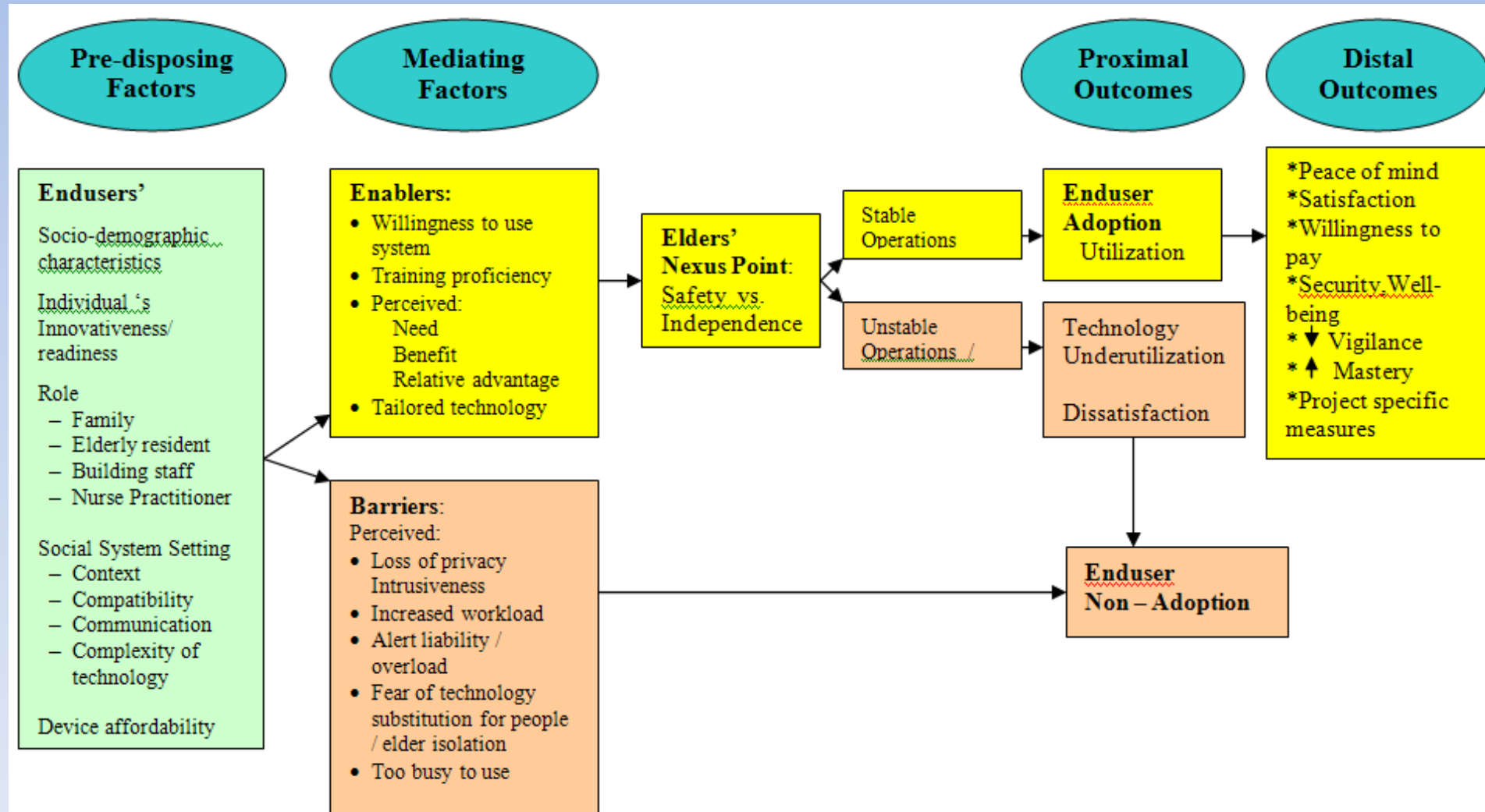
NURSENSE- nurse assessment driven algorithm

AT EASE: Automated Technology for Elder Assessment, Safety, & the Environment – First “real world” testing of remote wireless systems in Independent and Assisted Living residences

WIN – Worker Interactive Networking – first workplace to home wireless remote sensor monitoring



Mahoney's Adoption of Home Monitoring Technology Model



Model Summary & Propositions

- When the enablers overtake the barriers, then adoption proceeds to the next stage
- If safety/independence outweighs privacy concerns, then technology is accepted
- Stable, reliable operations enhances usage & the likelihood of positive outcomes

D. F. Mahoney (2011) An Evidence Based Adoption of Technology Model for Remote Home Monitoring of Elders **Ageing International**, 36 (1):66-81 DOI: 10.1007/s12126-010-9073-0 PMCID: PMC 3057084

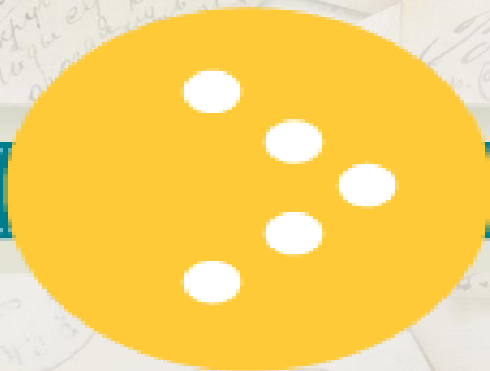


HouseWorks

INSPIRED • INNOVATIVE • IN-HOME CARE

Assistive Technology and Environmental Design

Thursday, Nov. 9th, 2017



Re-imagine what it means to age.

Andrea Cohen
Co-Founder & CEO

acohen@house-works.com

www.house-works.com



Today's Talking Points

1. Parallels to the Village Movement
2. Technology opportunities for Welcoming Communities
3. What families want AND their technology concerns
4. A sampling of technology solutions

HouseWorks

Thinking Differently About Home Care

An entrepreneurial high-touch private home care business.

Fueled by a real understanding of today's challenges, HouseWorks' is a private home care company committed to a fundamental re-imagining of what it means to age.



Our Vision for Aging...

- We will look forward to growing older rather than fearing it.
- We will have control over where we live, who we spend time with, what we do with our time.
- We will know that we don't ever have to move unless we choose to do so.
- We have all the right people around us and information to make informed decisions.
- Our children will want to visit us because we live in places that interest them.



The Village Movement



Our involvement with Villages is a great example of how innovation is an imperative—not a risk.

The Village Movement

15+ YEARS AGO

A “social revolution” is sweeping the country. The paradigm is shifting—seniors want choice and control, and don’t plan to let time make their decisions for them. They have a vision and are creating the solution by forming Villages. Each Village looks different, taking on the character and priorities of the neighborhood that has supported them their whole lives— where they raised their kids and met their lifelong friends.





Key Ingredients

- Strategic alliances with existing providers and resources
- Community organizing and generating awareness
- Consumer leadership and commitment
- Fundraising capacity
- Innovative thinking
- **Technology**

LOOK FAMILIAR ?? One key difference...



Welcoming Communities

Help older adults remain independent and in the community as long as possible by creating a supportive enabling environment.

GETTING IT DONE

- **Engage with broad coalitions of stakeholders**, including older people, to strengthen community supports and increase inclusion for the benefit of people of all ages.
- Assess and **promote existing support services**, while simultaneously raising **awareness about gaps** in services
- Be deliberate in **coordinating efforts between age-friendly and dementia-friendly efforts**
- Develop and disseminate **toolkits and resources** on building age- and dementia-friendly communities.



Technology Opportunities

FOR WELCOMING COMMUNITY INFRASTRUCTURE

- Coordinate efforts between age and dementia friendly initiatives
- Generate data that measures outcomes; evaluate what's working and making fundraising and advocacy easier.
- Raise awareness about initiative and aging/dementia
- Disseminate resource information

FOR THE CLIENT AND FAMILY

- Engage clients; supports social isolation and brain stimulation
- Measures behavior and health related changes
- Create a safer home environment
- Builds a '*circle of trust*' for the family.
- Enables seniors and their families to participate more fully in their own care.
- Provides opportunity for more affordable care. *Can introduce technology before hiring more costly help.*

Technology can improve service delivery and increase efficiencies,
but it is no substitute for human skill & compassion.

How much of a role can technology ultimately assume?





What Families Want

That Technology Can Solve

- **An up-to-date snapshot of behaviors, patterns and trends** happening in the home. These ‘real time’ care updates will reduce anxiety and help detect an impending crisis.
- A way to *virtually* **screen the home health aide** to determine if they are a good fit for their parent/spouse. Once service has begun, to be able to log in and **know that the home health aide arrived**.
- A **centralized schedule** of medical appointments and family visits that can be shared with the care team.
- **Reminders and alerts** (take meds, make post-hospitalization follow-up appointments, change a dressing, practice PT, call the specialist) that trigger them to take action.
- To **participate in the care when it’s convenient for *them***—anytime in the day or night.



What Families Want

That Technology Can Solve

- **One place to store health care information** (including advance directives) to make it easier to transition to and from any setting—home, the hospital, a SNF or senior housing.
- When families disagree—to use data to **make decisions based on logic versus emotion**.
- **To get their parents more engaged** by connecting them with on-line, life affirming activities. To help them remain part of the family by teaching them to talk and visit via e-mail, face time, skype, etc.
- For their parent to make **virtual visits to the doctor**; to reduce the frequency of driving to the doctor for routine visits.
- To learn **and get support from other families** who are having similar experiences.



The Family's Concerns

- My parents will find it intrusive and refuse to use it.
- It is not secure.
- My father won't be able to figure out what button to push or switch to turn on. *I don't have time to teach him.*
- I can't monitor sensors, read the daily report from the home health aide, manage the online schedule and return e-mails. *I want one solution that does it all and someone to help me manage it.*
- I have never heard of the company promoting the product. Can I trust them? How will they know what my parents need? *It's hard to decide whether or not to use it when the stakes are so high.*
- It's just one more thing for me to do. *I am so overwhelmed already.*

Sampling of Technology Solutions

- 
- ✓ Virtual Assistants
 - ✓ GPS tracking watch
 - ✓ Cognitive Stimulation
 - ✓ Music Therapy
 - ✓ Home safety & monitoring
 - ✓ Companionship (robotic pet)
 - ✓ Dementia Day Clock
 - ✓ Manage care
 - ✓ Measures behavioral changes
 - ✓ Predictive analysis





Parting Thoughts

- **Connectivity.** Actively pursue a ‘state of connectedness’ between all technology solutions. Although each adds value, the challenge is to ensure they work well together and on a common platform. *Start small.*
- **Commitment.** Remember that integrating technology is NOT a quick fix—but rather a long-standing commitment to service excellence. Staff and technology partner(s) must be aligned. The technology software or device must be tested, well funded with a high potential for ‘staying power’.
- **Integration.** Fully integrate all technology solutions into your workflow processes. *Want to be considered an efficiency versus an add-on.*
- **Accountability.** Although a team effort, every organization must hold one person in their organization accountable for technology execution.
- **Training.** Hire (or partner with) per-diem staff to set up and teach families to use.



Tara Espiritu, MS, OT/L
Assistive Technology Specialist
Easter Seals Massachusetts



Home Adaptations / Low Tech Memory Aids

- ▶ Large format clocks and calendars
- ▶ Large button remotes
- ▶ Check lists
- ▶ Labels
- ▶ Pill boxes



Memory Aids – High Tech

- ▶ Audio Recorders
 - ▶ Livescribe Smartpen
- ▶ Tile Pieces
- ▶ Adaptive telephones



Memory Aids – Mobile Solutions

- ▶ Mobile assistants
- ▶ Mobile Apps
 - ▶ Electronic Calendars
 - ▶ Audio recorders
 - ▶ Electronic Reminders
 - ▶ Medisafe App



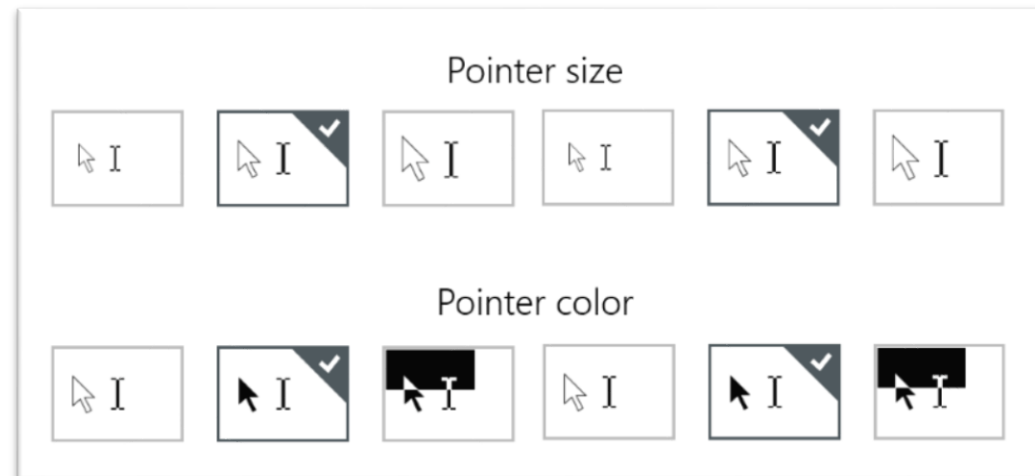
Home Assistants

- ▶ Amazon Echo / Dot
- ▶ Google Home
- ▶ OnKol
- ▶ Robotic Pets



Computer Access

- ▶ Large print keyboards
- ▶ Display customizations
- ▶ General Setting Customizations
- ▶ Password Managers
- ▶ Web Extensions



MA Assistive Technology Loan Program

- ▶ Provides low interest consumer loans for AT valued over \$500
- ▶ Loans offer repayment lengths based on the expected life of the AT.
 - ▶ Computers = 3 years
 - ▶ Speech Communication = 5 years
 - ▶ Hearing and Vision Aids = 5 years
 - ▶ Mobility Aids = 5 years
 - ▶ Modified Vehicles = 8 years
- ▶ Since 2005, over \$13 million has been loaned.
- ▶ More information, visit www.massatloan.org, or call 1-800-244-2756 ext. 428



Mass AT Long-Term Device Loan Program

- ▶ Component of the AT Loan Program
- ▶ Provides loaner, low-cost AT devices to residents of Massachusetts at no cost to the borrower
- ▶ Devices eligible if total cost is under \$500.
- ▶ Financial need has to be demonstrated.
- ▶ More information, visit www.massatloan.org, or call 1-800-244-2756 ext. 428



ATRC: Assistive Technology Regional Centers

- ▶ **Device Demonstration:**
 - ▶ Try out AT related to a particular need for free!
 - ▶ Compare devices: learn about the pros and cons to determine best match
 - ▶ Decide what type of device(s) best fit your needs.

- ▶ **Device Short-term Loan Program (30 days)**
 - ▶ Borrow equipment for up to 4 weeks for free!
 - ▶ Multiple locations for pick up and delivery
 - ▶ Open for all to borrow: Individuals with disabilities, caregivers, professionals, and more.



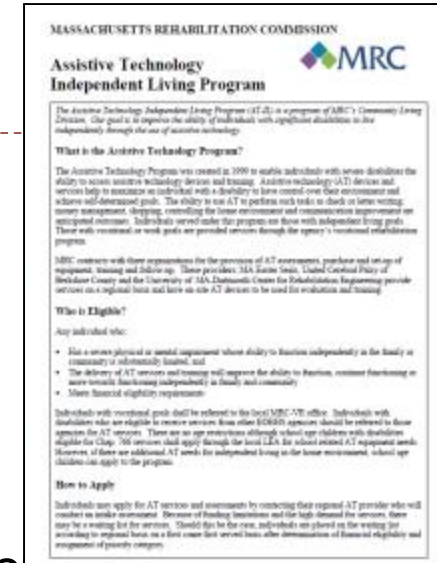
Assistive Technology Regional Centers

- ▶ Eastern MA
 - ▶ Easter Seals MA
 - ▶ Contact: atrc@eastersealsma.org
or call 617-226-2634
- ▶ Western MA
 - ▶ UCP of Berkshire County, Pittsfield
 - ▶ Contact: atrc@ucpberkshire.org
or call 413-442-1562
- ▶ View inventory at: massmatch.org/inventory
- ▶ Call or write to schedule an appointment



MRC Assistive Technology Independent Living Program

- ▶ A free program coordinated by MRC's Independent Living Division
- ▶ Eligible to individuals with no comparable AT benefits who meet financial criteria
- ▶ Provides in-home evaluation, equipment, and setup/training assistance at no cost to the client
- ▶ Goal: Assist individuals with severe disabilities to access assistive technology and training to perform independent living tasks such as:
 - ▶ Communicating with caregivers and healthcare providers
 - ▶ Money management and shopping
 - ▶ Controlling the home environment
 - ▶ Independence in self feeding



MRC Assistive Technology Independent Living Program

Contract organizations administer program across five regions of MA:

- ▶ Western MA Area: UCP-Berkshire County
413-442-1562 | lnorton@ucpberkshire.org
- ▶ Central MA Area, Easter Seals MA
617-226-2859 | ATIL@eastersealsma.org
- ▶ Greater Boston Area: Easter Seals MA
617-226-2859 | ATIL@eastersealsma.org
- ▶ Northeast/No. Shore Area: Easter Seals MA
617-226-2859 | ATIL@eastersealsma.org
- ▶ Southeast/Cape Area: UMass Dartmouth Center
for Rehab Engineering
508-999-8482 | bthorn@umassd.edu



Nicole Kanis, Caregiver Specialist



Questions



