The Role of Technology in the Care & Monitoring of Persons with Dementia Living Alone

Vijeth Iyengar, PhD
Office of Supportive and Caregiver Services, ACL/AoA

Molly Knowles, MPP
Research Public Health Analyst, RTI International

National Home & Community-Based Services Conference
August 29, 2017
Baltimore, MD

National Alzheimer’s and Dementia Resource Center sponsored by the Administration for Community Living.
Today’s presenters

Vijeth Iyengar, PhD
Presidential Management Fellow/Aging Services Program Specialist
Office of Supportive & Caregiver Services
Administrative for Community Living/Administration on Aging
Washington, DC

Molly Knowles, MPP
Research Public Health Analyst
RTI International
Research Triangle Park, NC
Today’s agenda

- Profile of persons with dementia living alone
  - Prevalence and demographic characteristics
  - Factors contributing to vulnerability
  - Caregiver roles for persons with dementia
  - Unmet needs, safety concerns & challenges with providing care

- ADI-SSS/ADSSP grantees
  - Service gap areas

- The role of technology in reaching persons with dementia living alone
  - Existing technologies for persons with dementia and family caregivers
  - ACL grantees using technology
  - Grantee example: Delaware Department of Health & Social Services

- Insights from the Delaware ADI-SSS pilot program
  - Important considerations when deploying technology in the home
  - Lessons learned from employing tech-enabled services for persons with dementia and family caregivers
Today’s agenda

- **Profile of persons with dementia living alone**
  - Prevalence and demographic characteristics
  - Factors contributing to vulnerability
  - Caregiver roles for persons with dementia
  - Unmet needs, safety concerns & challenges with providing care

- **ADI-SSS/ADSSP grantees**
  - Service gap areas

- **The role of technology in reaching persons with dementia living alone**
  - Existing technologies for persons with dementia and family caregivers
  - ACL grantees using technology
  - Grantee example: Delaware Department of Health & Social Services

- **Insights from the Delaware ADI-SSS pilot program**
  - Important considerations when deploying technology in the home
  - Lessons learned from employing tech-enabled services for persons with dementia and family caregivers
More than 30% of people with dementia lived alone in 2011.

Demographics of Persons with Dementia

- **Female**: 87% (Persons with Dementia Living Alone), 67% (Person with Dementia Living with Others)
- **Married**: 3% (Persons with Dementia Living Alone), 46% (Person with Dementia Living with Others)
- **Low income**: 40% (Persons with Dementia Living Alone), 37% (Person with Dementia Living with Others)

**Sources**:
Persons with dementia living alone exhibit fewer cognitive & functional impairments

- Greater Cognitive Impairment: 18.6% vs 52.6%
- 1 or More ADLs: 23.1% vs 52.3%
- 2 or More IADLs: 48.4% vs 66.4%

Factors contributing to vulnerability among persons with dementia

- **Vulnerability factors**
  - Lack of awareness of cognitive impairment
  - Impairments in vision, gait, and ability to speak coherently and understand spoken and written language compound

- **Needs change over time**
  - Progression through several stages that coincide with reverse developmental levels (American Occupational Therapy Association, 2017)
  - Increased difficulties in the ability to plan, organize, and follow through with daily activities and personal care needs.

“If no one else lives in the home who can observe changes, the progressive decline associated with dementia may go unnoticed until an emergency occurs.” (Soniat, 2004)
Caregiver roles for people with dementia living alone

Proportion of Caregivers Who Reported Helping the Person with Specific Activities, 2009

- Bathing: 57% PwD Living Alone, 22% PwD Living with Caregiver
- Dressing: 63% PwD Living Alone, 27% PwD Living with Caregiver
- Managing incontinence and diapers: 51% PwD Living Alone, 17% PwD Living with Caregiver
- Managing medications: 90% PwD Living Alone, 59% PwD Living with Caregiver
- Managing money: 79% PwD Living Alone, 89% PwD Living with Caregiver
- Providing transportation: 91% PwD Living Alone, 93% PwD Living with Caregiver

Unmet needs and safety concerns

- **Unmet needs**
  - Ability to manage personal care needs and daily activities
  - Ability to manage health conditions and medications
  - Falls risk
  - Nutrition and hydration
  - Social isolation and loneliness

- **Safety Concerns**
  - Home safety
  - Unattended wandering
  - Ability to respond in an emergency
  - Financial exploitation

Sources: Miranda-Castillo et al., 2010; Edwards and Morris, 2007; Bourgeois et al., 2009; National Center on Elder Abuse, 1998
Challenges in providing care to persons with dementia living alone

Several challenges associated with providing essential services for people with dementia who live alone:

- Identifying individuals with dementia who live alone
- Building trust
- Supporting safety and autonomy
- Involving family and friends
- Coordinating paid providers and formal support services
- Assisting with transition to a new setting
Today's agenda

- Profile of persons with dementia living alone
  - Prevalence and demographic characteristics
  - Factors contributing to vulnerability
  - Caregiver roles for persons with dementia
  - Unmet needs, safety concerns, & challenges with providing care

- ADI-SSS/ADSSP grantees
  - Service gap areas

- The role of technology in reaching persons with dementia living alone
  - Existing technologies for persons with dementia and family caregivers
  - ACL grantees using technology
  - Grantee example: Delaware Department of Health & Social Services

- Insights from the Delaware ADI-SSS pilot program
  - Important considerations when deploying technology in the home
  - Lessons learned from employing tech-enabled services for persons with dementia and family caregivers
Alzheimer’s Disease Initiative-Specialized Supportive Services (ADI-SSS)

Target gaps developed on advice of NAPA Council:

- Provision of effective supportive services to **persons living alone with ADRD** in the community + **persons living with moderate to severe impairment from ADRD and their caregiver**

- Improvement of the quality and effectiveness of programs and **services** dedicated to individuals aging with intellectual and developmental disabilities with ADRD or those at high risk of developing ADRD

- Delivery of behavioral symptom management training and **expert consultation** for family caregivers

→ Evidence-based/evidence informed intervention, direct service and match requirements
Alzheimer’s Disease Supportive Services Program (ADSSP)

Mission is to support state efforts to expand the availability of community-level supportive services for persons with ADRD and their caregivers

- Program focuses on serving hard-to-reach and underserved communities

- Evolved over the years, moving from innovative practices and evidence-based interventions to current focus on building dementia capability within state systems

- Evidence-based/evidence informed intervention, direct service and match requirements
Today’s agenda

- Profile of persons with dementia living alone
  - Prevalence and demographic characteristics
  - Factors contributing to vulnerability
  - Caregiver roles for persons with dementia
  - Unmet needs, safety concerns, & challenges with providing care

- ADI-SSS/ADSSP grantees
  - Service gap areas

- The role of technology in reaching persons with dementia living alone
  - Existing technologies for persons with dementia and family caregivers
  - ACL grantees using technology
    - Grantee example: Delaware Department of Health & Social Services

- Insights from the Delaware ADI-SSS pilot program
  - Important considerations when deploying technology in the home
  - Lessons learned from employing tech-enabled services for persons with dementia and family caregivers
Older adults are increasingly using internet and electronic devices, using their mobile devices multiple times a day, and have a positive perception with regard to the use and benefits from technology.

Example technologies for falls prevention & wandering

More than 7 MILLION of those falls required medical treatment or restricted activity for at least a day.

More than 27,000 older adults died as a result of falls—that’s 74 older adults every day.

Falls-prevention technologies:

- **“Lo-tech”**
  - In-home modifications including:
    - Grab bars, handrails, adjustable shower heads/outlets

- **“Hi-tech”**
  - Sensor-based technologies
    - Wearable sensors (e.g., sensors embedded in shoes/socks)
  - Nonwearable sensors (sensors placed in key living spaces of home)

Sources: Figures adapted from CDC factsheet: [https://www.cdc.gov/steadi/pdf/STEADI_MediaFactSheet-a.pdf](https://www.cdc.gov/steadi/pdf/STEADI_MediaFactSheet-a.pdf)
Example technologies for falls prevention & wandering

Wandering is highly prevalent among persons with dementia:
- 6 in 10 with dementia thought to wander\(^1\) (e.g., disorientation, reduced awareness of familiar environments)
- Can lead to **falls and exposure to high-trafficked areas**

“Lo-tech” solutions to wandering:
- Use alarms and locks to keep track of care recipients whenever they are moving\(^2\)
- Have a system in place whenever a door, window, or other forms of entry/exit is used\(^1\)

“Hi-tech” solutions to wandering:
- Tracking via means of wearable devices (via shoes, wrist, etc.) with GPS/location capability

Complementing caregiver roles and responsibilities: A role for technology?

Caregivers have diverse demands...

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grocery shopping</td>
<td>87%</td>
</tr>
<tr>
<td>Housework</td>
<td>82%</td>
</tr>
<tr>
<td>Preparing meals</td>
<td>82%</td>
</tr>
<tr>
<td>Giving medicines, pills, or injections</td>
<td>74%</td>
</tr>
<tr>
<td>Transportation</td>
<td>72%</td>
</tr>
<tr>
<td>Managing finances</td>
<td>50%</td>
</tr>
<tr>
<td>Assisting with getting in and out of beds and chairs</td>
<td>57%</td>
</tr>
<tr>
<td>Dressing and undressing</td>
<td>54%</td>
</tr>
<tr>
<td>Feeding</td>
<td>44%</td>
</tr>
<tr>
<td>Bathing</td>
<td>42%</td>
</tr>
<tr>
<td>Toiling</td>
<td>35%</td>
</tr>
<tr>
<td>Arranging or supervising paid services</td>
<td>32%</td>
</tr>
<tr>
<td>Caring for or dressing wounds</td>
<td>30%</td>
</tr>
<tr>
<td>Dealing with incontinence and diapers</td>
<td>30%</td>
</tr>
</tbody>
</table>

& have a big interest in technology

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rx refill + pickup</td>
<td>79%</td>
</tr>
<tr>
<td>Making and supervising medical appointments</td>
<td>78%</td>
</tr>
<tr>
<td>Assessing health needs and conditions</td>
<td>78%</td>
</tr>
<tr>
<td>Ensuring home safety</td>
<td>78%</td>
</tr>
<tr>
<td>Monitoring Rx adherence</td>
<td>77%</td>
</tr>
<tr>
<td>Checking in on care recipient</td>
<td>76%</td>
</tr>
<tr>
<td>Managing stress and emotional challenges (of caregiver)</td>
<td>74%</td>
</tr>
<tr>
<td>Grocery and other shopping</td>
<td>72%</td>
</tr>
<tr>
<td>Transportation, providing and arranging</td>
<td>71%</td>
</tr>
<tr>
<td>Managing finances</td>
<td>70%</td>
</tr>
<tr>
<td>Housework</td>
<td>67%</td>
</tr>
<tr>
<td>Making medical or care decisions</td>
<td>67%</td>
</tr>
<tr>
<td>Providing meals</td>
<td>67%</td>
</tr>
<tr>
<td>Budgeting</td>
<td>67%</td>
</tr>
<tr>
<td>Arranging or supervising paid services</td>
<td>67%</td>
</tr>
<tr>
<td>Giving medicines, pills or injections</td>
<td>65%</td>
</tr>
<tr>
<td>Making legal decisions</td>
<td>63%</td>
</tr>
</tbody>
</table>

Sources: Figures adapted from 2016 AARP report: “Caregivers & Technology: What They Want and Need”.
### Caregivers interested in technology to boost social engagement and knowledge

<table>
<thead>
<tr>
<th>Service Description</th>
<th>Already Use</th>
<th>Likely to Use</th>
<th>Neutral</th>
<th>Unlikely to Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connect socially with other caregivers to share and learn from personal experiences</td>
<td>5%</td>
<td>63%</td>
<td>14%</td>
<td>18%</td>
</tr>
<tr>
<td>Contribute to or view inspirational stories about providing care to a loved one</td>
<td>5%</td>
<td>52%</td>
<td>15%</td>
<td>31%</td>
</tr>
<tr>
<td>Gain emotional or mental health support from professionals to help you manage the challenges of providing care to a loved one</td>
<td>5%</td>
<td>59%</td>
<td>14%</td>
<td>22%</td>
</tr>
<tr>
<td>Social media or social networking related to caregiving</td>
<td>8%</td>
<td>62%</td>
<td>13%</td>
<td>19%</td>
</tr>
<tr>
<td>Information and resources on how to access services for emotional, mental health, or social support to help you manage the challenges of providing care to a loved one</td>
<td>5%</td>
<td>52%</td>
<td>15%</td>
<td>31%</td>
</tr>
</tbody>
</table>

*Family caregivers express high rates of potential take-up of tech-enabled services that provide ways to engage with other family caregivers*

**Sources:** Figures adapted from 2016 AARP report: “Caregivers & Technology: What They Want and Need”.
If you recall...Alzheimer’s Disease Supportive Services Program (ADSSP)

Mission is to support state efforts to expand the availability of community-level supportive services for persons with ADRD and their caregivers

- Program focuses on **serving hard-to-reach and underserved communities**

- Evolved over the years, **moving from innovative practices and evidence-based interventions to current focus on building dementia capability within state systems**

- Evidence-based/evidence informed intervention, direct service and match requirements
77 closed ADSSP grants initially funded between 2007 and 2010

Across 35 states, District of Columbia, and Puerto Rico
12 ADSSP grants across 10 states
<table>
<thead>
<tr>
<th>Grantee</th>
<th>Intervention</th>
<th>Type of Technology</th>
<th>Outcome?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida</td>
<td>REACH II</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td>REACH II</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td>REACH II</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>North Carolina</td>
<td>REACH OUT</td>
<td>Skype</td>
<td></td>
</tr>
<tr>
<td>Vermont</td>
<td>REACH OUT</td>
<td>FaceTime</td>
<td>MIXED</td>
</tr>
<tr>
<td>Minnesota</td>
<td>NYUCI Family Sessions</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>NYUCI Family Sessions</td>
<td>Skype</td>
<td>UNCLEAR</td>
</tr>
<tr>
<td>Utah</td>
<td>NYUCI Family Sessions</td>
<td>Telephone</td>
<td>MIXED</td>
</tr>
<tr>
<td>Georgia</td>
<td>Telephone Reassurance Program</td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Idaho</td>
<td>Building Better Caregivers Program</td>
<td>Online Portal</td>
<td></td>
</tr>
<tr>
<td>Indiana</td>
<td>Assist. technological equip. for caregivers</td>
<td>Video monitoring, medication dispensers, blood pressure units &amp; weight monitoring, safety monitoring</td>
<td></td>
</tr>
<tr>
<td>Nevada</td>
<td>Workshops &amp; behav. counseling</td>
<td>Telephone &amp; interactive videos</td>
<td></td>
</tr>
</tbody>
</table>
52 grants across 30 states with 2014-2019 funding period

32 ADI-SSS grants and 20 ADSSP grants
- 5 ADSSP and 6 ADI-SSS grants across 9 states
<table>
<thead>
<tr>
<th>Grantee</th>
<th>Intervention</th>
<th>Type of Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>Music &amp; Memory</td>
<td>iPods</td>
</tr>
<tr>
<td>Delaware</td>
<td>Sensory Technology Pilot Program</td>
<td>Sensory technologies</td>
</tr>
<tr>
<td>Kansas</td>
<td>Mobile Reducing Disability in Dementia</td>
<td>Video conference software and tablet computers</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Guide and access to assistive technology</td>
<td>Telephone, tablets, iPods, tracking devices, room monitors, and alarms</td>
</tr>
<tr>
<td>Ohio</td>
<td>Music &amp; Memory</td>
<td>iPods</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Caregiver messaging providers directly via online patient portal</td>
<td>EPIC Patient Portal</td>
</tr>
<tr>
<td>Texas 90AL0004</td>
<td>Benjamin Rose Institute Caregiver Consultation</td>
<td>Telephone</td>
</tr>
<tr>
<td>Texas 90DS2023</td>
<td>Benjamin Rose Institute Caregiver Consultation</td>
<td>Telephone</td>
</tr>
<tr>
<td>Virginia</td>
<td>FAMILIES adaption of NYUCI</td>
<td>Web-based audio-visual communication technology (WebEx), telehealth equipment</td>
</tr>
<tr>
<td>Wisconsin 90AL0006</td>
<td>Music &amp; Memory</td>
<td>iPods</td>
</tr>
<tr>
<td>Wisconsin 90DS2020</td>
<td>Music &amp; Memory</td>
<td>iPods</td>
</tr>
</tbody>
</table>
Today’s agenda

- **Profile of persons with dementia living alone**
  - Prevalence and demographic characteristics
  - Factors contributing to vulnerability
  - Caregiver roles for persons with dementia
  - Unmet needs, safety concerns, & challenges with providing care

- **ADI-SSS/ADSSP grantees**
  - Service gap areas

- **The role of technology in reaching persons with dementia living alone**
  - Existing technologies for persons with dementia and family caregivers
  - ACL grantees using technology
  - *Grantee example:* Delaware Department of Health & Social Services

- **Insights from the Delaware ADI-SSS pilot program**
  - Important considerations when deploying technology in the home
  - Lessons learned from employing tech-enabled services for persons with dementia and family caregivers
DELAWARE ALZHEIMER’S DISEASE INITIATIVE
SENSORY TECHNOLOGY PILOT PROGRAM

DELWARE HEALTH AND SOCIAL SERVICES
Division of Services for Aging and Adults with Physical Disabilities
Delaware’s Alzheimer’s Disease Initiative

- **Fill the gaps in Delaware’s dementia-capable system of long-term services** and supports to better meet the needs of persons with Alzheimer’s disease and related disorders and their caregivers.

- Activities of the initiative include:
  - Pilot sensory technology program
  - Caregiver training and consultation
  - Respite vouchers
  - Community integration services
  - Partner dementia competency training
  - Expanded legal services
Delaware’s Alzheimer’s Disease Initiative

- **Provide support** to individuals with Alzheimer’s disease and related dementias (ADRD) and their caregivers by monitoring home activity through technology systems.

- Offers the caregiver a way to **remotely monitor their loved one**, using the technology to be alerted if there is a safety concern.

- **Eligible participants** have:
  - early- to moderate-stage ADRD
  - a caregiver who either lives with the individual or lives close and has a smartphone or computer access to wireless internet in the home.
Factors in choosing a pilot program

- **Streamlined Services**: Delaware is a Single Unit on Aging

- **Size**: Delaware consists of only three counties, and one can travel from the northernmost point to the southernmost point in less than 3 hours

- **Buy-In**: Leadership was looking at innovative ways to use technology and **wanted to learn if other sources of funding can support this in the future** (emergency response systems)

- **Expense**: Currently, the technology is expensive and a full roll-out supported by grant funding would not be possible
How do you choose the right technology and vendor?

- Delaware developed an RFI and RFP process to ensure that the right technology was chosen for this pilot program.

- There were two proposals for bids and ultimately Element Blue, a subsidiary of IBM, was chosen.

- The pilot has 10 participants use the technology for a 1-year period, starting in July 2017.
How do you choose the right technology and vendor?

- The pilot has **10 participants** use the technology for a 1-year period, starting in July 2017
  - 5 male/5 female
  - 6 rural/4 urban
  - Ages range from 64-91
  - 3 live alone/7 have caregivers they live with
How do you choose the right technology and vendor?

- Delaware developed an RFI and RFP process to ensure that the right technology was chosen for this pilot program.

- There were two proposals for bids and ultimately Element Blue, a subsidiary of IBM, was chosen.

- The pilot has 10 participants use the technology for a 1-year period, starting in July 2017.

- The total cost of the program is $149,000, which includes the technology, setup, technical assistance, and breakdown.

- Element Blue works directly with DSAAPD nurses to make sure the technology is working appropriately.
In-home sensing technology and associated benefits

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Sensor Type</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Kitchen Area Monitor</td>
<td>Temperature</td>
<td>- Detect movement, monitor presence and use of lights</td>
</tr>
<tr>
<td></td>
<td>Humidity</td>
<td>- Check for use of faucet and duration of use</td>
</tr>
<tr>
<td></td>
<td>Water Flow – Faucet under sink</td>
<td>- Monitor living conditions such as temperature and humidity</td>
</tr>
<tr>
<td></td>
<td>Presence</td>
<td>- Watch for leaks and running water</td>
</tr>
<tr>
<td></td>
<td>Luminosity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water Leakage – Baseboard under sink</td>
<td></td>
</tr>
<tr>
<td>1 Bathroom Monitor</td>
<td>Temperature</td>
<td>- Detect movement, monitor presence and use of lights</td>
</tr>
<tr>
<td></td>
<td>Humidity</td>
<td>- Check for use of faucet and duration of use</td>
</tr>
<tr>
<td></td>
<td>Water Flow – Faucet under sink</td>
<td>- Monitor living conditions such as temperature and humidity</td>
</tr>
<tr>
<td></td>
<td>Presence</td>
<td>- Watch for leaks and running water</td>
</tr>
<tr>
<td></td>
<td>Luminosity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water Leakage – Baseboard under sink</td>
<td></td>
</tr>
</tbody>
</table>
In-home sensing technology and associated benefits

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Sensor Type</th>
<th>Benefits</th>
</tr>
</thead>
</table>
| 1 Bedroom or sleeping area Monitor  | Temperature, Humidity, Presence, Luminosity | - Detect movement, monitor presence and use of lights  
                                  |                      | - Monitor living conditions such as temperature and humidity  
                                  |                      | - Watch for changing sleeping and rest periods                     |
| 1 Living Area Monitor               | Temperature, Humidity, Presence, Luminosity, Hall effect – Door sensor | - Detect movement, monitor presence and use of lights  
                                  |                      | - Monitor living conditions such as temperature and humidity  
                                  |                      | - Monitor door opening and closing for security                  |
| Voice Interface                     | Amazon Echo          | Amazon echo is an internet enabled interface that will be set up for participants and caregivers to be able to query via voice commands for alerts, events, or current conditions. |
| Interaction                         | Web based Interface, Mobile Application | The SensorInsight web and mobile application is a secure way to access information and set/monitor alerts or changes in activity. |
Intake survey for family caregiver/person with dementia: Obtaining a baseline assessment

- **Thoughts on the installation**, training, and accessibility of the sensory technology, and **concerns about safety** for the person with dementia

- **How often specific situations** occurred with the person with dementia prior to the installation of sensory technology (e.g., **appliances left on when not in use**, **falls in the home**, **house too hot or cold**)

- **Considered assisted living or skilled nursing settings** for person with dementia and how likely to seek out alternative housing options in the next year

- **Whether emergency responders** (e.g., police, fire department, ambulance) **had come** to the home prior to the installation of the sensory technology
Potential benefits from pilot program

- Complement existing state programs and services
  - State of Delaware currently has a ‘Personal Emergency Response System’

- Share lessons learned from pilot with existing programs and services
  - Identify which sensing technologies placed in home are most beneficial and target efforts to share these with larger community

- Findings from pilot will allow an assistive technology center operated by Caregiver Resource Center to promote specific sensing technologies
Today’s agenda

- Profile of persons with dementia living alone
  - Prevalence and demographic characteristics
  - Factors contributing to vulnerability
  - Caregiver roles for persons with dementia
  - Unmet needs, safety concerns, & challenges with providing care

- ADI-SSS/ADSSP grantees
  - Service gap areas

- The role of technology in reaching persons with dementia living alone
  - Existing technologies for persons with dementia and family caregivers
  - ACL grantees using technology
  - Grantee example: Delaware Department of Health & Social Services

- Insights from the Delaware ADI-SSS pilot program
  - Important considerations when deploying technology in the home
  - Lessons learned from employing tech-enabled services for persons with dementia and family caregivers
Important considerations for technology use in home

- Require user digital literacy among caregivers or person with dementia and the staff/interventionists going into the home
- Ensure that assistive technology product matches the person’s abilities and preferences
- Conduct ongoing assessment to identify any cognitive changes that may negatively impact the person’s ability to continue to use the technology

**System/Infrastructure requirements**
- Need technology infrastructure and wireless connectivity
- Integration with other health information and electronic health records
- Access and approval of appropriate devices
- Security considerations
- Financial resources
Factors to consider if interested in tech-enabled services for individuals with dementia

- **Involve people with dementia** and their family caregivers in identification and development of assistive technology

- **Determine who can benefit** from a specific technology and the optimal setting and time for introducing it

- **Include persons with dementia living alone** as research participants in studies examining the benefits of technology

- **Examine factors that affect the adoption and continued use** of assistive technology in older adults and ADRD communities
Vijeth Iyengar, PhD
vijeth.iyengar@acl.hhs.gov
202-795-7347

Molly Knowles, MPP
mknowles@rti.org
919-541-6136
Available resources

- Guide for Professionals on Practical Strategies for Persons with Dementia Living Alone [https://nadrc.acl.gov/node/98](https://nadrc.acl.gov/node/98)

- Identifying and Meeting the Needs of Individuals with Dementia Who Live Alone (issue brief) [https://nadrc.acl.gov/node/79](https://nadrc.acl.gov/node/79)

- Identifying and Supporting People With Dementia Who Live Alone (webinar) [https://nadrc.acl.gov/node/54](https://nadrc.acl.gov/node/54)

- Mobile Applications for the Community and Law Enforcement to Assist Vulnerable Adults (webinar) [https://nadrc.acl.gov/node/68](https://nadrc.acl.gov/node/68)

- American Society on Aging *Generations* Fall 2017 Special Issue (forthcoming September 2017):
  - Reducing Dementia Caregivers’ Burden: Is There a Role for Assistive Technology?
  - Individuals with Dementia Who Live Alone: When to Intervene

- NADRC Quarterly Article Resource Lists of published articles on topics that include persons with dementia living alone and technology-based interventions [https://nadrc.acl.gov/](https://nadrc.acl.gov/)
References


References


  http://www.pewinternet.org/2017/05/17/tech-adoption-climbs-among-older-adults/pi_2017-05-17_older-americans-tech_0-01/
