Use of Information Technologies in the Delivery and Evaluation of Behavioral Interventions

Sara J. Czaja
Department of Psychiatry and Behavioral Sciences
Center on Aging
University of Miami Miller School of Medicine

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Increasing number of older adults especially the “oldest old” who typically require more healthcare.

Healthcare is moving out of traditional clinical settings into home and community settings.

Increasing number of family caregivers.

Clinicians and service providers need to be equipped with evidence-based treatment strategies for both older adults and caregivers.

The literature is replete with behavioral interventions for older adults and caregivers.

Implementation of these interventions in home and community settings is often challenging.
Information Technologies and Behavioral Interventions

- **Mechanism for the delivery of:**
  - Educational and skill-building programs
  - Social support
  - Individual counseling
  - Group counseling
  - Reminders and adherence monitoring
  - Patient tracking protocols
  - Assessment and evaluation metrics. (e.g., telemedicine)

- **Used in a variety of domains:**
  - Weight management, nutrition, exercise
  - Depression, anxiety, PTSD
  - Substance abuse, smoking
  - Cancer, cardiovascular disease, diabetes
  - Medication management
  - Family caregiving
Potential Advantages of Technology:

- Eliminates or minimizes the need for travel for caregivers, patients, and health care professionals.
- Permits easier access to a wider array of information and services.
- Offers the flexibility of providing information in a variety of formats.
- Offers the flexibility of tailoring or adapting programs.
- Permits real-time or asynchronous communication.
- Enhanced access to support in distant locations – e.g., “long distance” family members.
Potential Disadvantages of Technology

- Proliferation of incorrect or inappropriate information
- Proliferation of too much information
- Privacy issues
- Technology breakdowns/failures
- Problems of access
- Lack of technology skills in some user groups
- Cost — who pays?
VideoCare

Application of video phone technology to support minority family caregivers of dementia patients

- Hispanic
- Black/African American
- Haitian

Supported by the Langeloth Foundation, AT&T, Cisco, Administration on Aging
Videocare Intervention

The Videocare intervention was designed to address multiple areas of caregiver risk:

- Individual counseling sessions
- On-line support groups
- Educational Seminars
- Resource Guide
- Information on a wide range of topics
- Caregiving Tips
- Conferencing
- Reminders
AGITATION

- Try to assess what is causing your loved one to be agitated.
- Remain calm and redirect them by asking them what they need.
- Try and eliminate the source of the agitation.
- Avoid screaming or confrontation.
- Switch to a new activity.
- Offer something of comfort and speak in a calming voice.
- Walk away and give yourself some space.

AGITACIÓN

- Trate de evaluar que es lo que está potencialmente causando que su ser querido se ponga agitado.
- Manténgase calmado y redirija su atención por medio de preguntarle que es lo que quisiera hacer.
- Trate de eliminar la fuente de agitación
- Evite gritar, confrontarlo, o escalar en la agitación.
- Ofrezcaille algo que le dé consuelo y hable con una voz calmada.
- Finalmente, aléjese, y dése su propio espacio.

AJITASYON

- Eseye jwèn kisa ki lakòz moun ou renmènan ajite konsa.
- Rete kalm epip mande yo kisa yo bezwen.
- Eseye eliminen sous[kòz] ajitasyon’an.
- Evite rele sou moun nan oswa konfòntasyon avèk li.
- Eseye dirije atansyon li sou yon nouvo aktivite.
- Ofri ‘l yon bagay ka rekonfote ‘l avèk pale ak yon vwa ki kalm.
- Bay moun nan yon ti distans pa rete trò prè li.
Sample

- Hispanic Caregivers (55)
- African American Caregivers (54)
- Haitian (18)

Preliminary Data on Hispanic and African American Caregivers

- Age: mean = 61.3; SD = 13.2
- Education:
  - < High School: 23%
  - High School: 24%
  - Some College: 22%
  - ≥ College: 31%
- Female: 79%

Care recipient

- Age: mean = 78.9; SD = 10.3
Preliminary Findings

- Caregivers who received the intervention reported a decrease in burden.
- Caregivers who received the intervention reported an increase in positive aspects of caregiving and social support.
- Caregivers found the videophone to be valuable and easy to use.
- Caregivers found the support groups valuable.
Sample Caregiver Reactions

- “The program was very helpful and a learning experience ... It allowed me to express my ideas and concerns.”
- “The group of caregivers that took part in the study inspired me to help others deal with the stress of caregiving.”
- “The study had a very positive impact”
- “The support group network sessions enabled us to participate in regular group discussions while staying at home.”
- “The video-care video phone sessions provided a relaxed and comfortable environment for discussing caregiver topics.”
Project Challenges

- Fostering communication among multi-disciplinary team
  - Engineering
  - Computer scientists
  - Vendors
  - Clinicians/Interventionists

- Translation of materials (English, Spanish, Creole)
  - Assessment instruments
  - Handouts (Videophone and Attention Control)
  - Videophone Screens/Voice Menus/educational seminars
Project Challenges

- **Technical Issues**
  - Programming the invention features
  - Support from vendors (equipment and communication)
  - Installation of the system

- **Limited Internet access and Broadband access among the caregivers**

- **Contextual issues**
  - Phone outlets in the home
  - Wall to wall carpeting
  - Non-traditional homes/households
SKILL BUILDING MODULES

1. Introduction to Caregiving
   - About Caregiving
   - Information/Tips for this Module
   - Introduction to Caregiving Questionnaire

2. Social Support
   - Information/Tips for this module
   - More about Social Support
   - Social Support Questionnaire

3. Communication
   - Information/Tips for this module
   - Communication Questionnaire

4. Self-care - Healthy Behaviors
   - Information/Tips for this module
   - Self-care Questionnaire

5. Planning for Life Transitions
   - Information/Tips for this module
   - Life Transitions Questionnaire
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Do you have written information about your loved one's illness/condition?</td>
<td>Yes, No, I prefer not to answer this question</td>
</tr>
<tr>
<td>*Can your loved one get to dangerous objects (e.g., gun, knife or other sharp objects)?</td>
<td>Yes, No, I prefer not to answer this question</td>
</tr>
<tr>
<td>*Does your loved one try to leave the home and wander outside?</td>
<td>Yes, No, Not applicable, I prefer not to answer this question</td>
</tr>
<tr>
<td>*Does your loved one drive?</td>
<td>Yes, No, I prefer not to answer this question</td>
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CREATE III: Cross-Site Project

A Personal Reminder Information and Social Management System (PRISM) for Seniors
Specific Aims

- Obtain information on the usefulness and usability of the PRISM system and interface design issues among a diverse sample of older adults.

- Examine the impact of access to the PRISM system on:
  - Social isolation
  - Social support
  - Well-being
  - Quality of Life

- Examine the impact of access to the system on:
  - Computer attitudes
  - Computer self-efficacy
  - Technology adoption

- Gather data on usefulness of the system and usability.

- Gather longitudinal information of impact of system access.
Welcome to PRISM, Mario

Click here if you are not Mario.

Today is Wednesday, Dec 01, 2010.

PICTURE OF THE DAY: Lufthansa A380 Malpensa.jpg

TODAY'S QUOTE:
"We are what we believe we are."
- C. S. Lewis
By: BrainyQuote

MIAMI, FL WEATHER BY: Yahoo! News

CURRENT CONDITIONS:
Partly Cloudy.
81°F

TODAY'S FORECAST:
Scattered Thunderstorms.
High: 80 Low:57

Forecast at Yahoo! Weather
(provided by The Weather Channel)
Lessons Learned: Elements Important to Successful Implementation

- “Buy-In” from all of the partners
- Understanding Characteristics of target populations
  - Technology skills
  - Technology access
- User-centered design approach
- Understanding of technology demands, constraints and sources of potential failures
- Understanding of environmental and equipment constraints
- Technical expertise and on-going support
- Flexibility and adaptability to technology developments
Conclusions

- Technology-based behavioral intervention approaches have the potential of being beneficial to older adults, family caregivers and healthcare professionals.
- There is an evidence-base that indicates technology-based approaches are feasible, acceptable and efficacious.
- We need more rigorous studies to determine the effectiveness of technology-based interventions for caregivers, patients, and healthcare providers.
- We need guidelines regarding which intervention options are most appropriate for a given individual on the basis of their needs and vulnerabilities.
- We need more information on topics such as cost-effectiveness, reliability, privacy and barriers to access.