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The LeadingAge Center for Aging Services Technologies (CAST) is focused on accelerating the development, evaluation and adoption of emerging technologies that will transform the aging experience. As an international coalition of more than 400 technology companies, aging-services organizations, businesses, research universities and government representatives, CAST works under the auspices of LeadingAge, an association of 6,000 not-for-profit organizations dedicated to expanding the world of possibilities for aging.

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## Using Robotic Pets to Improve Interactions, Behaviors, and Quality of Life, While Reducing Anti-psychotics in Hospice Dementia Patients

### Categories

- Reduce Social Isolation
- Reduce Feelings of Loneliness
- Reduce Use of Antipsychotics and other Medications
- Increased Quality of Life
- Others: Decreased Agitation; Increased Cooperation with Activities of Daily Living

### Organization Name

Alacare Home Health and Hospice

### Organization Type

Home Health and Hospice

### Organization Description

Alacare is Alabama's oldest and largest family-owned home health care agency. Since 1970, Alacare has provided patients with quality home healthcare including hospice/palliative care and rehabilitation services.

### Project Description

Alacare has long recognized the value of pet assisted visits and therapies with home bound patients, but the liability risks for incorporating live pets into our patient-centered care provisions has stifled the prospects for the inclusion of 4-legged volunteers into our programs.

Provisionally, John Beard, President of Alacare Home Health and Hospice, discovered the animated, robotic *Joy For All Companion Pets*. Under his guidance and leadership, Alacare developed and completed a Companion Pet Pilot Study in 2018. Hospice patients experiencing anxiety due to advancing dementia and other patients perceived at risk for social isolation were considered for participation in the study.

### Socialization Modality

Companion Pet Robots were first introduced to hospice staff in July. The primary caregivers of hospice patients diagnosed with dementia and/or

determined to be at risk for social isolation were invited to participate in the study. Clinical data was collected before, during and after pet placement. The information and observations accumulated during the Companion Pet Pilot Program support the theory Companion Pets significantly improve the quality of end-of-life for many hospice patients experiencing dementia related decline and social isolation.

### *System Embodiment*

Robotic Companion

### *Business Model*

Alacare is a for-profit hospice which maintains a non-profit foundation, The Hospice and Home Health Fund of Alabama. Through the generous contributions of staff and community The Fund is able to assist hospice and home health patients across the state of Alabama with many financial and other needs. Alacare's Companion Pet Program gift of pets is made possible by the Hospice and Home Health Fund of Alabama.

### *Implementation Approach*

1. Train Alacare staff in the purpose and procedures of the pilot study program.
2. Identify prospective patients with connection/ experience with pets which are good candidates for the gift of a robotic Pet Companion.
3. Speak with the patient's family to introduce the program, assess their interest in receiving a robotic pet, set goals for a successful participation, and determine their willingness to allow pictures and/or videotaping for documentation.
4. Gift the patient with a pet for in-home, daily use.
5. Observe and document the patient behaviors before and after Companion Pet placement.
6. Document frequency of interaction and the level of patient engagement with Companion pet.
7. Various staff members and the family evaluate the results.

### *Outcomes*

Overall, the data collected through the Companion Pet Pilot Study shows a significant reduction in agitation, social isolation, and expressions of sadness among the

study participants; some also required less medication; primary caregivers expressed benefits, as well. The quality of life was improved for both patients and their family members.

### **Below are a sample of outcomes from our Pilot Study Program.**

1. **Companion Pet-Pup:** The pet was given to an 84 year-old female with diagnosis of Dementia. The patient was oriented x2; exhibited a high level of confusion; and required maximum assistance with all ADLs. The clinical documentation includes: repeated hostility of patient toward mirrored self-image and the presence of other people; patient uncooperative with staff and family; resistant to routine ADLs support; dependent on medication for reduction of anxiety. The immediate reaction to patient's Companion Pet was positive: patient looked directly at pet, talked to it with a calm, approving, sweet voice; laughed in response to pet's bark and sounds; patient even responded cooperatively to the conversation of staff and family. The benefit of the Companion Pet continued through the course of patient's illness. The hospice aide documented the patient was increasingly cooperative with the routine ADLs including allowing baths when the pet was present. The RN was able to perform medical assessments without combativeness and extreme resistance. The caregiver decreased the frequency of prescribed medication for anxiety and would instead redirect patient to the pup for calming throughout the day. The well-loved Companion Pet was returned to the agency after the natural death of the patient in late November 2018. The Companion Pet presence increased the patient's and families' quality of life in many ways. The patient became calm, cooperative and approachable due to her engagement with the Pup. Patient had a reduction in need of medications prescribed for anxiety and agitation. The family enjoyed interacting with the patient once more and were able to have less stress surrounding the decline of their loved one. The medical staff were more efficient in assessing and addressing the patient's clinical status. Video is available.
2. **Companion Pet-Pup:** The pet was introduced to an 86 year-old male with a diagnosis of advanced Parkinson's disease and comorbidity of dementia. Clinical documentation stated patient was oriented x2, often confused, dependent for assistance in most ADLs, and approaching total bed-to-chair bound

status. His clinical observations included increasing agitation, depression, and feelings of loneliness. Patient was quite anxious when caregiver (spouse) was out-of-sight and would repeatedly call for her, almost immediately as she left his side. The patient's immediate reaction to the pet was enthusiastic and welcoming. Patient took the pet from the staff member, cuddled it in his arms and named "her" Maci. The pup bore a remarkable likeness to his prior pet which had died six months earlier. On this introductory visit, caregiver referred to the pup as a "boy," for which the patient scolded and corrected her. The patient spoke to Maci with focused speech and delighted in the pet's reactions. Within days, the caregiver was able to step away from patient's side for increasing bits of time, which provided her brief breaks during the day. When Maci was not in bed with the patient, or in his lap, she rested on the floor by his feet as any good dog should. The Companion Pet's presence increased the daily quality of life for both the patient and caregiver. The patient demonstrated increased comfort in being left safely alone allowing caregiver to perform routine chores. Patient enjoyed the company of the Companion Pet, which decreased his loneliness and feelings of isolation.

3. **Companion Pet-Pup:** Pet was introduced to a 75 year-old female with a clinical history of dementia, hypertension, and progressing, chronic renal disease. Patient was withdrawn, rarely interactive, and frequently mumbled incoherently. Patient most often would sit with a bowed head, mumbling, eyes closed and tapping her head. The day of the introduction to her companion pet, patient was sitting unassisted in a kitchen chair by the kitchen table. Patient was tapping her head and mumbling. The Medical Social Worker spoke to the patient to tell her about the pet and placed the pet in front of her on the table. Patient moved forward to touch the pet with her head, then touched the pet with her hands and offered it a "sweet-potato." Later during the initial visit patient sat upright, independently, and opened her eyes to look at the pup. Although patient had been non-interactive with people, the patient would smile, laugh, talk to and pick up the Companion Pet. The patient's son provided her with the pet frequently and reported the dog provided positive stimulation on a daily basis. He felt she was also more responsive to him and his conversation as a result. The outcome for this patient and family included

increased engagement with the environment and others, leading to an increased quality of life. Video is available.

4. **Companion Pet-Cat:** The pet was introduced to a 95 year-old male with a diagnosis of malnutrition and end stage renal disease. The patient converses with others, is sometimes alert and oriented, but often experiences pervasive sadness due to his physical decline and increasing limitations. Before receiving his pet, the patient's family described him as "down in spirit." The cat has provided him with companionship, entertainment and enjoyment over many months. He holds his cat, pets it, and laughs at its sounds and antics. The outcome for this patient includes an improved daily mood and overall increased quality of life.
5. **Companion Pet-Cat:** This pet was introduced to a 95 year-old female with a diagnoses of Alzheimer's disease, severe malnutrition, anxiety and depression. Initially the patient enjoyed her cat and engaged with it daily for companionship. Caregiver stated the patient was calmed by her interaction with the pet. Patient believed the cat was real and over time began to stress about her ability to care for pet. The positive outcomes for patient was significant early in the placement, but patient's anxiety regarding the pet increased to an amount so great, the caregiver and staff decided to remove the cat from the home.
6. **Companion Pet-Cat:** Pet was delivered to an 88 year-old female with a diagnosis of Congestive Heart Failure, Atrial Fibrillation, and dementia. Clinical documentation also reports an orientation x3 and frequent hallucinations of cats being in her room. Since receiving the cat, the patient has not reported any other "cat sightings." Patient believes her cat is real and invites all visitors to pet and talk to it. Patient is bedbound and the pet rests comfortably by her side throughout the day and night for companionship. Caregiver's report the patient has increased joy, decreased sadness and less confusion. The positive outcomes for her also include improved daily quality of life and decreased feelings of loneliness.
7. **Companion Pet-Cat:** Pet was given to an 80 year-old female with a diagnosis of Alzheimer's disease. Patient is extremely confused, no longer oriented, no longer recognizes her family, and speaks very few words. During the initial visit, the patient did not

take notice of the cat until it meowed. The patient perked up asking, “What did you say?” and “Did you hear that?” A family member put the cat in her lap and the patient said, “Mona has snuck another cat in, again!” The daughter, Mona, was quite tickled with her mother’s memory of long ago, when she would bring animals into the family’s home against her mother’s wishes. Fortunately, this cat was allowed to stay inside. Patient welcomed cat by singing, “Happy Birthday to Fluffy.” The patient enjoyed the presence and company the cat until she experienced a serious health decline which left her non-responsive. During the time of improved mood and cognition, patient and family reconnected with mutual appreciation of the pet. The Companion Pet provided unexpected joy during the end of life.

### *Challenges and Pitfalls to Avoid*

Although the Companion Pet Pilot Study yielded overwhelmingly positive results, there were challenges to overcome during the implementation.

- Not everyone likes to have an animal in the house. The pets shed and an immaculate housekeeper may protest.
- Caregivers have a tendency to provide reality therapy and tell their demented loved one the animal isn’t “real.” Encourage family to allow their loved one to believe their pet is “real.”
- Every attempt to gift a Companion Pet will not result in the pet’s adoption.
- Do be prepared to leave the pet for a trial or test run if acceptance is hopeful, yet not apparent.
- Recognize some families do not want their loved one pictured in his/her present stage.

### *Lessons Learned/Advice to Share with Others*

There were many lessons learned during the Companion Pet Pilot Study.

#### *Prior to the Pet’s Introduction with the Desired Recipient*

- Meet with family to determine the Pet preference (dog, cat and colors available).
- Pet videos and stories of successful placements speak loudly and assist with ‘buy-in.’
- Observe and document the recipient’s current, demeanor and behavior.
- Review the likelihood and/or doubts regarding if the pet will be well received.

- Set realistic expectations. It is better for all to be joyfully surprised than terribly disappointed!
- Establish a goal or purpose for the introduction of the pet.
- Assess if the family will permit a photograph or video tape. If so, obtain written permission.
- Encourage recording.
- Review Care Instructions for the Pet with the family.
- Prepare the family to accept their loved one’s belief the pet is real.
- Provide time and space for questions.
- Recipients want to feed their pet. Prepare some possible solutions.
- Make an appointment for the introduction of the Companion Pet which is most convenient for the family. They will want their loved one awake, clean and picture perfect!

#### *During the Introduction*

- Encourage distractions be kept to a minimum (ie: turn off that blaring television.).
- Allow silence so the loved one can initiate interaction with the pet and observers.
- Resist the temptation to ask too many questions.
- Be patient and wait for reactions. Those with dementia will process thoughts more slowly and need time to act/react.
- Observe and document the person’s reactions and changes in demeanor or behavior. (You want to remember these moments!)
- Photograph and video tape, if allowed to do so.

#### *After the Introduction*

- Talk with the family regarding their reaction and observations. Provide time for them to share their amazement or disappointment.
- Analyze what happened. What might have made the placement even more successful?
- If a pet is placed, follow-up with the family every couple of weeks to check-in. Have new behaviors immersed? If so, what and how so?
- Plan a time for new recordings or photo opportunities if warranted.