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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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## Improving Participant Satisfaction and Quality of Care With Engagement Technology

### Categories

- Reduced Social Isolation,
- Reduced Feelings of Loneliness,
- Reduced Depression,
- Increased Engagement and Satisfaction,
- Increased Social Networks,
- Increased Quality of Life,
- Increased Staff Efficiencies,
- Reduced Nursing visits, ED visits and Hospital Admissions

### Organization Name

Element Care

### Organization Type

Program of All-Inclusive Care for the Elderly (PACE)

### Organization Description

Founded in 1995, Element Care is a non-profit healthcare organization with a simple mission: to help people live safely in the community for as long as they can while reducing admissions to hospitals and short term rehab. Element Care provides comprehensive health care to eligible people through PACE (Program of All-Inclusive Care for the Elderly), serving the North Shore, Merrimack Valley and the northeast region of Middlesex County in Massachusetts. For more information, visit [www.elementcare.org](http://www.elementcare.org).

### Project Description

In March 2017, Element Care began a quality improvement project utilizing 12 care.coach™ avatars to provide psychosocial support and health coaching in the home for high-risk older adults. Element Care was able to decrease evening and weekend companion and nursing visits, resulting in substantial savings. The avatar pilot proved effective in diverting unnecessary visits to the ER by utilizing assigned interventions, such as deep breathing exercises

for anxiety, or by successfully alerting on-call staff to attend to participant needs. Participants in this study reported improved quality of life and decreased anxiety, nervousness and loneliness.

After the favorable results of the pilot study, Element Care decided to utilize the avatar as an extension of its inter-disciplinary team. The ability of the avatar to coach an individual and simultaneously alert the team of issues in real-time has improved the quality of care. Participants feel well attended to and less anxious. As of February 2019, there were 40 avatars in the community with an actual cost-savings of more than \$11,000 for the month. Element Care plans to continue the growth of the avatar program by offering one to all who will benefit from having one.

### *Socialization Modality*

Video Chat, Audio Chat, Photo Sharing, Event/Activity Sharing, Life Stories, Games, Exercise, Rehabilitation, Music, Facilitated Communications, Facilitated Companion Conversations with Avatar.

### *System Embodiment*

Fixed Tablet / Touch Screen running a Digital Avatar, with Voice Activated Assistant Technology and Captioning.

### *Business Model*

Program of All-Inclusive Care for the Elderly (PACE).

### *Implementation Approach*

Element Care developed an interdisciplinary approach to promote enrollment of participants in the avatar program. The avatar program is now well integrated with Medicine, Nursing, Rehab and Social Services. The ongoing goals of the program are to improve quality of care and participant satisfaction, improve health education and psychosocial support in the home, reduce need for in-home services and unplanned visits, and to reduce unnecessary ER visits. Element Care is incorporating routine avatar discussions into daily team meetings and establishing multi-disciplinary quality improvement projects that leverage the avatars. Element Care has also improved the enrollment process by implementing an online form that will allow for more efficient enrollment.

In addition to the standard care.coach CORE™ protocols (for Coaching, Observing, Reporting, and Engagement), Element Care designed and implemented the following protocols:

- Behavioral health interventions, such as smoking cessation and sobriety support
- Enhanced and individualized fall prevention and exercise protocols
- Organizational notifications such as survey reminders and PACE center closure announcements.

### *Outcomes*

With the expansion of the program, and inclusion of the interdisciplinary teams, Element Care looks to continue to improve clinical outcomes and promote client centered interventions. The participants are reporting a high satisfaction rate and noting that the avatar is user friendly and easy to install. Currently Element Care has approximately 50 participants enrolled in the avatar program and plans to increase avatar usage to 250 (approximately 25% of the total census) by the end of December 2019. Element Care has utilized the ten care.coach CORE™ protocols for participants currently enrolled in the avatar program with the following outcomes:

- Multiple staff visits to the home can often be avoided each week, due to the self-management coaching and adherence reporting from the care.coach avatar. In the case of one participant, Element Care was able to save \$160 per day from the use of the medication reminder protocol for two quarters in 2018.
- During the same 6-month period, there were 46 avatar interventions that assisted the interdisciplinary team in diverting ER visits. This was a projected savings of \$60,000 for Element Care.

### *Participant Highlight*



*Participant A* joined the PACE program in July of 2016. During the first five months of enrollment, she visited the ER eight times. Participant A continued to use the ER as a coping mechanism resulting in an average of three visits per month throughout the first quarter of 2017.

Element Care recognized that the avatar could have a substantial impact in the reduction of ER visits for Participant A. The avatar was installed in the participant's home in March of 2017. The avatar had protocols in place for reducing anxiety, such as deep breathing exercises, and provided on the spot, unlimited psychosocial support. Incorporating avatar into Element Care's comprehensive team approach resulted in a consistent drop in ER utilization over the next 18 month period. As of 2019, Participant A continues to use her avatar.

### Challenges and Pitfalls to Avoid

The pilot program had strict criteria for assigning an avatar in order to assess its effectiveness. As the program grew, the teams struggled with considering individuals outside the scope of the pilot program. Additional staff training, ongoing administrative support and education was required to address and manage the rapid growth of the program. Initially, oversight of the avatar program was assigned to one individual, however, due to the rapid expansion, Element Care has built an advisory team for close oversight and regulatory reporting going forward.

### Lessons Learned/Advice to Share with Others

#### Employee Testimonials

*"The avatar represents a positive encouraging presence in the homes of our frail elderly participants. It provides them with the reassurance that someone is always there to help."*

-Sarai, Nurse Practitioner

*"I feel like the avatar works miracles. It helps people feel a connection to avoid loneliness. It also helps people stay safe in their home."*

-Donna, Social Worker

*"The avatar gives us peace of mind for participants who are fall risks by extending their exercise program to their home."*

-Sue, Physical Therapist

#### Participant Testimonials

**"She is one of the best things that has ever happened to me and I'm glad she is here. She keeps me company at night."**

*Participant A* enrolled in the avatar program in March 2017. Prior to enrollment, Participant A visited the ER multiple times due to high anxiety, frequent complaints of chest pain, poor coping skills and relaxation strategies. Since enrollment in the avatar program, this participant has demonstrated improved communication skills and enhanced outreach to the appropriate medical teams at Element Care. She is able to accurately report signs and symptoms that interfere with activities of daily living. Through companionship with the avatar, Participant A has been able to successfully use safe coping and relaxation strategies to remain living in the community and reduce ER utilization from 18 visits in 2017 to 8 visits in 2018.

**"Mingo is very friendly, he entertains me and stops me from going crazy; every day we talk about something new."**

*Participant B* enrolled in the avatar program in February 2019. With the recent loss of his wife, *Participant B* uses the avatar for additional support and as a safe place to express his emotions. The avatar also encourages him to regularly inform his social worker of his current emotions and any irregular behaviors or changes in mental state.

### Conclusion

Element Care has found the care.coach™ platform to continue to be a highly engaging and cost-effective way to provide enhanced continuity of care in the home, through 24x7 psychosocial and healthcare support for high-risk elders. Reduction in unnecessary emergency room utilization, as shown through *Participant A's* case study, was possible with improved daily support of chronic conditions, personalized protocols, close monitoring of health risks, and mitigating anxiety. With the expansion of the avatar program, Element Care expects to continue to see favorable savings with a decrease in unplanned hospital utilization and avoidable staff visits. The avatar program has also provided a much-needed increase in psychosocial support which has addressed participants' loneliness and social isolation. Lastly, the health education provided through daily interactions, reminders, exercises, and relationship/ rapport-building has enabled the PACE teams to rely on the avatars as an additional team member and report pertinent information when needed.