



matherlifeways®

Institute on Aging

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## Innovative Quality of Life scale implemented with mobile devices empowers staff to improve quality of life for dementia residents

*The seventh in a series of case studies from the Preparing for the Future Report*

- Quality of life scale was developed for dementia patients through Mather LifeWays' Institute on Aging and implemented on mobile devices through collaboration with a technology partner
- The "Observing Quality of Life in Dementia" scale allowed staff to create quality of life scores by recording engagement levels and emotional reaction to identify impact of activities on individuals
- iPod Touch was used to reduce the burden of data capture on staff who could then download reports from a website to inform care and activity programming to improve quality of care
- Staff members were empowered with hard data and kept family members informed about engagement levels of loved ones

### The Organization

Founded in 1941 by entrepreneur and humanitarian Alonzo Mather, [Mather LifeWays](#) is dedicated to providing a continuum of living and care; making neighborhoods better places for older adults to live; and identifying, implementing, and sharing progressive practices for wellness, workforce issues, memory care support and caregiver empowerment.

The organization operates three continuing care retirement communities: The Mather in Evanston, Ill., Spendido in Tucson, Ariz. and Mather Place of Wilmette in Wilmette, Ill. It also provides skilled nursing care at Mather Pavilion in Evanston, Ill. Mather LifeWays' Community Initiatives programs, including the successful Mather's More Than a Café model, allow Mather LifeWays to act as a point of contact for older adults who seek access to community resources. Mather Institute on Aging plays a leading role in enhancing the lives of older adults in today's society through numerous collaborative and applied research and education projects targeting healthy aging, workforce development, caregiver support and senior living trends.

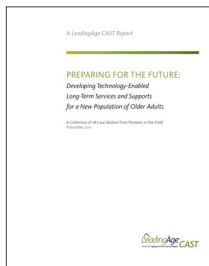
### Technology-Enabled Model or Service

Dr. Perry Edelman and his colleagues at the Mather LifeWays Institute on Aging have been working for seven years on a multi-phase project to assess the quality of life of people with dementia. During the course of that project, they developed a measure, called "[Observing Quality of Life in Dementia](#)" or OQOLD, which enables professional caregivers to assess the quality of life of persons with dementia based on their observations during a variety of activities.

Using Mather LifeWays resources, as well as a grant from the Alzheimer's Association, Edelman tested the reliability, validity, usability and usefulness of the OQOLD tool at 18 sites in the Chicago area, including skilled nursing facilities, adult day programs and assisted living communities. Two floors of Mather Pavilion, the organization's skilled nursing community, are participating in the current study.

To view the full collection of case studies, please visit

**LeadingAge.org/18Studies**



To use the OQOLD scale, staff members who facilitate activities in a particular care setting record OQOLD scores as well as other information<sup>1</sup> after observing individuals during an activity. Quality-of-life scores, which range from a low of -3 to a high of +3, are based on the person's level of engagement and/or emotional reaction during the activity. To assess emotional reaction, staff members may rely on facial expressions, changes in body language or other pleasure/displeasure cues that are unique to that person. Therefore, staff members who know participants well conduct the OQOLD assessment.

Because staff observers may include CNAs, activity staff and others, the OQOLD "cheat sheet" provides multiple ways of conceptualizing quality of life, including numerical scores, smiley/sad faces, definitions and examples. Each participant receives three scores for the observed activity: one score for the overall experience, a second score for the person's worst experience during the activity and a third score for the person's best experience during the activity. Up to five people at a time can be observed during an activity.

Initially, each staff member was asked to immediately record each participant's OQOLD scores on a laptop or desktop computer. This process soon proved unworkable since most staff members were not free to leave the activity area to work on a computer in another room. In most cases, staff members wrote the OQOLD scores on a form and then later transferred the scores to a computer.

Mather LifeWays researchers were dissatisfied with the paper-to-computer process because it disrupted workflows and took too much time and effort to complete. As an alternative, they began exploring a technology-based recording system that they hoped would improve staff participation in and attitudes toward the project.

## Implementation Approach

With funding from the National Institute on Aging (NIA), the Mather LifeWays Institute on Aging worked with Benten Technologies, an information technology firm based in Chantilly, Va., to develop software that would enable staff to enter OQOLD scores on a handheld device. After experimenting with several devices, the team chose the iPod Touch. Staff at the five research sites in the Chicago area, two sites in Florida and three sites in Arizona carry the iPod Touch with them and can easily pull the device from a pocket to record their observations. This ease-of-use has been particularly helpful in activity-rich adult day settings, where staff must move quickly from one scheduled activity to the next.

Using the iPod Touch as a hardware platform, Benten Technologies designed an application that enables staff members to enter data by selecting from a series of menus with drop-down responses. Staff can use a text feature to record comments or note special situations. Data are wirelessly transferred from the iPod Touch to a website where the scores are organized into a variety of reports that staff can download and use to maximize both the quality of care provided and the quality of life of participants with dementia.

Because observations in participants' rooms and common bathrooms were excluded to protect the privacy of participants, activities of daily living (ADLs) and instrumental activities of daily living (IADLs) were not included in study observations. However, it is expected that this tool will be used by staff to improve dementia care related to ADLs and IADLs.

<sup>1</sup> This information includes the number of participants, staff members, visitors, pets; type of activity; primary and secondary impact of the activity in terms of six dimensions of wellness.

## Outcomes

**Person-centered care:** Using the OQOLD measure, staff members in various settings have been able to identify the impact that specific activities have on individuals with dementia. This enables staff to match individuals with activities that yield high quality-of-life scores for them, test out the effectiveness of new activities and match participants with new activities as their dementia symptoms change over time.

**Feedback for families:** The technology-enabled OQOLD measure provides organizations with a mechanism to keep families informed, through hard data rather than verbal opinions, about the engagement level of their relatives. Family members who have difficulty communicating with a relative with dementia are reassured when staff members can share data illustrating that the relative has had activities tailored to their personal interests, and is earning high quality-of-life scores during their preferred activities.

**Staff improvement:** The OQOLD measure enables program managers to better match the skills of staff members to the requirements of specific activities, resulting in the greatest benefits for people with dementia. In addition, the tool helps to focus the attention of staff members on the impact that they can have on an individual's quality of life. In several instances, staff OQOLD observations have prompted additional training about how to turn simple activities—like personal grooming—into engaging opportunities to improve an individual's quality of life. Also, relying on frontline staff members to complete the OQOLD scale—and equipping them with the technology they need to do this job well—sends a strong message that the organization values the knowledge and observational skills of its caregivers.

## Challenges

**Staff comfort with technology:** Initially, some staff members at the research sites were hesitant about the technology-enabled OQOLD measure because they had never used an iPod Touch or a smartphone. However, the simplicity of the interface helped staff overcome this discomfort. Mather LifeWays researchers worked with staff at Benten Technologies to develop the most user-friendly interface possible.

**Inadequate technology infrastructure:** In order for the iPod Touch system to work, wireless Internet access must be available in the areas where OQOLD observations are being made. Providing this access on multiple floors or in multiple rooms was difficult in some settings. Benten staff worked with site information technology staff to resolve these issues.

**Difficulty choosing the right tool:** At the beginning of the OQOLD technology project, a less expensive, but bulkier handheld computer was chosen to record quality-of-life scores. This device was later abandoned because it did not fit comfortably in a staff member's pocket and there was concern that it could fall to the floor when the staff person bent down to work with individuals. Although the smaller iPod Touch solved this problem, it did require some adjustment from staff members who initially had trouble tapping the smaller, touch-screen keyboard.

## The Business Case

Benten Technologies and Mather LifeWays view the iPod Touch and its accompanying website as a platform that can be expanded to include other data collection capabilities. In addition to the OQOLD data, for example, staff can now use the iPod Touch software to access information about a resident's medications and allergy histories, as well as the telephone numbers of family members. Benten plans to add additional applications to the iPod Touch platform, including software that facilitates staff scheduling and tracks falls among nursing home residents.

Initial discussions with Benten have focused on the feasibility of offering a mOQOLD service that would be available on mobile devices like the iPod, iPhone or Android smartphone and include web-based technology. Purchasers of the mOQOLD subscription would receive access to the OQOLD assessment method developed by Mather LifeWays through mobile devices and would be entitled to any upgrades that Benten made to the mOQOLD software. They could also receive future software modules that Benten might add to its mOQOLD platform. Mather and Benten will be discussing how they might share revenues from the sale of the mOQOLD subscription service. ■

### LeadingAge Center for Aging Services Technologies:

The LeadingAge Center for Aging Services Technologies (CAST) is focused on 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 5,400 not-for-profit organizations dedicated to expanding the world of possibilities for aging. For more information, please visit [LeadingAge.org/CAST](http://LeadingAge.org/CAST)