MIAMI UNIVERSITY
OXFORD, OH • EST. 1809

GRADUATE SCHOOL
Scripps Gerontology Center

396 Upham Hall
100 Bishop Circle
Oxford, OH 45056-1879
(513) 529-2914 main
(513) 529-1476 fax
scripps@MiamiOH.edu
MiamiOH.edu

Increasing the Preference-Based Care of People in Ohio's Nursing Homes with a Special Focus on People Living with Dementia.

Proposal to the Ohio Department of Medicaid

1. Purpose and Summary

Miami University and the Scripps Gerontology Center are pleased to submit to the Ohio Department of Medicaid (ODM) a proposal to utilize funding from the Resident Protection Fund. These funds are comprised of the state's share of civil money penalties (CMPs) imposed on skilled nursing facilities (SNFs). This project is for all nursing home providers in Ohio who seek a sustainable way to provide preference-based, person-centered care. The *Increasing the Preference-Based Care of People in Ohio's Nursing Homes with a Special Focus on People Living with Dementia* Project builds on previous funding from National Institutes of Health, Alzheimer's Association, The Donaghue Foundation, and the Ohio Department of Medicaid to translate the *Preferences for Everyday Living Inventory* (*PELI*) data into daily care practices.

The *Preferences for Everyday Living Inventory* (*PELI-NH*) was selected by the Ohio Department of Medicaid as one of five quality improvement indicators in 2015. This measure was chosen because of its demonstrated validity and flexibility in identifying nursing home residents' most strongly held everyday preferences. Drs. Abbott and Van Haitsma are recognized international experts in the field of preference-based, person-centered care. Dr. Van Haitsma is the developer and copyright owner of the PELI and together with Dr. Abbott has published 24 peer reviewed manuscripts on preference-based, person-centered care (see Appendix A for list of publications).

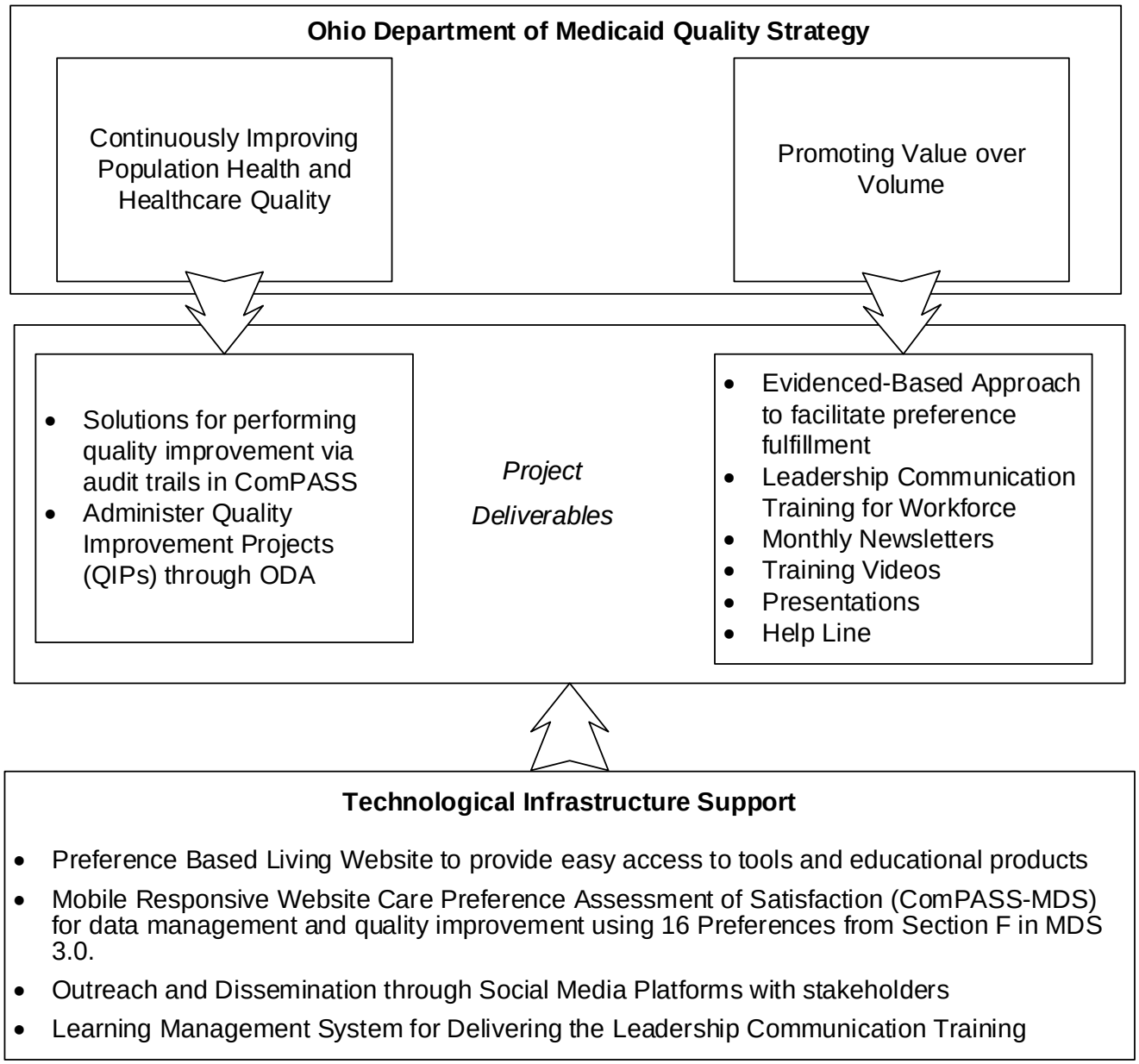
We have a proven track record of developing and disseminating high-quality, evidenced-based educational resources that can be found free of charge on our website PreferenceBasedLiving.com. Our team's success is due to the relationships we have built with providers, ombudsmen, and surveyors across the state of Ohio. In addition, we have co-created products with providers to remediate barriers and build upon successes in providing preference-based care (e.g., PAL Cards and *Your Preferences Matter* brochure). Finally, we have established a mobile responsive website to assist providers in collecting, managing, and tracking preference data for the 16 MDS preferences in Section F over time: https://pelicompass.com/. Due to the CMP funding supporting the development of these resources, there has been a steady increase in the uptake of providers assessing resident preferences and incorporating them into care across the state.

Our prior success lays the foundation for a new project focusing on the greatest barrier expressed by Ohio providers: namely, providing preference-based care to residents living with dementia. Individuals with cognitive impairment comprise 48.6% of nursing home residents receiving Medicaid in Ohio (2016, Scripps Gerontology Center). Cognitive impairment is the most common barrier to implementing the *Preferences for Everyday Living Inventory* (*PELI*) assessment as reported by 76% of Ohio providers in 2016. Therefore, remediating the barriers to preference assessment for individuals living with cognitive impairment in nursing homes is a critical need in Ohio and doing so is crucial to improving the quality of care.

This project seeks to accomplish new goals within the context of ODM's Quality Strategy (see Figure 1). First, to "continuously improve population health and healthcare quality," we are building upon prior quality assurance deliverables to add a pragmatic audit trail for providers to track their process of PELI assessment to the integration of preferences into care plans. Also, we will develop and offer quality improvement projects (QIPs) approved through the Ohio Department of Aging (ODA) that will

focus on assessing preferences for people with moderate to severe dementia, as well as communicating those preferences across different care team members and shifts.

Figure 1. Increasing the Preference-Based Care of People Living in Ohio's Nursing Homes with a Special Focus on People Living with Dementia.



Second, we align with the ODM Quality Strategy of "promoting value over volume" through educational outreach as well as creating tools and resources to address barriers articulated by providers. We propose to develop materials from an evidence-based program for easy-to-use interventions that direct care staff can implement in their work with people living with dementia. To address the barriers to communication that individuals living with dementia may experience in the nursing home, we seek to augment the PELI with visual cues that are tested with individuals with mild dementia. While cognitive impairments can greatly impede performance, many nursing home residents also have co-occurring sensory deficits (e.g., hearing, vision) (Smith, Bennett, & Wilson, 2008; Swenor, Ramulu, Willis, Friedman, & Lin, 2013; Pascolini, & Mariotti, 2012), as well as speech

and language (e.g., anomia) challenges that also negatively impact their ability to report preferences. Furthermore, according to 2017 fourth quarter Minimum Data Set (MDS) reports, approximately 40% of residents have difficulty understanding the speech of others and 36% have difficulty expressing ideas and wants (Centers for Medicare and Medicaid Services [CMS]).

This initiative has the ability to build preference-based, person-centered care capacity among all Ohio nursing homes, even those with low star ratings. In addition, we will incorporate materials that stretch high performing homes' capabilities (e.g., leadership communication training) and continue to strengthen technological solutions for data collection and analysis to support care infrastructure. This project will focus on promoting adoption of preference assessment through education and training and build sustainability through quality assurance performance improvement (QAPI) strategies.

Continuously Improving Population Health and Healthcare Quality

We seek to use quality improvement strategies to remediate barriers and sustain improvement gains to providing preference-based, person-centered care. To achieve this goal we propose strategies to enhance provider community use of Quality Assurance (QA) and Performance Improvement (PI) processes. First, we propose creating a set of audit trail processes to track how well organizations assess and integrate preferences into care. Second, we propose to offer performance improvement projects that support provider communities in their journey of delivering preference-based, person-centered care.

Quality Assurance processes

Audit trails

To determine whether organizational efforts to improve preference assessment and fulfillment are working successfully, we will develop practical tools that providers can use to examine their own processes. The Institute for Healthcare Improvement (IHI) recommends gathering "just enough" data to help organizations gauge whether a change in practice is working. Therefore, we propose to develop audit trails that follow a developmental approach depending upon where the organization is in its use of the PELI. These audit trails have been informed by our prior work with providers who have implemented the PELI. Tools would first be developed as paper/pencil in order to pilot test and then be integrated into the capacity of ComPASS. Examples of the types of audits providers can perform include: tracking whether PELI data is collected prior to an initial or quarterly care conference, tracking reasons why PELI assessments have not been completed, and tracking whether care plans reflect an individual's important preferences. Specifically, for people living with moderate to severe dementia, we seek to develop processes to assess the preferences of a person who is unable to communicate his/her own preferences by involving both proxy (family/friend) reports and/or observations by care team members. Then we will develop processes to integrate these preferences into quarterly care planning meetings. See Appendix B for a full list of audits that providers have suggested for development.

Performance Improvement

The PAL Card Quality Improvement Project (QIP)

In our previous ODM funded work, providers reported that they struggle to communicate preferences to care team members across different shifts and departments (e.g., nursing, housekeeping, and dining). Recognizing that nursing homes face multiple barriers to communicating preferences due to high staff turnover, use of agency staff, or care team members having limited access to electronic medical records, we worked to find solutions to remediate this barrier. In collaboration with an OH provider, we co-developed an intervention called the Preferences for Activity and Leisure (PAL) Card. PAL Cards are personalized 5x7 laminated cards that reflect a resident's recreation and leisure

preferences (see Figure 2). The cards can be placed on a resident's wheelchair/walker/door as a way to communicate important preferences to staff, volunteers, and other residents throughout a provider community.

Figure 2. Sample PAL Card – Focusing on Recreation and Leisure Preferences

After successful pilot testing, we proposed the PAL Card Quality Improvement Project (QIP) to the Ohio Department of Aging in 2018. The major goal was for provider communities to interview and create PAL Cards for 15-20 residents. We offered an initial virtual training and resources, along with monthly virtual learning circle consultation calls. Forty-three providers signed-up, 35 completed the initial virtual training and 26 completed the project (60% completion rate). Participating providers represented both short-stay and long-term care communities across the state of Ohio with varying star ratings. Participant feedback was overwhelmingly positive with providers reporting that the PAL Cards were feasible, acceptable, and appropriate for use in their communities. PAL Cards also were flexible enough that providers could tailor them to the unique needs of both the organization and resident. The project's success is reflected in the fact that the majority of organizations that created PAL cards have done so for *all residents* in their community, not just the 15-20 residents that were requested in the QIP. For the providers that did not complete the project, the main reason was due to staff turnover. More results can be found in our impact report.

Because of the success we experienced collaborating with providers on the PAL Card QIP, we propose to facilitate two QIPs upon approval by ODA. First, we propose to offer an updated PAL Card QIP for providers that either have not 1) created PAL Cards or 2) wish to create PAL Cards for individuals with moderate to severe dementia. We will develop new resources to engage family/friend proxies to bolster preference assessment for individuals with dementia. In addition, we will expand the PAL Card to include communication preferences (e.g., picture, gestural, speech, written) so staff can use appropriate methods to facilitate expression and comprehension, helping to reduce frustration for both resident and staff member.

Second, we propose developing and conducting a QIP to implement the Individualized Positive Psychosocial Intervention (IPPI; described below) with residents with dementia. We will work with up to 45 providers and provide monthly small group (3-5) virtual learning circle sessions to help problem solve. We have included a letter of support with this application from the Ohio Department of Aging, Office of the State Long-term Care Ombudsmen's office who administers the mandatory QIP projects supporting these QIPs and our ability to recruit 45 providers. In addition, we have provided letters of support from seven provider organizations (See Appendix C).

We have received positive feedback about our virtual learning circle format that allows providers to problem solve and support each other in their work. Throughout the process we will collaborate with providers to identify and document exemplary case studies that highlight successes of resident preference fulfillment. The case studies will be useful as examples of the benefits of preference-based, person-centered care as well as to refine training materials.

Finally, to date, our PAL Cards have focused only on preferences for leisure and activities. We have not focused on other preferences because of concerns related to privacy and dignity protection. However, providers have explained that a PAL Card focusing on personal care preferences (i.e., showering, dressing, and sleeping) would be extremely valuable. Therefore, we propose to develop methods for communicating personal care preferences that will also meet HIPAA privacy laws. We will seek input from the Ohio Department of Health (surveyors), ODA (Ombudsmen), and Pro Seniors, a legal services organization serving Ohio to ensure HIPAA compliance.

Promoting Value over Volume

Evidenced-Based Intervention

We propose to provide resources that will enable Ohio nursing home providers to implement an evidenced-based intervention found to increase positive affect and behavior and reduce negative affect and behavior among nursing home residents with dementia. Our team developed the Individualized Positive Psychosocial Intervention (IPPI; See Appendix C) in an Alzheimer's Association (AA) funded project. The intervention, designed with flexibility and feasibility in mind, incorporates the following steps: 1) assessing resident important activity preferences, 2) having first and second shift direct care workers select one of the preferred activities to share with the resident, 3) coaching for the direct care worker by an activities professional on how to lead the activity, 4) having the direct care worker lead the one-to-one activity with the resident for approximately 10 minutes 2-3 days per week, at a time convenient for both staff and residents. In a previously funded AA project, we tested the IPPI intervention in an effectiveness randomized controlled trial among *n=180* nursing home residents with mild to advanced dementia. We found that nursing home residents receiving the IPPI intervention experienced more pleasure, alertness, engagement, and positive verbal behavior compared with the usual care group. We propose to develop IPPI intervention protocol materials that align with each of the 16 MDS 3.0 preferences. *These materials for providers would include: 1) A tip sheet for implementing an IPPI intervention, 2) A tip sheet for good communication in the context of dementia, 3) two ~10 minute training videos (one for delivering a personal care IPPI intervention and one showing how to deliver an activity IPPI intervention). Training videos would also highlight how to recognize emotion in people with dementia to observe and detect preferred or not preferred activities, and 4) pragmatic outcome measurement tools so providers can assess the impact of the intervention.* One example is a quick illustration showing faces that range from sad to happy; staff can easily record how the resident seemed to feel while engaging in an activity.

Leadership Communication Training

We developed the Leadership Communication Training (LCT) program as an in-person workshop as a part of the AA funded project mentioned above, but seek to move it to an online interactive training format available to care team members across the state. The training is applicable to all people providing care to others. (We refer to these individuals as "care team members" from this point forward in the proposal.) The LCT focuses on the care team member's own well-being with the idea that if care team members can better manage their own emotions, they are better positioned to manage residents' behavior and emotions. The central concept of the training is to build relationships that enhance person-centered care through increasing care team members' emotional intelligence (EI). Normally, when we think of intelligence, we think of "IQ" or the Intelligence Quotient. But there actually are many kinds of intelligence. EI is one of five types of intelligence measured in humans.

People who know how they are feeling and have the ability to change their bad moods into good ones are said to have “emotional intelligence (EI).” People with high EI know what they are feeling, stop to think before they act, and have strategies for appropriately managing negative feelings and promoting positive feelings. These skills allow direct care workers to better manage their own behavior and emotions, which results in improved quality of their care work.

Research has shown that EI is a crucial component of leadership through communicating during social interactions. Studies have found that employees with high EI levels have “smoother interactions with members of their work teams” and “respond flexibly to changes in their social environments” (Mayer et al. 2000; Salovey et al., 1999). These characteristics are vital to care team members whose entire day involves interacting with other people. Working with people is a double-edged sword: it can be incredibly rewarding, but people also can bring out negative emotions – frustration, disappointment, anger, shame, and resentment. In addition, managing emotions is central to care team members who work with people living with dementia. While people living with moderate to severe dementia have lost much of their cognitive capacity, feelings remain intact far into the disease process. Care team members recognize that their job is not just to take care of residents’ *physical* needs; rather, it is to take care of the *whole person* -- body, mind, and soul. Improving quality of life means being concerned about the whole person, and *emotional* well-being in particular.

While individuals who enjoy working with people have some level of EI, they can strengthen their EI skills in important ways. The first part of our training focuses on steps needed to raise EI and how to apply these steps in daily life to create more positive feelings at home and at work. The second part of our training focuses on recognizing emotions in people living with dementia. While people living with moderate to severe dementia may have lost the ability to understand and express themselves in words, they are still sensitive to the emotional signals we send through our body language. By paying attention to body language in residents, especially facial expressions, care team members can learn about the person’s preferences and prevent the communication of distress or behavioral and psychological symptoms of dementia (BPSD), such as persistent vocalizations, agitation, or refusing care.

Our goal is to develop our in-person training into an online course available to individuals at no cost following the end of the funding period.

Ongoing Support and Education

We propose to continue to develop and disseminate a variety of education and training materials throughout the three-year period of this grant. These materials are reviewed by our Technical Advisory Panel, a stakeholder group of professionals in the field including: nursing home administrators, directors of nursing, social workers, certified therapeutic recreational specialists, ombudsmen, residents, and family caregivers. Also, we have been successful in disseminating materials through monthly electronic newsletters to all Ohio nursing homes from Scripps Gerontology Center. The Scripps Gerontology Center engages all Ohio nursing homes every two years for their Biennial Survey and maintains a database to communicate with providers. The open rate for our newsletters is above the industry standard. We also are able to grow our newsletter subscriber list through presentations at industry based conferences, such as the Ohio Health Care Association (OHCA), Ohio’s Leading Age, the Ohio Person-Centered Care Coalition, and Academy of Senior Health Sciences, Inc. We have successfully presented to over 1,000 individuals between 2016-2018 to disseminate resources and listen to insights from providers on barriers they encounter. Understanding the barriers to preference-based, person-centered care allows us to create new resources as we learn from nursing homes that have surmounted barriers. These “best-practice” suggestions are included in monthly newsletters and webinar sessions. We receive positive feedback from our presentations and are invited back to present new material annually.

In addition, we have successfully conducted quarterly virtual seminars (webinars) that include free continuing education credits for attendees. We record webinars, close caption them, and make them available for viewing on our website. We propose to continue to offer quarterly virtual seminars.

We will continue to maintain a Help Line allowing providers to directly call the Project Manager with questions. We find that providers, family members, and residents appreciate having the ability to connect with our team year round with questions or to problem solve around their concerns.

Finally, our success in developing professional quality training videos will be continued. However, we have heard from providers that they seek shorter videos. Therefore, we propose to create two ~10-minute training videos with accompanying training guides, showing how to deliver one personal care IPPI intervention and one activity IPPI intervention. As part of the training videos, we seek to highlight how care team members can recognize emotion in persons with dementia to evaluate the effectiveness of their intervention efforts. For the first video, we know that it is difficult for individuals with moderate to severe cognitive impairment to self-report their preferences. Therefore, it becomes a crucial part of a care team member's responsibilities to be able to recognize the emotions of people living with dementia primarily through facial expressions and body language. Building workforce capacity in recognizing emotion can help to inform preferences from daily activities to food and bathing choices. This video will focus on teaching care team members how to recognize and track this information in a pragmatic way as well as to incorporate it into care planning processes and will complement the Leadership Communication Training.

In addition, we plan to produce short videos related to quality assurance performance improvement (QAPI). We will seek feedback from providers on the specific QAPI preference initiatives that will be useful, but can envision videos related to a QAPI for an IPPI intervention related to personal care, an IPPI intervention related to an activity, and a PAL Card QIP. We propose to interview providers who are conducting QAPIs related to preferences and ask that they share their approaches, successes, and challenges. We will engage with Lean management experts in order to integrate the principles of continuous performance improvement throughout the materials we develop.

Technology Infrastructure Support

Website

The Preference Based Living website is the heart of our dissemination efforts. Since its creation in July 2017 we have uploaded over 50 free resources for providers and residents. To date, it has been accessed by over 7,000 unique users with over 37,000 page views. The majority of users are in Ohio (22%) followed by states including TN, PA, NY, VA, MI, and GA. We seek to expand our website features to allow users to intuitively find materials they need.

Care Preference Assessment of Satisfaction (ComPASS)

We recognize that providers need assistance in collecting, managing, and tracking data over time. The Scripps Gerontology Center, in partnership with Tennessee Technical University, developed a mobile responsive website called *ComPASS (Care Preference Assessment of Satisfaction)* that assists providers in asking residents about the 16 MDS preferences for everyday living in Section F. Also, *ComPASS* provides an efficient system to track resident satisfaction with preference fulfillment of these preferences over time. Reports generated by the system are used in quality improvement to assist providers with pinpointing opportunities for improvement in care delivery. The software is currently available to providers at https://pelicompass.com/. In order to ensure the sustainability of *ComPASS* we have entered into a Memorandum of Understanding with Linked Senior to host *ComPASS*. Linked Senior is a resident engagement platform -- aiming to make personalized engagement the standard experience of care. The solution empowers staff with a digital tool to assess, plan, implement, and evaluate engagement for the entire resident population -- providing both

a population health management dashboard and evidence-based resident engagement applications (games, brain fitness, music therapy, reminiscing, etc.). Linked Senior will primarily focus on new development of the audit trail processes that facilitate effective and efficient QAPI practices. In addition, they will provide assistance with deployment, expanding the user base, and answering support calls leading to the long-term sustainability of *ComPASS*-MDS16. The MDS-16 item version of *ComPASS* will continue to be made available at no cost to all providers through the Linked Senior platform. *ComPASS* will make it considerably easier for providers to use the PELI assessment, in comparison to the current paper-and-pencil version. *ComPASS* allows providers to store and track individual preference information over time; prompts them to assess client satisfaction with preference fulfillment; and produces actionable reports to improve preference fulfillment. We seek to continue to refine the *ComPASS* software system via feedback from providers, such as which information is most helpful to include on a dashboard report. Software development for *ComPASS* employs the use of Agile project management techniques in order to provide iterative releases with new features added based upon feedback from providers. The development team will include Drs. Abbott and Van Haitsma along with Charles De Vilmorin, the CEO of Linked Senior and Jeff Moore, the Linked Senior Chief Technology Officer.

Outreach and dissemination through the utilization of social media platforms

In our previous grant, the use of a discussion board was proposed as part of the Technology Infrastructure Support for the purpose of creating a space for providers to post questions about person-centered care. After receiving feedback from provider communities, we determined that a discussion board would be under-utilized due to the limited time providers have to engage in online discussions during working hours. Therefore, we moved to establish a presence on the social media platforms providers already use (Facebook, Twitter, and LinkedIn) to promote engagement. Our social media accounts create an opportunity for providers to connect and ask questions and support our goal of disseminating educational materials. Therefore, we propose to maintain a regular presence on our social media platforms to disseminate tip sheets, training videos, webinars, and newsletters to engage and support providers.

Learning Management System

The final aspect of our technology infrastructure is to provide a learning management system either on our website or to partner with an organization that will provide the Leadership Communication Training online (e.g., Relias). A learning management system will allow individuals or organizations to access the self-study course content, as well as track and report metrics such as pre- and posttest assessments. We will pursue the possibility of partnering with companies that currently provide online training to the long-term services and supports network, as well as hosting internally. Our goal is to provide the training for free or at a low cost to direct care workers and informal caregivers while charging a small fee for a certificate to support the training's sustainability.

Sustainability

All of the developed materials will remain available for free on the PreferenceBasedLiving website after CMP funding has ended. The costs to maintain the website (name, hosting, certification, updates) are around $1,000 annually and Drs. Abbott and VanHaitsma plan to absorb those costs if additional funding has not been secured. There are other options we will explore, such as partnering with the National Nursing Home Quality Improvement Campaign. In addition, we seek to collect fees from the Leadership Communication Training from providers who seek continuous access to the course. *ComPASS* will be maintained through our partner, Linked Senior.

Reporting

Quarterly progress reports will be submitted to ODM during the project period. A final report will be submitted at the conclusion of the project that will include a summary of all deliverables completed during the project period, results from analyses, and implications for policy and practice.

2. Expected Outcomes.

We anticipate the following results will be achieved by the end of the granting period grouped by quality strategy (Figure 1):

Continuously Improving Population Health and Healthcare Quality

1. We anticipate 45 providers participating in the PAL Card Quality Improvement Project (QIP), creating over 500 PAL Cards for residents with dementia.
2. We anticipate 45 providers participating in the Individualized Positive Psychosocial Intervention (IPPI) QIP that specifically focuses on increasing positive affect and behavior and reducing negative affect and behavior among nursing home residents with dementia.

Promoting Value over Volume

1. We anticipate 50 STNAs will complete the Leadership Communication Training (LCT) program, assisting them in recognizing emotions in people living with dementia leading to the ability to prevent the communication of distress or behavioral and psychological symptoms of dementia (BPSD), such as persistent vocalizations, agitation, or refusing care.
2. We anticipate sending 36 newsletters to all Ohio nursing homes, nine face-to-face presentations, and 12 virtual seminars with content focused on providing preference-based person-centered care to residents with dementia.
3. We anticipate providing at least three quality assurance performance improvement (QAPI) training videos related to the IPPI interventions (one for personal care and one for activities), and one for the PAL Card QIP.

Technology Infrastructure Support

1. *ComPASS (Care Preference Assessment of Satisfaction) will be hosted by Linked Senior and used by 50 providers. In addition, family members or close friends of residents with dementia will have access to their loved ones important preferences through ComPASS to be able to advocate for their care.*

We propose the following timeline for the project, which will total 3 years or 12 quarters.

Table 3. Timeline for Deliverables

	Quarters											
	1	2	3	4	5	6	7	8	9	10	11	12
Develop Audit Reports and observational methods and integrate into ComPASS (see Appendix B for examples)												
Propose and lead two Quality Improvement Projects (QIP) through ODA												
Develop a method for communicating personal care preferences that will also meet HIPAA privacy laws (i.e., PAL Cards for Personal Care)												

Develop IPPI Protocols for 16 MDS Preferences												
Create Learning Management System for Delivering the Leadership Communication Training												
Offer Leadership Communication Training to people who provide care to individuals with dementia												
Create and Distribute Monthly Newsletters												
Telephonic "Help Line" for Providers												
Virtual Seminar with free CEUs when possible												
IPPI Intervention Training Videos: one personal care and one activity preference, along with how to evaluate effectiveness via observed emotion.												
Quality Assurance Performance Improvement (QAPI) Training Videos Related to Preferences												
Presentations at industry and organizational annual conferences												
Preference Based Living Website Updates and Dissemination of Educational Materials												
Outreach and Dissemination to stakeholders via Social Media (e.g., providers, residents, families, ombudsmen, surveyors)												

3. Results Measurement.

We propose to evaluate initiatives using the RE-AIM framework to identify the following outcomes:

- *Reach* – the number, proportion, and representativeness of providers who were reached by the education and training initiatives (presentations, webinars, newsletter).
- *Efficacy* – the impact of the education and training on the perceptions of barriers providers mention on the Biennial Survey. We would anticipate that providers would report fewer barriers as they utilize our tools and grow in their ability to provide preference-based care.
- *Adoption* – the number, proportion, and representativeness of providers who are assessing preferences and integrating the information into care planning documents.
- *Implementation* –the number of organizations participating in Ohio Department of Aging certified quality improvement projects.
- *Maintenance* – the extent to which Ohio providers have implemented the *PELI* from not implementing to incorporating *PELI* into their continuous quality improvement strategies.

4. Benefit to SNF Residents.

A compelling body of literature suggests that the integration of knowledge about individuals' psychosocial preferences into care is related to improved decision making about care services,

enhanced quality of care and life outcomes, and increased satisfaction with care. This strategy honors the experiences and continuity of likes and dislikes that individuals have developed over a lifetime. Also, it empowers residents, helping them to maximize their potential for retaining relationships, capabilities, interests, and skills by acknowledging what they prefer in the context of their strengths and needs.

5. Non-Supplanting.

This project will not supplant the responsibilities of participating nursing facilities to meet existing Medicare and Medicaid regulations or other statutory and regulatory requirements.

The funding requested in this proposal will not supplant any existing funding for assessing preferences. SNFs are required to assess the 16 preferences found in Section F. of the MDS 3.0. This proposal will provide education and training resources for how to use the information providers already collect in order to improve resident care.

6. Consumer and Other Stakeholder Involvement.

The Scripps Gerontology Center at Miami University developed this proposal pursuant to a request from ODM for ideas to utilize the CMP money to benefit SNF residents in Ohio. Miami University's Scripps Gerontology Center is a leading source of local, state, national, and international information about the impact of aging on society, and about effective solutions to the challenges and promises of aging populations. The mission of the Scripps Gerontology Center is "to do work that makes a positive difference in the lives of aging individuals, their families and communities, and to meet the needs of aging societies." In addition, the project team involves collaboration with the originator of the PELI, Dr. Kimberly Van Haitsma, who has had experience implementing the PELI in nursing homes and other settings for over 20 years.

The PELI was one of the quality measures selected for Ohio by a stakeholder group that included representatives of ODM, the Ohio Department of Aging, the State Long Term Care Ombudsman's Office, the Ohio Department of Health, the three provider organizations representing SNFs, and the Governor's Office, legislators, consumer representatives including AARP, and a long-term care researcher.

7. Funding.

The Scripps Gerontology Center at Miami University requests funding to support the goals of this project. Four prospective payments will be awarded on the following dates: October 1, 2019 (for 9 months of funding), July 1, 2020 (for 12 months of funding), July 1, 2021 (for 12 months of funding), and July 1, 2022 (for three months of funding).

We are requesting salary support for faculty, consultants, students, and project staff with a cost breakdown of 80% development and 20% evaluation. Funds to support travel and lodging to present at state and national conferences (i.e., Leading Age & Pioneer Network) and to visit facilities for consultation sessions are also requested. Pursuant to ODM and CMS guidelines, we will only submit lodging for reimbursement that is 50 miles or more from Oxford, OH.

We have also included funds for website costs (hosting, graphic design, certification, development). Videography funds will be used to hire a videographer to film and edit the proposed new training videos.

Personnel:

Dr. Katherine Abbott, Principal Investigator: will be responsible for oversight of the entire project. She will be responsible for: communicating with all project personnel and subcontractors; submitting quarterly progress reports; coordinating presentations; seeking IRB approval for QIP projects: student supervision: and outcome measurement. Approximately 80% of Dr. Abbott's time will be spent on new development across all deliverables and 20% on evaluation of expected outcomes and RE-AIM results measurement listed above.

Alex Heppner, Project Manager, will be responsible for assisting with all project communication, including answering the help line, developing newsletters, coordinating video filming, assisting with presentations, and leading the quality improvement projects through the Ohio Department of Aging. Approximately 90% of Ms. Heppner's time will be spent on new development and 10% on evaluation specifically related to the QIP projects and RE-AIM outcomes.

Kimberly Logsdon, Graphic Designer, will devote 100% of her time to new development of print and website materials to ensure effective communication.

Dr. Knollman-Porter, PhD, Consultant, specializes in adult neurogenic language, speech, and cognitive disorders and dysphagia. She will provide expertise to expand our efforts to assess preferences through picture, gestural, speech, and written avenues. These are new areas of development specifically targeted for people with dementia. Dr. Knollman-Porter will spend approximately 90% of her time on new development and 10% of her time evaluating the new materials with people with dementia.

Meghan Young, Social Media Specialist, will devote 100% of her effort to new development of the Preference Based Living social media accounts on Facebook, Twitter, and LinkedIn. Specifically, she will develop content to promote new webinars and new resources, schedule posts monthly using Hootsuite, create graphics for posts as needed using Canva, decipher Google Analytics, and apply strategies to increase reach. The primary function the Social Media Manager serves is to assist with dissemination by converting the project's research into content that can be shared on social media platforms to reach and grow our target audience.

Consultants:

TBD: Webmaster, (20% entire project) – Will manage website including new Drupal development and e-learning platform for the leadership communication training.

Sarah Humes, Certified Therapeutic Recreation Specialist (CTRS) will devote 100% of her effort to provide consultation related to the new development of the IPPI intervention tip sheets, training video for recognizing emotion in people with dementia, and IPPI intervention protocols for activities that align with each of the 16 MDS preferences.

Allison Heid, PhD will devote 100% of her effort to new development related to migration of the leadership communication training from an in-person workshop to a new on-line interactive training. Dr. Heid will also review the video scripts.

Abby Spector, MMHS will assist as the Chief Editor and content specialist with the development of new tip sheets, newsletter content, and review the video scripts. Ms. Spector will devote 100% of her time to the development of these new materials.

Karen Eshraghi, MSW, Quality Improvement Coordinator, will devote 100% of her effort to new development related to the Quality Assurance Performance Improvement (QAPI) training videos and

will co-lead interactive workshops related to PELI quality improvement at the annual Pioneer Network conference. She will also provide input into the audit trail development. Ms. Eshraghi will devote 100% of her time to new development.

Victoria Crumbie, Certified Therapeutic Recreation Specialist (CTRS), will provide consultation on the new training videos related to observing resident affect, using the PELI for Quality Assurance Performance Improvement (QAPI) Programs, and will co-lead interactive workshops related to PELI quality improvement at the annual Pioneer Network conference. She will also provide input into the audit trail development. Ms. Crumbie will devote 100% of her time to this new development.

Vanessa Burshnic, PhD, CCC-SLP, Communication Sciences and Disorders, will devote 100% of her time to the new development of modifying the PELI with the use of external supports (visual and text cues) for the purposes of improving preference assessment and person-centered care planning for persons living with dementia. This new development will enable us to create a universally-designed assessment that can support the involvement of residents with dementia.

Susan Gilster, PhD, LNHA, will devote 100% of her time to reviewing newly developed materials and will assist with monthly coaching calls with providers engaging in the QIP project utilizing the IPPI intervention.

TBD, Lean Initiatives, this individual will have experience with Lean initiatives with provider communities and will assist us with integrating the principles of continuous performance improvement throughout the new materials we develop.

Subcontract to Dr. Kimberly VanHaitsma, PhD, Originator of the PELI, will lead the efforts in new development of the IPPI intervention protocols for activities that align with each of the 16 MDS preferences, audit trails, and pragmatic outcome measurement tools. In addition, Dr. VanHaitsma will review video scripts and consult with the Project Manager as needed on the QIPs. The majority (80%) of Dr. VanHaitsma's time will be invested in new development with 20% devoted to evaluation of the expected outcomes and the RE-AIM results measurement.

Subcontract to Linked Senior, will focus on new development related to the integration of the audit trail processes that facilitate effective and efficient QAPI practices (see Appendix B). In addition, they will provide assistance with deployment and answer support calls for *ComPASS*-MDS16. The MDS-16 item version of *ComPASS* will continue to be made available at no cost to all providers through the Linked Senior platform. The majority 80% of Linked Senior's effort will be devoted to new development with the remaining 20% of effort focused on providing assistance to provider users.

Funds for Sign-up-Genius are included to allow providers participating in the proposed QIP project to sign up for monthly virtual learning circle coaching sessions.

Conference Registration for Karen Eshraghi and Victoria Crumbie to attend the yearly Pioneer Network conference (estimated presenter registration $550 per person in SFYS 21, 22, and 23). In addition, conference registration for Dr. Abbott to present project findings at the annual Gerontological Society of America (GSA) Conference ($460) and the Aging in America Conference for the American Society on Aging ($585) are requested for an estimated total of $1,085 in SFY 20, $2,185 in SFYS 21, & 22 and $1,100 in SFY 23.

Travel includes funds for Miami University personnel, consultants, and the two subcontracts with Dr. Van Haitsma and Linked Senior.

For SFYS 20, 21, and 22: Travel for MU personnel to present at conferences and travel to providers for consultation meetings. This includes approximately 8 trips yearly to Columbus to present at

conferences such as the OHCA social work, OHCA activities professionals, and the Ohio Person Centered Care Coalition conferences (260 miles round trip @ 0.58= ~$150/trip x 8 trips = $1,200 year). Three of these conferences require one night in a hotel (3 x $150.00/night =$500/year). In addition we travel to other areas of the state to present at events for regional guardianship meetings and meeting with providers for consultation. These trips are as requested by providers and organizations and we estimate $800 in mileage per year. Dr. Abbott will travel to present at GSA and ASA conferences and is requesting $400 in flight per conference (2 x $400 =$800) and 3 nights hotel ($150/night x 3 nights x 2 conferences = $900) plus travel to/from airport (2 x $100 = $200) and parking (2 x$50 =$100). Estimated total of $3,700 yearly for SFYS 20, 21, and 22.

We estimate $1,000 per year in travel costs for graduate students to travel to/from regional providers. Therefore, 30 miles round trip @ .58/mile x 64 trips/year (2 trips/week for 14 weeks each semester plus approximately 12 trips over the summer). Estimated total of $1,000 yearly for SFYS 20, 21, and 22

For SFY 23 we are requesting travel funds for 2 conference presentations (260 miles round trip @.58= ~$150/trip), three nights in a hotel ($122/night) and student travel (14 trips @ 30 miles @.58 = $250). Estimated total of $900 in SFY 23.

For SFYS 21, 22, and 23: Travel is included for consultants Karen Eshraghi and Victoria Crumbie to present the PELI Bootcamp workshop at the yearly Pioneer Network Conference. The conference is typically held in July or August, therefore funds for SFY 20 are not requested, but funds for SFY 23 are requested. Costs include airfare, hotel for three nights per person, and travel to/from airport. We are unsure where these conferences will be held each year, but estimates include: Round Trip Airfare $500 per person, Hotel $150.00/night (3 nights), travel to and from airports =$50.00; parking 5 days @10.00/day = $50). Estimated total of $1,600 yearly for SFYS 21, 22, & 23.

For SFYS 20, 21, and 22:Travel for consultant Susan Gilster to present about using the PELI to improve dementia care at the Annual OHCA conference in May in Columbus plus two nights in a hotel ($150 mileage from Cincinnati, $150/night hotel) = Estimated total of $500.00 yearly for SFYS 20, 21, and 22.

For SFYS 20, 21, and 22: Travel is included for two Linked Senior staff to travel to Ohio yearly for face-to-face project meetings 3 nights hotel @ $150/night x 2 rooms = $678.00, 2 flights from DC to either Cincinnati or Dayton ($400 per flight =$800), plus travel to/from airports and parking 2 x $150 = $300. Estimated total of $2,000 yearly for SFY 20, 21, and 22.

For SFYS 20, 21, and 22: Travel is included for Dr. Van Haitsma and two of her graduate students who work on the project to travel to Ohio yearly for face-to-face project meetings 3 nights hotel @ $150/night x 2 rooms = $900, 3 flights from Philadelphia to either Cincinnati or Dayton ($400 per flight x 3 =$1,200), plus travel to/from airports and parking x 3 = $225. Estimated total of $3,000 yearly for SFY 20, 21, and 22.

The table below shows our funding request.

Miami University on behalf of the Scripps Gerontology Center
PROJECT TITLE: Preference Based Living for People Living with Dementia in Ohio's Nursing Homes
FUNDING AGENCY: Ohio Department of Medicaid
DURATION: 36 months

		9 months SFY 2020	12 months SFY 2021	12 months SFY 2022	3 months SFY 2023	3-Yr Total
SALARIES & WAGES		**(10/1/19-6/30/20)**	**(7/1/20-6/30/21)**	**(7/1/21-6/30/22)**	**(7/1/22-9/30/22)**	**REQUEST**
Katherine Abbott, Ph.D. Principal Investigator (20% AY) (8 hrs/wk for 32 wks in SFY2020 @ $51.91/hr, with 3% COLA increase each year beginning SFY2021)		$ 13,288	$ 16,424	$ 16,917	$ 2,904	$ 49,533
Principal Investigator (100% Summer) (40 hrs/wk for 7 wks in SFY2019 @ $51.91/hr, with 3% COLA increase each year beginning SFY2021)		$ 13,288	$ 27,373	$ 28,194	$ 14,520	$ 83,375
Alex Heppner, BSW Project Manager (100%) (40 hrs/wk @ $22.10/hr, with 3% COLA increase each year beginning SFY2021)		$ 31,827	$ 43,709	$ 45,020	$ 11,593	$ 132,149
Kimberly Logsdon Website/Graphic Designer (10%) entire project. (4 hrs/wk @ $21.99/hr, with 3% COLA increase each year beginning SFY2021)		$ 3,167	$ 4,350	$ 4,480	$ 1,154	$ 13,151
Meghan Young Social Media Specialist (10%) entire project. (4 hrs/wk @ $22.92/hr, with 3% COLA increase each year beginning SFY2021)		$ 3,300	$ 4,532	$ 4,668	$ 1,202	$ 13,702
Kelly Knollman-Porter, Ph.D. Consultant (10% AY) (4 hrs/wk for 32 wks in SFY2021 @ $47.56/hr, with 3% COLA increase each year beginning SFY2021)		$ 6,098	$ 7,538	$ 7,764	$ 1,333	$ 22,733
10% Summer (4 hrs/wk for 7 wks in SFY2021 @ $47.56/hr, with 3% COLA increase each year beginning SFY2021)		$ 1,220	$ 2,513	$ 2,588	$ 1,333	$ 7,654
Graduate Assistant (master's) 50% entire project (20 hrs/wk for 36 wks in SFY2020 @ $22.88/hr, with 3% COLA increase each year beginning SFY2021)		$ 16,474	$ 22,624	$ 23,302	$ 6,000	$ 68,400
Graduate Assistant (doctoral) 50% entire project (20 hrs/wk for 36 wks in SFY2020 @ $31.85/hr, with 3% COLA increase each year beginning SFY2021)		$ 22,932	$ 31,493	$ 32,437	$ 8,353	$ 95,215
Undergraduate students 20% entire project (8 hrs/wk for 36 wks @ $8.85/hr) – No COLA increase		$ 2,550	$ 2,550	$ 2,550	$ 510	$ 8,160

TOTAL SALARIES & WAGES		$114,144	$ 163,106	$167,920	$ 48,902	$ 494,072
FRINGE BENEFITS						
Staff @ 36.63% SFY20; 37.80% SFY21; 38.69% SFY22; 39.61% SFY23		$ 21,128	$ 28,937	$ 30,507	$ 7,036	$ 87,608
Summer and Part-time @ 16.44%		$ 2,385	$ 4,913	$ 5,061	$ 2,606	$ 14,965
Graduate Assistants and Undergraduate students @ 1.7%		$ 713	$ 963	$ 991	$ 253	$ 2,920
TOTAL FRINGE BENEFITS		$ 24,226	$ 34,813	$ 36,559	$ 9,895	$ 105,493
TRAVEL (See budget narrative)		$ 10,000	$ 12,000	$ 12,000	$ 2,500	$ 36,500
OTHER EXPENSES						
Conference Registration (see budget narrative)		$1,085	$2,185	$2,185	$1,100	$6,555
Photography		$ 375	$ 500	$ 500	$ 125	$ 1,500
Consultant: Sarah Humes, CTRS Rate per hour: ($26.04/hr x 4 hours/week)		$ 3,750	$ 5,000	$ 5,000	$ 1,250	$ 15,000
Consultant: Allison Heid, PhD, Rate per hour: ($52.08/hr x 4 hours/week)		$ 7,500	$ 10,000	$ 10,000	$ 2,500	$ 30,000
Consultant: Abby Spector, MMHS, Rate per hour: ($26.04/hr x 8 hours/week)		$ 7,500	$ 10,000	$ 10,000	$ 2,500	$ 30,000
Consultant: Karen Eshraghi, MSW Rate per hour: ($23.00/hr x 4 hours/week)		$ 3,750	$ 5,000	$ 5,000	$ 1,250	$ 15,000
Consultant: Victoria Crumbie, CTRS,Rate per Hour: ($26.04/hr x 4 hours/week)		$ 3,750	$ 5,000	$ 5,000	$ 1,250	$ 15,000
Consultant: Vanessa Burshnic,MA, Rate per hour: ($23/hr x 4.5 hours/week)		$ 3,750	$ 5,000	$ 5,000	$ 1,250	$ 15,000
Consultant: Susan Gilster, LNHA, Rate per hour: ($54/hr x 0.75 hours/week)		$ 1,500	$ 2,000	$ 2,000	$ 500	$ 6,000
Consultant: Webmaster (TBN), Rate per hour ($36.00/hr x 7 hours/week)		$ 9,000	$ 12,400	$ 12,750	$ 3,300	$ 37,450
Consultant: Lean Initiatives (TBN), Rate per hour: ($60/hr x 0.5 hours/week)		$ 1,125	$ 1,500	$ 1,500	$ 375	$ 4,500
Videographer ($50/hr x 150 hours)		$ 7,500	$ 25,000	$ 15,000	$ 2,500	$ 50,000
Website Server costs, domain registration costs, security certificate fee		$ 750	$ 1,000	$ 1,000	$ 250	$ 3,000
Signup Genius		$ -	$ 120	$ 120	$ 60	$ 300
Supplies include: laminating materials, print supplies (paper & color ink), USB drives, clipboards, digital recorder, binding supplies, sharpies, post-its		$ 1,125	$ 1,500	$ 1,200	$ 375	$ 4,200
TOTAL OTHER EXPENSES		$ 62,460	$ 98,205	$ 88,255	$ 21,085	$ 270,005

SUBCONTRACTS						
The Pennsylvania State University, includes Kimberly Van Haitsma salary at $100/hr x 6 hours/week,+ 3% yearly COLA, plus fringe @ 38.97% plus 10% indirect		$ 33,147	$ 45,300	$ 46,435	$ 11,900	$ 136,782
Linked Senior, includes software engineer salary & fringe combined at $45.49/hour x 40hours/week		$ 65,500	$ 88,000	$ 83,000	$ 20,500	$ 257,000
TOTAL SUBCONTRACTS		$ 98,647	$ 133,300	$ 129,435	$ 32,400	$ 393,782

TOTAL DIRECT COSTS		$ 299,477	$ 429,424	$ 422,169	$112,282	$ 1,265,352
Facilities & Administrative Costs (F&A) @ 10%, as limited by OH Dept. of Medicaid		$ 25,083	$ 29,612	$ 29,273	$ 7,988	$ 91,956
TOTAL PROJECT COSTS		$ 324,560	$ 459,036	$ 451,442	$120,270	$ 1,355,308

8. Involved organizations.

Miami University, Scripps Gerontology Center
The Pennsylvania State University
Linked Senior

9. Contacts.

Katherine Abbott, PhD, Associate Professor of Gerontology, Miami University, Fellow, Scripps Gerontology Center, abbottkm@miamioh.edu, 513-529-0869.

Kimberly Van Haitsma, PhD, Co-Investigator, Pennsylvania State University, Polisher Research Institute, ksv110@psu.edu, 814-865-7988.

Charles de Vilmorin, CEO, Linked Senior, cdevilmorin@linkedsenior.com, 202-277-2726

10. References

1. Centers for Medicare and Medicaid Services. (2017). MDS 3.0 frequency report: MDS national repository. Department of Health and Human Services. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/Minimum-Data-Set-3-0-Public-Reports/Minimum-Data-Set-3-0-Frequency-Report.html
2. Mayer, J.D., Salovey, P., Caruso, D.R. (2000). Models of emotional intelligence, in Sternberg, R.J. (2nd Eds); Handbook of Human Intelligence, Cambridge University Press, New York.
3. Pascolini, D. & Mariotti,S.P. (2012).Global estimates of visual impairment 2010. *British Journal of Ophthalmology,* 96:614-618.
4. Smith, S.L., Bennett, L.W., & Wilson, R.H. (2008). Prevalence and characteristics of dual sensory impairment (hearing and vision) in a veteran population. *Journal of Rehabilitation Research & Development, 45*(4), 597-609. https://doi.org/10.1682/JRRD.2007.02.0023
5. Swenor, B. K., Ramulu, P. Y., Willis, J. R., Friedman, D., & Lin, F. R. (2013). The prevalence of concurrent hearing and vision impairment in the United States. *JAMA internal medicine*, *173*(4), 312–313. doi:10.1001/jamainternmed.2013.1880

Appendix A: Peer Reviewed Journal Articles co-authored by Drs. Abbott & Van Haitsma related to preference-based, person-centered care.

1. VanHaitsma, K., Abbott, K.M., Arbogast, A., Bangerter, L., Heid, A., Behrens, L., Madrigal, C. (*in press*)"A Preference-Based Model of Care: An Integrative Theoretical Model of the Role of Preferences in Person-Centered Care" *The Gerontologist*.
2. Goldstein, C.N., Abbott, K.M., Bangerter, L.R., Kotterman, A., & Van Haitsma, K. (*in press)* "A bone of contention…": Perceived barriers and situational dependencies to food preferences of nursing home residents. *Journal of Nutrition in Gerontology and Geriatrics*.
3. Behrens, L., McGhan, G., Abbott, K., Fick, D., Kolanowski, A., Liu, Y., Buck, H., Rose, M., Heid, A., & VanHaitsma, K. (2019). Mapping Core Concepts of Person-Centered Care in Long-Term Services and Supports. Journal Gerontological Nursing, 45(2): 7-13. doi:10.3928/00989134-20190111-02.
4. Heid, A., Abbott, K., Kleban, M., Rovine, M., & VanHaitsma, K. (2019). The impact of nursing home residents' characteristics on ratings of importance of autonomy preferences in daily care over time. Journal of Aging and Mental Health, 5 (1-8). doi: 10.1080/13607863.2019.1584875
5. Sillner, A. Y., Buck, H., VanHaitsma, K., Behrens, L., & Abbott, K. M. (2018). Identifying preferences for everyday living in home health care: Recommendations from an expert panel. Home Health Care Management & Practice. doi: 10.1177/1084822318811319
6. Abbott, K. M., Heid, A. R., Kleban, M., Rovine, M. J., & VanHaitsma, K. (2018). The change in nursing home residents' preferences over time. Journal of the American Medical Directors Association, 19(12), 1092-1098. doi:10.1016/j.jamda.2018.08.004
7. Heid, A. R., Brnich, E., Eshraghi, K., Abbott, K.M., & Van Haitsma, K. (Published online February 28, 2019). The consistency of satisfaction ratings with preference fulfillment by older adults receiving long-term care: A pilot study. Annals of Long-Term Care. Sept/Oct 2018. doi:10.25270/altc.2019.01.00053
8. Gannod, G. C., Abbott, K. M., VanHaitsma, K., Martindale, N., & Heppner, A. (2019). A machine learning recommender system to tailor preference assessments to enhance person-centered care among nursing home residents. The Gerontologist, 59(1), 167-176. doi: 10.1093/geront/gny056.
9. Abbott, K. M., Bangerter, L. R., Humes, S., Klumpp, R., & VanHaitsma, K. (2018). "It's important, but…": Perceived barriers and situational dependencies to social contact preferences of nursing home residents. The Gerontologist, 58(6), 1126-1135. doi:10.1093/geront/gnx109
10. Abbott, K.M., Heid, A. R., Kleban, M., Rovine, M., J., & Van Haitsma, K. (2018). The change in nursing home residents' preferences over time. *Journal of the American Medical Directors Association, 19: 1092-1098.* https://doi.org/10.1016/J.JAMDA.2018.08.004
11. Abbott, K.M., Klumpp, R., Leser, K., Straker, J., Gannod, G., & Van Haitsma, K. (2018). Delivering Person-Centered Care: Important Preferences for Recipients of Long-term Services and Supports. *Journal of the American Medical Directors Association, 19*, 169-173. doi.org/10.1016/j.jamda.2017.10.005. Published online before print Nov. 14, 2017
12. Bangerter, L., Abbott, K.M., Heid, A.R., Eshraghi, K., &Van Haitsma, K. (2017). Using spontaneous commentary of nursing home residents to develop resident-centered measurement tools: A case study. *Geriatric Nursing, 38*(6), 548-550. doi.org/10.1016/j.gerinurse.2017.04.003.
13. Heid, A. R., Van Haitsma, K., Kleban, M., Rovine, M., J., & Abbott, K.M. (2017). Examining clinical predictors of change in recreational preference congruence among nursing home

residents over time. *Journal of Applied Gerontology, 36*(11), 1351-1369. doi:10.1177/0733464815617288. Published online before print November 30, 2015.
14. Abbott, K.M., Sefcik, J., & Van Haitsma, K. (2017). Measuring social integration among residents in a dementia special care unit vs. traditional nursing home: A pilot study. *Dementia: The International Journal of Social Research and Practice, 16*(3), 388-403. doi.org/10.1177/1471301215594950. Published online before print July 22, 2015.
15. Bangerter, L., Heid, A.R., Abbott, K.M., & Van Haitsma, K. (2017). Honoring the everyday preferences of nursing home residents: Perceived choice and satisfaction with care. *The Gerontologist,* Vol. 57, No. 3, 479-486. doi: 10.1093/geront/gnv697.
16. Heid.A.R, Bangerter, M.A., Abbott, K.M., Van Haitsma, K. (2017). Do family proxies get it right? Concordance in reports of nursing home residents' everyday preferences. *Journal of Applied Gerontology,* Vol. 36, No. 6, pg 667-691. doi:10.1177/0733464815581485.
17. Abbott, K.M., Heid, A.R., & Van Haitsma, K. (2016). "We can't provide season tickets to the opera": Staff perceptions of providing preference based person centered care. *Clinical Gerontologist*, 39(3), 190-209. doi:10.1080/07317115.2016.1151968.
18. Bangerter, L.R., Abbott, K.M., Heid, A.R., Klumpp, R.E., & Van Haitsma, K. (2016). Healthcare preferences of nursing home residents: Perceived barriers and situational dependencies. *Journal of Gerontological Nursing, 42*(2), 11-16. doi: 10.3928/00989134-20151218-02.
19. Van Haitsma, V., Abbott, K.M., Heid, A., Spector, A., Eshraghi, K., Duntzee, C., Humes, S., Crumbie, V., Crespy, S., Van Valkenburgh-Schultz, M. (2016). Honoring nursing home resident preferences for recreational activities to advance person-centered care. *Annals of Long-Term Care and Aging*, 24(2): 25-33. doi: 10.1177/0733464815617288
20. Bangerter, L., Heid, A., Abbott, K.M., & Van Haitsma, K. (2016). "Make me feel at ease and at home" Differential care preferences of nursing home residents. *The Gerontologist*, 56 (4), 702-713. doi: 10.1093/geront/gnv026
21. Heid, A.R., Eshraghi, K., Duntzee, C., Abbott, K.M., Curyto, K., & Van Haitmsa, K. (2016). 'It depends': Reasons why nursing home residents change their minds about care preferences. *The Gerontologist, 56 (2), 243-255.* doi: 10.1093/geront/gnu040
22. Van Haitsma, K., Curyto, K., Abbott, K.M., Towsley, G., Spector, A., & Kleban, M. (2015). A randomized controlled trial for an individualized positive psychosocial intervention for the affective and behavioral symptoms of dementia in nursing home residents. *Journal of Gerontology: Psychological Sciences, 70*(1), 35-45. doi:10.1093/geronb/gbt102.
23. Van Haitsma, K., Abbott, K.M., Heid, A.R., Carpenter, B., Curyto, K., Kleban, M., Eshraghi, K., Suntzee, C., & Spector, A. (2014). The consistency of self-reported preferences for everyday living: Implications for person centered care delivery. *Journal of Gerontological Nursing, 40(1), 34-46*. doi: 10.3928/00989134-20140820-01
24. Van Haitsma, K., Crespy, S., Humes, S., Elliot, A., Mihelic, A., Scott, C., Curyto, K., Spector, A., Eshraghi, K., Duntzee, C., Reamy, A., & Abbott, K.M. (2014). New toolkit to measure quality of person-centered care: Development and pilot evaluation with nursing home communities. *Journal of the American Medical Directors Association, 15*(9), 671-680. doi: 10.1016/j.jamda.2014.02.004.

QUALITY IMPROVEMENT | CREATING AUDIT TRAILS FOR YOUR *PELI – PIP DRAFT*

To determine whether your efforts to improve preference assessment and fulfillment are working successfully, **consider holding discussions with staff, residents and families as well as collecting quantitative data**. One option is to convene periodic **"Retrospectives,"** which **are time-limited meetings where team members reflect on what happened as new practices were put into place**.

Retrospectives explore: **What worked well? What didn't work well? What is the impact of the new practice on our community? What steps should we take to improve?** Quality improvement literature emphasizes the importance of establishing a culture of honesty and trust as the basis for these conversations.

Also, your team will want to **review objective data** showing how well new processes are working. The indicators below provide a starting point for thinking through the questions you would like to answer and the data you will need to collect. **The Institute for Healthcare Improvement recommends gathering "just enough" data to help you gauge whether your change is working.** The process does not need to be overly detailed. Often reviewing a **sample of cases** provides the information you need. In addition, your team will want to plan how to store the data you collect as well as how to use and communicate it. Over time, you may develop benchmarks for success.

INDICATOR 1: ARE PELI ASSESSMENTS COMPLETED ON A TIMELY BASIS?

- Establish a standard for the timing of *PELI* assessments (for example, within 72 hours, 14 days or 21 days of admission to the community). Track how often *PELI* assessments are completed within this timeframe.
- Track how often *PELI* interviews are re-assessed annually or upon significant change.
- What are the reasons that *PELI* assessments are not completed on a timely basis?
- Develop processes for assessing the preferences of a person living with dementia, involving both proxy reports and observations by staff.

INDICATOR 2: DO CARE PLANS REFLECT EACH PERSON'S IMPORTANT PREFERENCES?

- Track the number of times the *PELI* is completed in time for a person's initial care planning meeting.
- Analyze whether care plans reflect each individual's important preferences as revealed during PELI interviews.
- Track how often certified nursing assistants attend care planning meetings. If not, why not?
- Track resident attendance at activities. Do residents attend activities that match their important preferences captured in the PELI interview? Do residents attend activities suggested in care plans?
- Develop process for integrating preference data into quarterly care planning meetings for people with dementia.

INDICATOR 3: DO FAMILY AND FRIENDS PROVIDE PREFERENCE INFORMATION FOR LOVED ONES?

- Track how often *PELI* interviews are not completed and why.
- For these cases, track whether a staff member attempts to interview the resident on 3 different days and times.
- Track whether a family member is available to provide preference information for the individual.
- Track whether and how a staff person reaches out to families. For example, do staff include the PELI questionnaire in the move-in packet for the family? Do staff call or email the family?
- Track whether family members complete and return the PELI.

- Track whether staff members follow up with families when the *PELI* is not returned.

INDICATOR 4: DO CARE TEAM MEMBERS OBSERVE RESIDENTS TO DISCOVER PREFERENCES?

- Staff observation of emotion (*training video to be developed)*
- Track attendance at sessions that train staff in observational skills.
- Document whether staff observe and record resident affect and behavior to gauge likes and dislikes.

INDICATOR 5: ARE RESIDENTS ATTENDING PREFERRED ACTIVITIES?

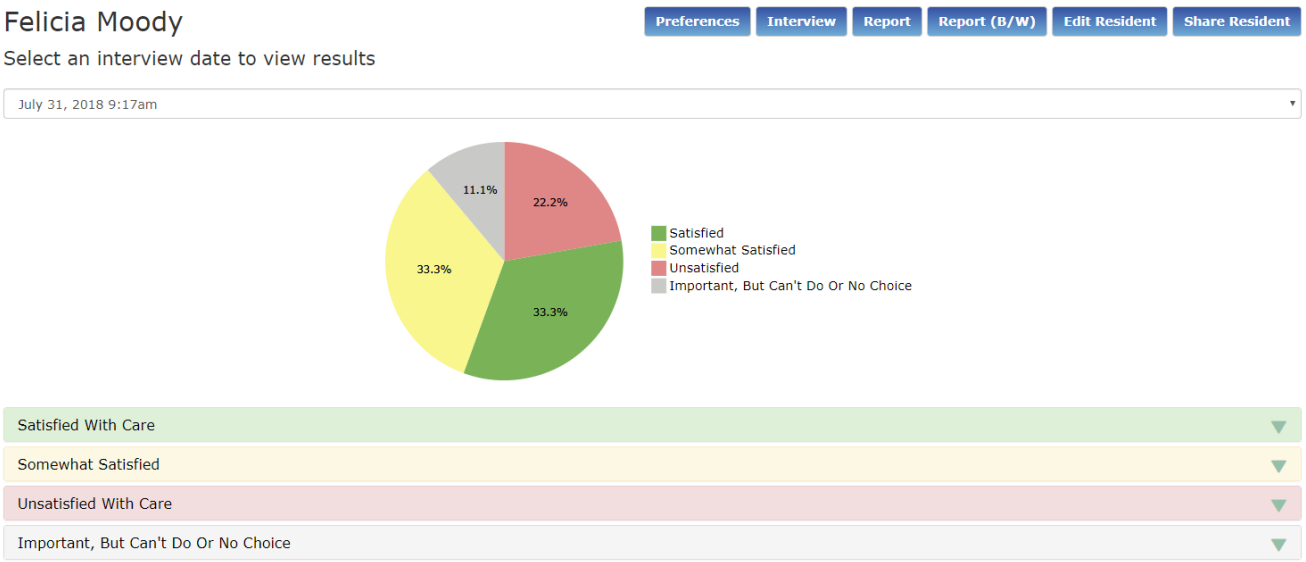
- Track attendance at activities -- does care match the person's preference? (*Match Tracker*)
    - Match activities offered to preferences
    - Track attendance to activities
    - Measure if people attend activities they indicated were important.
    - For example, if someone indicates that listening to music is important, are they attending (list types of music activities).
    - If not, why not?
- If people refuse to attend activities, why?
- Track whether a given preference was honored (for example, offering a morning bath).
- What would this look like for personal care?
    - For example, if someone has a preferred wake time of 8am, is the CNA honoring that preference?

INDICATOR 6: MEASURE RESIDENT SATISFACTION OUTCOMES

Use ComPASS to assess resident satisfaction with preference fulfillment.

- Have you reviewed an individual's preference congruence pie chart report (see Figure 3 example below)?
    - Celebrate the green areas! Those indicate that the person is satisfied with their preference being met!
    - Explore yellow and red areas for ways to make them green.
    - If you have data over time, explore the graph to look for trends.

Figure 3. Example of an Individual Resident Preference Fulfillment Report.

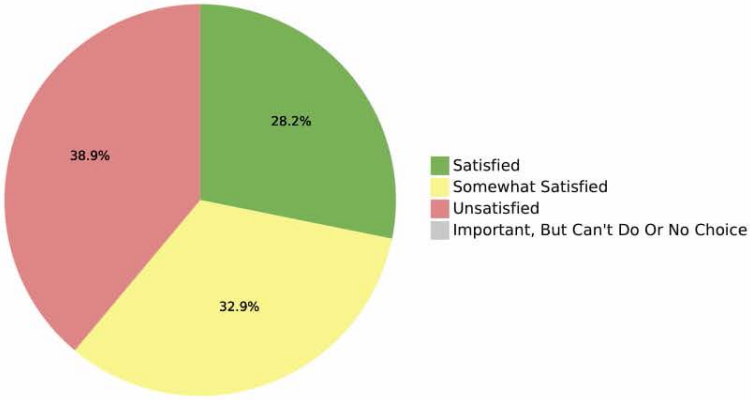


- Have you reviewed the neighborhood preference congruence report (see Figure 4 example below)?
    - Celebrate preferences that are mostly green! This indicates that most people in the neighborhood are satisfied with that preference being met.
    - Explore yellow and red areas for ways to make them green.
    - If you have data over time, explore the graph to look for trends.

Figure 4. Example of a Neighborhood Report.

CSC Neighborhood Report

Generated on 09/07/2018



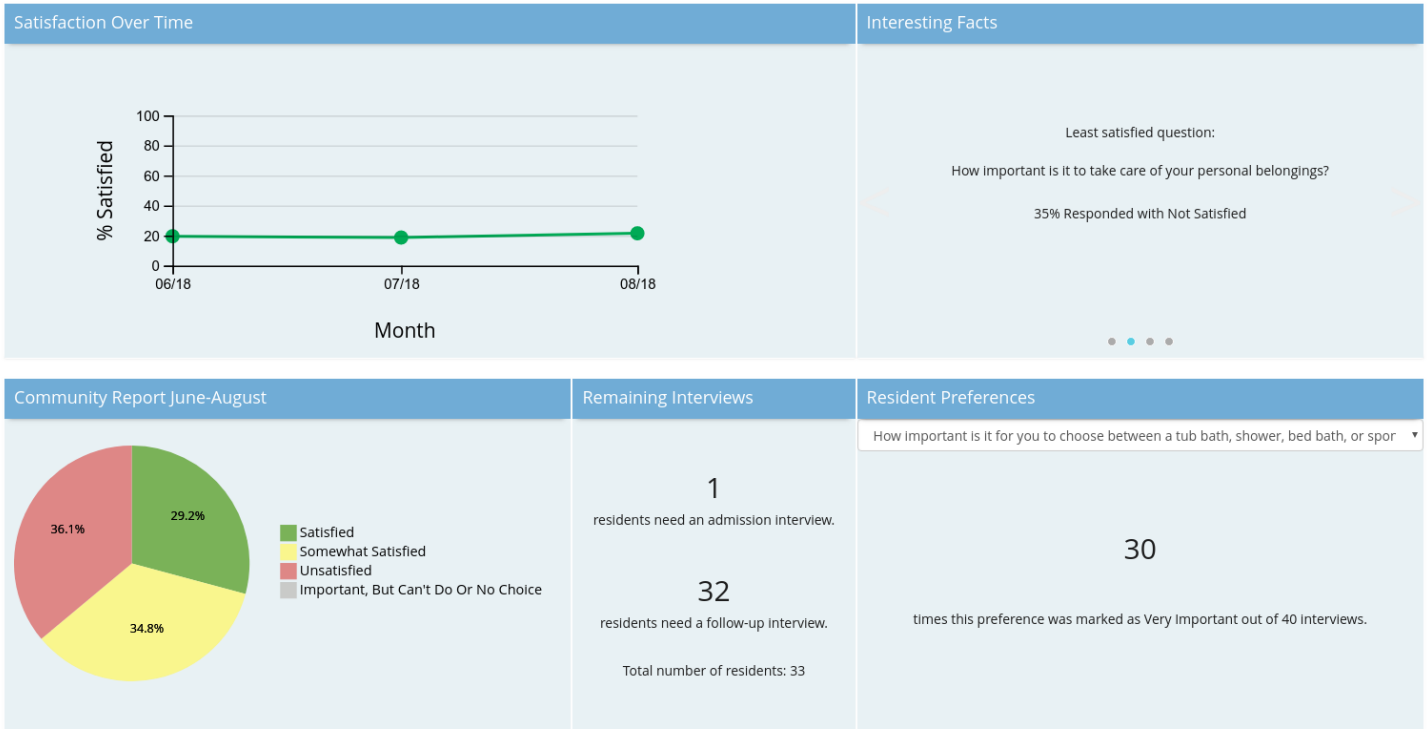
Interview Questions

Note: The colors in the boxes get deeper as the percentage gets higher. Deep green is good; deep red is not so good.

Question	Important	Satisfied	Somewhat Satisfied	Unsatisfied	Important, But Can't Do Or No Choice	How Are We Doing
(F0400G) How important is it to be able to use the phone in private?	29 / 32	17.4%	34.8%	47.8%	0.0%	
(F0500B) How important is it for you to listen to the music you like?	31 / 32	25.9%	37.0%	37.0%	0.0%	
(F0400B) How important is it to take care of your personal belongings?	30 / 32	30.4%	17.4%	52.2%	0.0%	
(F0400C) How important is it for you to choose between a tub bath, shower, bed bath, or sponge bath?	28 / 32	22.7%	36.4%	40.9%	0.0%	
(F0500D) How important is it for you to keep up with the news?	27 / 32	26.1%	30.4%	43.5%	0.0%	
(F0500F) How important is it for you to do your favorite activities?	32 / 32	21.7%	43.5%	34.8%	0.0%	
(F0400E) How important is it to choose your own bedtime?	27 / 32	21.1%	47.4%	31.6%	0.0%	
(F0400F) How important is it to choose who you would like involved in discussions about your care?	32 / 32	30.4%	39.1%	30.4%	0.0%	
(F0400H) How important is it for you to lock things up to keep them safe?	27 / 32	31.8%	36.4%	31.8%	0.0%	
(F0500E) How important is it to do things with groups of people?	24 / 32	27.8%	27.8%	44.4%	0.0%	
(F0400D) How important is it to have snacks available between meals?	24 / 32	35.0%	35.0%	30.0%	0.0%	
(F0400A) How important is it for you to choose what clothes to wear?	26 / 32	40.0%	15.0%	45.0%	0.0%	
(F0500C) How important is it to be around animals such as pets?	20 / 32	33.3%	26.7%	40.0%	0.0%	
(F0500H) How important is it to participate in religious services or practices?	19 / 32	28.6%	35.7%	35.7%	0.0%	
(F0500G) How important is it to go outside to get fresh air when the weather is good?	26 / 32	37.5%	31.3%	31.3%	0.0%	
(F0500A) How important is it to have reading materials available to you?	9 / 32	25.0%	25.0%	50.0%	0.0%	

- Have you reviewed the dashboard for overall community preference congruence (see Figure 5 example below)?
    - Celebrate preferences that are mostly green! This indicates that most people in the community are satisfied with that preference being met.
    - Explore yellow and red areas for ways to make them green.
    - If you have data over time, explore the graph to look for trends.

Figure 5. Example of Overall Community Dashboard.



Appendix C Letters of Support

FOX RUN
MANOR

a tradition of caring

August 20, 2019

Dear Dr. Abbott,

Fox Run Manor is proud to support and participate in your project titled: *Increasing the Preference-based Care of People in Ohio's Nursing Homes with a Special Focus on People Living with Dementia.* We have memory support programming and are definitely interested in learning more about the evidenced based interventions you have developed for people with dementia. We understand that you will offer two Quality Improvement Projects (QIPs) through the Ohio Department of Aging. The first will be related to communicating important preferences via PAL Cards. I have heard about the PAL Cards, but we have not attempted to implement them in our community. We appreciate QIPs that allow us to test a small scale intervention to see if it will meet the needs of our community. The second QIP will focus on short evidenced-based interventions tailored to the important activity and personal care preferences of our residents. We are eager to learn the latest from your research in order to continue to provide the highest care possible.

Sincerely,

Kate Mennel
Administrator

11745 Twp. Road 145 • Findlay, OH 45840 • Phone (419) 424-0832 • Fax (419) 424-3870 • www.FoxRunManor.com

HILLEBRAND
NURSING & REHABILITATION
CENTER
Since 1967

August 19, 2019

Dear Dr. Abbott,

We at Hillebrand Nursing and Rehabilitation Center are writing to express our great interest in participating in your evidenced-based quality improvement projects. As a resident-directed community we are eager to pilot test evidenced-based strategies that honor resident preferences and empower staff. The PAL Card QIP would help us communicate important resident preferences across residents, staff, family members, and volunteers. Importantly, the Individualized Positive Psychosocial Intervention (IPPI) would help us respond to and possibly prevent residents who are communicating distress through behavioral and psychological symptoms of dementia. As more and more people with dementia are entering our community we seek to stay on top of the latest developments in research from the Scripps Gerontology Center.

Sincerely,

Kimberly T Berner RN BSN

Kimberly T Berner RN BSN
Director of Nursing
don@hillebrandhealth.com
513-574-4550 (w) 513-582-7111 (c)

LSS THE GOOD SHEPHERD

622 Center St.
Ashland, Ohio 44805
Phone 419-289-3523
Fax 419-281-0656
LSSnetworkofhope.org

August 21, 2019

Dear Dr. Abbott,

We are writing to provide our strongest support possible for your project titled: *Increasing the Preference-based Care of People in Ohio's Nursing Homes with a Special Focus on People Living with Dementia*. We participated in the quality improvement project you offered in 2018 with great success. LSS The Good Shepherd is committed to person centered care and we want to continuously improve through participating in QIPs you seek to offer through your new proposal.

Sincerely,

Terry McQuillen

Director of Life Enrichment

Lss The Good Shepherd

622 Center St. Ashland Oh.

Ombudsman
Expect Excellence in Your Care

Beverley L. Laubert,
State Long-Term Care Ombudsman

August 2, 2019

Dr. Katherine Abbott
Scripps Gerontology Center
Miami University
529 Upham Hall
Oxford, OH 45056

Dear Dr. Abbott,

Thank you for asking us to review your proposed Civil Money Penalty (CMP) project titled, *Increasing the Preference-based Care of People in Ohio's Nursing Homes with a Special Focus on People Living with Dementia*.

As you know, each licensed nursing home in Ohio must participate in at least one QIP approved by our office every two years. Providers consistently contact our office seeking referrals to new and innovative projects they can complete to meet this requirement and we have no doubt you will see many new project enrollees eager to be on the forefront of innovative long-term care strategies to meet residents' needs. We will work with you to make sure that the two QIPs you propose are approved by our department and offered to all 960 licensed nursing homes in the state. Since your last project successfully recruited 44 homes and our most recent Person-Centered Staff Engagement Project included more than 100 homes, I'm confident that you will meet the stated outcome of engaging with 45 providers. We will post the approved QI projects on our website and circulate the information to our regional ombudsman representatives as a resource to nursing homes.

Converting your Leadership Communication Training into an on-line course available to individuals at no cost will support improved care for residents living with dementia by helping direct care workers learn how to pay attention to body language in residents, especially facial expressions. These observations can assist with learning about an individual's preferences and prevent the communication of distress or other expressions. Better responses may alleviate unnecessary antipsychotic drug use and involuntary discharges. We look forward to working with you on communication about the project.

Best regards,

Beverley L Laubert

Beverley Laubert
State Long-Term Care Ombudsman

246 N. High St. / 1st Fl.
Columbus, OH 43215-2406 U.S.A.
http://ombudsman.ohio.gov

Main: (800) 282-1206 (TTY dial 711)
Fax: (614) 644-5201
Email: OhioOmbudsman@age.ohio.gov

Ohio Living
Sarah Moore

August 21, 2019

Dear Dr. Abbott,

We recently completed the Engaging Staff in Quality project and are searching for another quality improvement project (QIP) that will have positive impact on our residents as well as satisfy the CMS QIP requirement. Our new Activity Director, Andrea Banks, was telling me about the PELI PAL cards and said that they are great tools that staff can use to improve the delivery of care. We are eager to participate in a similar QIP you may be offering through your proposal under review titled: *Increasing the Preference-based Care of People in Ohio's Nursing Homes with a Special Focus on People Living with Dementia.* We look forward to working with you in the near future.

Sincerely,

Aric L. Arnett
Executive Director
Ohio Living Sarah Moore

Pioneer Network

Changing the culture of aging in the 21st century

Joan Devine
Director of Education
Pioneer Network
P.O. Box 18609
Rochester, NY 14618

July 29, 2019

Dear Dr. Abbott,

I am writing this letter to provide our strongest support possible for your Civil Money Penalty (CMP) project titled: *Increasing the Preference-based Care of People in Ohio's Nursing Homes with a Special Focus on People Living with Dementia*. Pioneer Network is the national leader of the culture change movement, helping care providers to transition away from a medical, institutional model of elder care to one that is life affirming, satisfying, humane and meaningful. Pioneer Network advocates for a culture of aging in which individual voices are heard and individual choices are respected. Our goal is transformational culture change in organizations to foster care that is directed by the person receiving it. Your team has been asked to present at our Annual Conference four years in a row due to the evidenced-based nature of your work and its relevance to supporting staff who seek to provide person-centered care. Your sessions are intensive workshops, which provide substantive training to attendees and are always very highly rated. These sessions help nursing home provider staff learn how to assess resident important preferences and incorporate those preferences into the plan of care, which is of direct benefit to residents. I can think of no other training that is as in demand by attendees where they can return to their communities and immediately implement to improve resident quality of care and quality of life. In addition, your Leadership Communication Training fills a major hole in LTSS education with its emphasis on empowering direct care workers to learn to recognize their own emotions in order to deliver better care to resident's living with dementia. We will support the dissemination of your free training through our website and email communications in addition to our future Annual Conferences.

Thank you for your commitment to partnering with our nation's nursing home providers to improve the quality of care and quality of life of residents. We look forward to continuing to work with you.

Sincerely,

Joan Devine,
Director of Education
Pioneer Network

Stow-Glen Retirement Village

4285 Kent Road Stow. OH 44224 • 330-686-2545

August 21, 2019

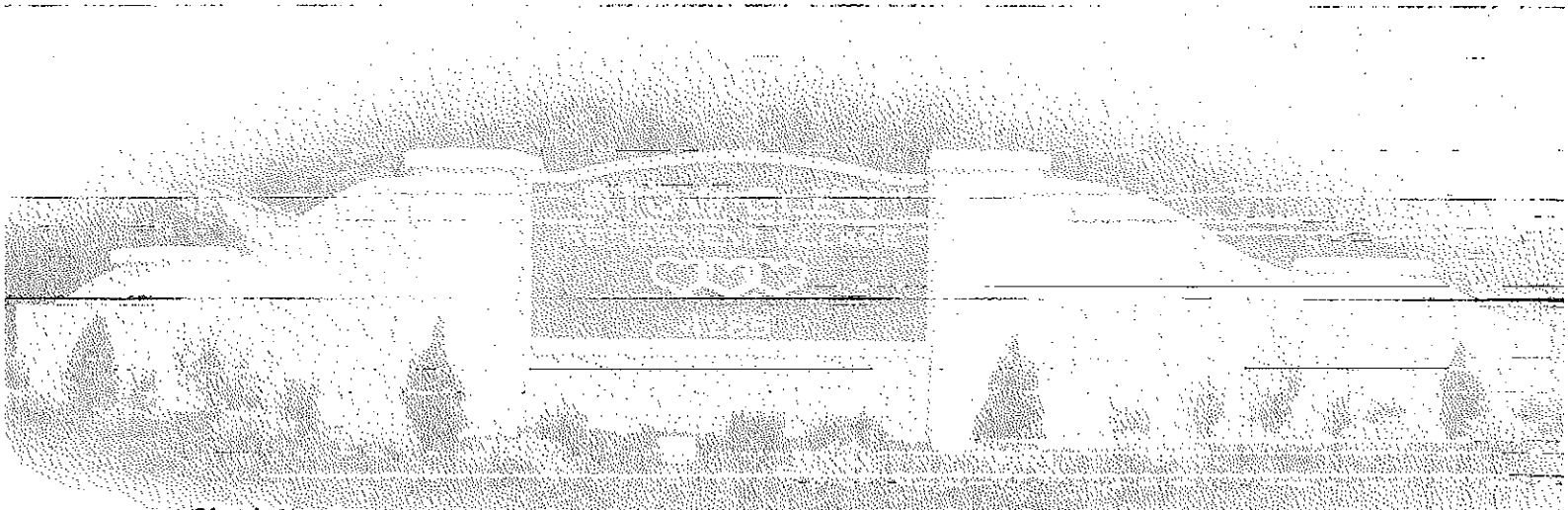
Dear Dr. Abbott,

This letter is to convey our complete support and interest in participating in your new project titled: *Increasing the Preference-based Care of People in Ohio's Nursing Homes with a Special Focus on People Living with Dementia*. Stow-Glen Retirement Village participated in the PAL Card QIP you offered in 2018 and was impressed by the structure and quality of your evidenced-based program. We are delighted that you are going to focus on new QIPs for individuals living with dementia and are eager to work with you again.

Sincerely,

Laura Saxton

Laura Saxton



theknolls
OF OXFORD

6727 Contreras Road
Oxford, Ohio 45056
Tel 513.524.7990 **Fax** 513.524.7769
knollsofoxford.org

August 22, 2019

Dear Dr. Abbott,

We are delighted to hear that you are continuing to pursue funding to support the assessment and integration of important preferences for nursing home residents. As your partner in the conceptualization and testing of PAL Cards we enthusiastically support your latest efforts with the PELI Phase II project. Specifically, we hope to participate in the evidenced-based QIPs you will be offering. We have experienced the benefits of enhanced assessment and communication of resident preferences and we look forward to working with you to implement solutions that will directly aid residents with dementia.

Sincerely,

Ross Farnsworth

Ross Farnsworth, LNHA

Executive Director

VANCREST
Health Care Centers

August 20, 2019

Dear Dr. Abbott,

This letter is being written in regards to indicate our support and interest in participating in your proposed project *Increasing the Preference-based Care of People in Ohio's Nursing Homes with a Special Focus on People Living with Dementia.*

We understand that you will offer two Quality Improvement Projects through the Ohio Department of Aging related to assessing and honoring the important preferences of nursing home residents. We do serve individuals with dementia and welcome the opportunity to work with you to learn about innovative, evidenced-based approaches to improving the quality of care and quality of life of our residents.

Sincerely,

Scott White, LNHA
Administrator

10357 Van Wert Decatur Road • Van Wert, OH 45891 • (419) 238-4646 • Fax (419) 238-5727

Van Haitsma, K.S., Curyto, K., Abbott, K.M., Towsley, G.L., Spector, A., & Kleban, M., (2015). A randomized controlled trial for an individualized positive psychosocial intervention for the affective and behavioral symptoms of dementia in nursing home residents. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, *70(1)*, 35–45, doi:10.1093/geronb/gbt102.
Advance Access publication December 4, 2013

A Randomized Controlled Trial for an Individualized Positive Psychosocial Intervention for the Affective and Behavioral Symptoms of Dementia in Nursing Home Residents

Kimberly S. Van Haitsma,[1] Kimberly Curyto,[2] Katherine M. Abbott,[1] Gail L. Towsley,[3] Abby Spector,[4] and Morton Kleban[1]

[1]Polisher Research Institute, Madlyn and Leonard Abramson Center for Jewish Life, North Wales, Pennsylvania.
[2]VA Western NY Healthcare System, Batavia, New York.
[3]College of Nursing, University of Utah, Salt Lake City.
[4]Spector Consulting, Bala Cynwyd, Pennsylvania.

Objectives. This randomized controlled study tested the effectiveness of individualized activities, led by certified nursing assistants (CNAs), to increase positive and reduce negative affect and behavior among nursing home residents with dementia.

Method. Nursing home residents with mild to advanced dementia (N = 180) were randomly assigned to usual care (UC, n = 93) or 1 of 2 experimental conditions. Residents in the attention control group (AC, N = 43) participated in standardized one-to-one activities with their CNAs. Individualized Positive Psychosocial Intervention (IPPI) participants (n = 44) received a CNA-led activity matched to their interests and ability. Outcomes were residents' positive and negative affect and verbal and nonverbal behavior.

Results. The IPPI and AC groups experienced similar benefits—more pleasure, alertness, engagement, positive touch, and positive verbal behavior—compared with UC. The AC group displayed more anger, uncooperativeness, and very negative verbal behavior than UC or IPPI.

Discussion. This study demonstrates the value of individualized activities for nursing home residents with dementia. In a stringent test, residents were happier and less angry during a customized intervention compared with a standardized intervention. Even brief individualized CNA-led activities bring pleasure to nursing home residents and constitute an effective strategy to enhance positive affect and engagement in persons with dementia.

Key Words: Activity intervention—Behavioral symptoms—Dementia—Nursing home—Positive and negative affect—Preferences—Randomized control trial

NURSING homes are moving toward a person-centered model of care that aims to enable residents to achieve their highest practicable level of physical, mental, and psychosocial well-being (Advancing Excellence in America's Nursing Homes, 2013). A central tenet of the model is that employees should take the time to understand each resident's distinct needs and preferences and customize care accordingly. For residents with dementia, this can be a particularly important but complex task. Nursing home residents with dementia are at special risk for diminished well-being (Whall & Kolanowski, 2004), yet they often cannot articulate their needs and preferences. Researchers have documented cognitively impaired residents' behavior symptoms, which may be due in part to needs and preferences that are unaddressed (Kovach, Noonan, Schlidt, & Wells, 2005). The present study examines the effectiveness of a preference-based recreational activity intervention to improve well-being in nursing home residents with dementia that addresses some of those unmet needs. In a randomized clinical trial (RCT), the project tested whether customized one-to-one activities led by a certified nursing assistant (CNA) increased positive and reduced negative affect and behavior.

Theoretical Models

Previous research has affirmed the relevance of theoretical models of Person-Environment Fit to activity-based interventions such as the one utilized by the study (Algase et al., 1996; Kahana, Lovegreen, Kahana, & Kahana, 2003; Lawton et al., 1998). The current intervention study seeks to understand the critical role of customizing care in the context of two theoretical models drawn from outside of traditional gerontology, namely, Self-Determination Theory (SDT) and Broaden-and-Build Theory.

SDT is a model of personality and motivation, which proposes that all people have innate needs for autonomy,

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Decision Editor: Laura L. Carstensen, PhD

competence, and relatedness, which must be fulfilled for psychological well-being throughout the life course (Deci & Ryan, 2000; Kasser & Ryan, 1999). According to the theory, individual internal factors and environmental factors that support satisfying these needs "maintain and enhance the self" (Kasser & Ryan, 1999), whereas aspects that "undermine need fulfillment result in negative functional consequences for mental health" (Deci & Ryan, 2000).

Indeed, SDT-based research has found that nursing home residents report lower depression and better health, life satisfaction, and psychological adjustment when they have greater autonomy in recreational, interpersonal, religious, and self-care activities (Vallerand & O'Connor, 1989). Also, studies have shown a positive correlation between satisfaction of needs for autonomy and relatedness with psychological outcomes (Kasser & Ryan, 1999). Deci and Ryan's work suggests that addressing nursing home residents' preferences is critical to meeting their basic psychological needs. Listening to and supporting a person's preferences promotes autonomy; following them may reinforce a sense of competence and connectedness. Other studies have shown that resident outcomes for customized interventions are best when staff understand a person's past identity, as well as current preferences and abilities, and then match care to these factors (Penrod et al., 2007). Assisting nursing home residents "to find or construct the necessary nourishment," through meaningful activities and relationships, is important to promoting their optimal functioning and psychological health (Deci & Ryan, 2000. p. 229).

The Broaden-and-Build Theory by Fredrickson (1998, 2001, 2004) highlights the critical role of positive emotions, which, even if experienced briefly, widen a person's behavioral repertoire, in contrast to negative emotions, which tend to constrict behavior. Recent studies show that positive affect can increase a person's attention and cognition, improve the immune response, and speed the recovery from adverse events (Garland et al., 2010; Ryff & Singer, 2009). These effects can lead to further engagement in positive experiences and eventually an upward spiral of emotions that contribute to overall well-being and social connectedness. This framework has profound implications for nursing home residents, who have infrequent positive experiences (Garland et al., 2010). Fredrickson and Losada (2005) have established the importance of positive affect for well-being and demonstrated that a positive-to-negative affect ratio of 2.9 distinguishes individuals who are flourishing from those who are languishing. Although the theory still is being tested with older adults, an initial study found that the positive-to-negative ratio differentiated high levels of well-being in community-residing elders, as well as in nursing home residents (Meeks, Van Haitsma, Kostiwa, & Murrell, 2012). The data reinforce the importance of uplifting experiences for even the frailest older adults.

Elimination or reduction of negative behaviors may be too narrow an outcome to fully capture treatment benefits. Using definition of mental health as flourishing rather than merely the absence of mental illness by Keyes (2007), the elimination of agitation, for example, might not equate with improved well-being in nursing home residents with dementia. In fact, residents' behavioral symptoms function as a way to communicate unmet needs, so eliminating these behaviors without an understanding of their meaning may be conceptually flawed (Beck et al., 2002). Collectively, these theories underscore the need for nursing home employees to take time to understand residents' individual preferences. Honoring resident psychosocial preferences through providing experiences that engender feelings of pleasure, competence, and connectedness is critical for human well-being.

Empirical Research on Individualized Activities

Research examining the efficacy of nonpharmacological interventions to reduce behavioral symptoms associated with dementia has shown modest effects (Kroes, Garcia-Stewart, Allen, Eyssen, & Paulus, 2011; O'Neil et al., 2011). Kroes and colleagues (2011) found support for physical activity and cognitive stimulation/training programs, whereas O'Neil and colleagues (2011) reported that aromatherapy, music therapy, massage therapy, and exercise may have merit in reducing dementia symptoms. Both authors cite a paucity of RCT to determine whether interventions produce meaningful symptom reduction and highlight the promise of interventions that are tailored to the individual. Kroes and colleagues noted that tailored interventions may yield more positive outcomes, whereas O'Neil and colleagues reported that targeted and individualized approaches may be effective in decreasing behavioral symptoms of dementia.

In a study conducted by Kolanowski, Litaker, and Buettner (2005), nursing home residents (n = 30) were randomly assigned to activities matched to their skill level, style of interest, or a combination of the two. In the two groups where activities were matched to interests, residents showed significantly more time on task, greater participation, more positive affect, and less passivity. Agitation and negative affect improved under all treatments compared with baseline, but mood did not change. Similarly, in a 2011 RCT, cognitively impaired residents (n = 128) were assigned to activities adjusted to functional level, personality style of interest, a combination of functional level and interest, or active control (Kolanowski, Litaker, Buettner, Moeller & Costa, 2011). During the intervention, all treatment group outcomes improved except mood, which worsened under active control. The two groups with interest-matched activities fared best. The interest-only group demonstrated greater engagement, alertness, and attention, whereas the combined functional/interest group showed greater pleasure than others. Both groups showed less

agitation and passivity. The efficacy studies by Kolanowski and colleagues (2005, 2011), using highly trained research assistants (RAs) as interventionists, found that outcomes improve when activities match individual interests. Our research builds on these findings.

Study Purpose

The purpose of this RCT was to test the effectiveness of a preference-based activity intervention to improve affect and behavioral engagement, as well as reduce negative affect and behaviors, in nursing home residents with dementia. Residents were randomly assigned either to usual care or to one of two experimental conditions in which CNAs led one-to-one activities. In the first experimental group, the CNA led a standard activity, looking through a magazine and conversing with a resident. In the second group, the CNA led an activity tailored to the individual's current preferences and abilities. RAs recorded behavioral and affective states before, during, and within a 30-min period after the intervention.

Hypotheses

In line with current literature, we hypothesized that introducing one-to-one activity interventions would reduce residents' negative affect (anger, anxiety, sadness), as well as negative verbal and nonverbal behaviors (e.g., withdrawal, agitation, null behavior, restlessness, aggression) controlling for physical function, cognition, and withdrawal behavior. In addition, we hypothesized that individuals receiving the intervention would have increased instances of positive affect (e.g., pleasure, interest), as well as positive verbal and nonverbal behaviors (e.g., engagement in meaningful activity, coherent verbalizations, time on psychosocial task, positive touch and gesture) controlling for physical function, cognition, and withdrawal behavior. We expected to find the most benefit for residents receiving the individualized, preference-based intervention, followed by those taking part in the attention control activity.

Methods

Measures

Data from the Minimum Data Set (MDS; Morris et al., 1990) were used, in the form of composite score for Activities of Daily Living (ADL; Lawton et al., 1998). The ADL scale consists of ten 5-point items related to physical self-maintenance abilities ranging from 0 = independent to 4 = total dependence (range 0–40).

The Preferences for Everyday Living Inventory-Nursing Home (PELI-NH; Van Haitsma, 2000) was used to collect information about the Individualized Positive Psychosocial Intervention (IPPI) group's leisure interests. This 53-item tool incorporated many items directly from the Pleasant Events Scale (Logsdon & Teri, 1997) but eliminated and replaced items that were not suitable for more severely impaired nursing home population. The scale assesses preferences in five activity categories derived from concept mapping procedures (Carpenter, Van Haitsma, Ruckdeschel, & Lawton, 2000): Caregivers and care, Diversionary Activities, Growth Activities, Self-dominion, and Social contact. The tool can be administered to older adults, family members, and formal caregivers (Van Haitsma, 2000).

To measure cognitive function, we used the Mini-Mental State Examination (Folstein, Folstein, & McHugh, 1975)—a tool widely used to assess orientation to time and place, recall ability, short-term memory, and arithmetic ability in elderly patients. The Mini-Mental State Exam (MMSE) total score ranges from 0 to 30 and reflects the number of correct responses. A subscale from the Multidimensional Observation Scale for Elderly Subjects (MOSES; Helmes, Csapo, & Short, 1987) was used to measure withdrawal behavior. The full MOSES consists of 40 items about a broad variety of observable behaviors displayed by older people in residential care, each phrased as a 4-point frequency scale. Withdrawal is a factor-derived subscale consisting of eight items denoting the presence or absence of social behaviors and behavioral interest in external activities, as rated by CNAs (Pruchno, Kleban, & Resch, 1988). Higher values indicate greater withdrawal behavior.

Major Outcome Measures

Outcome measures were collected through direct observations in the form of 10-min "behavior streams." Resident behavior, location, and affect state were recorded. The observational hardware (the Psion event recorder) and software (The Observer) have been described in detail elsewhere (Lawton, Van Haitsma, & Klapper, 1996; Meeks, Looney, VanHaitsma, & Teri, 2008; Van Haitsma, Lawton, Kleban, Klapper, & Corn, 1997). The event recorder was used by the researcher to enter the onset and cessation of each set of behaviors as they occurred during the stream. Participants were rated on up to nine occasions, and the aggregate times were used to represent each subject's observed emotion and behavior. All measures represent the amount of time the affect or behavior was directly observed by an RA. During the 3-week treatment period, RAs recorded behavioral observations for all study participants at preset times. RAs observed nonintervention participants on 700 occasions and AC and IPPI participants for a combined total of 516 observations. On average, each participant received six interventions (range 5–9). Interventions did not take place when the resident was sick or had a medical appointment, or when the CNA was ill or on vacation. Intervention times were not rescheduled if the preset time was not met.

Before each observation session, RAs situated themselves so they would be unobtrusive, yet could see the resident and CNA clearly. RAs tried to avoid eye contact or interaction with the individuals being observed. At the

beginning of each session, RAs made baseline entries indicating what the resident was doing during the 5 min before the CNA initiated the intervention. Then the RA made dyadic observations for 10 min during the intervention and 5 min afterward. Thirty minutes later, the RA made a final 5-min observation.

Codes reflected the three outcome categories: affect, behavioral states (nonverbal behaviors), and behavioral events (verbal behaviors; see Table 1). RAs were able to code across the three categories simultaneously; thus, anxiety, engagement in a psychosocial task, and a positive remark could be noted contemporaneously. Coding captured the duration of each behavioral or affect state, as well as the frequency of fleeting behavioral events, such as reaching to hit someone. Residents demonstrated considerable variability in their display of emotions.

Codes within each of the three major outcome categories were mutually exclusive. Thus, if a resident displayed anxiety and pleasure simultaneously, the RA could code only one state. The decision rule was to record the more positive state because these instances were less frequent. When codes are mutually exclusive, a high frequency of one code necessarily implies a lower frequency of another in the same category. It is important to keep this in mind when group comparisons are evaluated on more than one variable at a time, as in a multivariate analysis of variance (MANOVA).

Table 1. Examples of Observed Outcomes

Outcome	Behavior
Negative affect	
Sadness	Crying, tears, moan, sigh, mouth turned down at corners
Anger	Clenched teeth, grimace, pursed lips, eyes narrowed
Anxiety	Furrowed brow, motoric restlessness, repeated or agitated motion, hand wringing, leg jiggling
Positive affect	
Pleasure	Smiling, laughing, singing, nodding
Alertness	Eyes following object, intent fixation on object or person, visual scanning, eye contact maintained
Verbal behavior	
Very negative	Swearing, screaming, mocking
Negative	Incoherent, repetitious statements, muttering
Positive	Coherent conversation, responding to questions
Very positive	Complimenting, joking
No verbal	Made no audible sound
Nonverbal behavior	
Psychosocial task	Manipulates or gestures toward an object, engages in conversation
Restlessness	Pacing, fidgeting, disrobing
Null behavior	Stares with fixed gaze, eyes unfocused
Eyes closed	Sits or lies with eyes closed
Aggression	Hitting, kicking, pushing, scratching, spitting
Uncooperative	Pulling away, saying "no," turning head or body away
Positive touch	Appropriate touching, hugging, kissing, hand holding

Sample

One hundred and eighty nursing home residents with dementia were recruited from a large nonprofit nursing home in Pennsylvania. The Abramson Center for Jewish Life's Institutional Review Board reviewed and approved this study. A majority of participants were females (82.2%), Caucasians (99.4%) and Jewish (97.2%). Participants had a mean age of 88.7 years (range 64–105). Most of them (64%) had a high-school education or less and were widows (64%).

Participants had moderate to severe cognitive and physical functional impairments as assessed by the MMSE and the ADL physical health scale recorded in the MDS. The average MMSE score was 9.0 (standard deviation [*SD*] 7.6; range 0–24) and the mean ADL score was 26.5 (*SD* 11.5; range 1–42). Residents were ineligible for the study if they were actively psychotic or receiving end-of-life care. Residents who had lived on the nursing unit for less than 1 month were also ineligible because they were still adjusting to their new environment and staff did not know them well enough to assess preferences.

Randomization Procedures

Following written consent from residents' responsible party, randomization occurred at two levels (see Figure 1). First, researchers randomly divided the eight nursing home units so that half would provide usual care (UC) plus an attention control (AC) and half would provide UC plus an IPPI. Second, residents within each unit were randomly assigned either to usual care or the experimental group. The dual approach to random assignment controlled for treatment effects with the UC group and attention bias with the AC group. Having each unit provide only one of the two experimental conditions mitigated the possibility of cross-contamination because staff members were blinded to the condition of their unit. During the study period, the nursing home used a permanent assignment staff model during the study period in which CNAs cared for the same residents each day; therefore, staff sharing was not permitted. During the study, all CNAs offered standard care to some residents and the assigned experimental intervention to other residents on their caseloads. In total, 93 residents received UC, 43 received AC, and 44 received IPPI (see Figure 1 for Consort diagram). The three groups were not statistically significantly different by age, education, MMSE score, or physical health scale (see Table 2).

Intervention Protocol

Individualized Positive Psychosocial Intervention.—Researchers and clinicians collaborated to select appealing

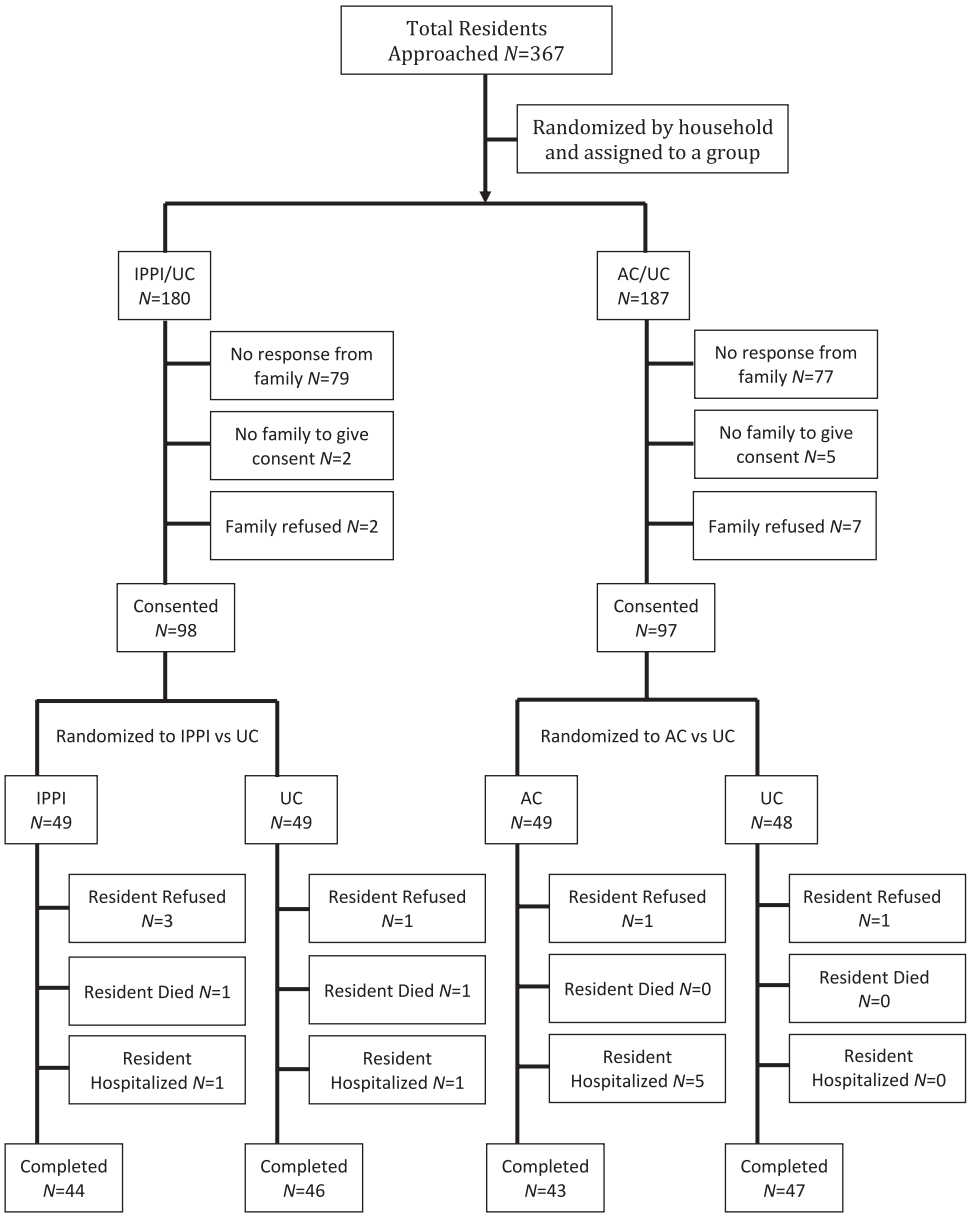

Figure 1. Consort diagram for the individualized positive psychosocial intervention study. AC = attention control; UC = usual care.

activities for each resident assigned to the IPPI group. This phase of the study was considered part of the intervention because customization is fundamental to the IPPI.

Researchers used the PELI-NH to collect information about the IPPI group's leisure interests. Understanding more about leisure interests is in keeping with the goal of honoring a resident's life history (Alwin, 2012). In all cases, the research team attempted to interview residents. Residents were best able to discuss past rather than current interests. If a resident could not be interviewed, researchers spoke with a family member, an activity therapist, or other direct care staff member who knew the resident well and who was not part of the study. Relatives often were well informed about the resident's past preferences, and care providers were more familiar with present likes and dislikes. The intervention offered five basic types of activities reflective of the most common preferences. Within each category, two or more specific options were offered (30 activity options total). Physical exercise included the option to take an outdoor walk or work with clay. Music included singing or listening to a favorite artist; reminiscence, reviewing family photos, or writing letters; ADLs, manicures, or making a snack; and sensory stimulation could mean a hand massage with lotion or smelling fresh flowers.

Upon PELI-NH completion, researchers met with the interdisciplinary care team for IPPI participants. The care team identified the three activities best suited to the resident's current interests and abilities. The resident's CNA

Table 2. Sample Demographic Characteristics by Group

Characteristic	IPPI residents, $N = 44$	ACI residents, $N = 43$	Usual care residents, $N = 93$	Tests for differences
Age (mean)	87.66 (8.37)	88.71 (6.13)	89.21 (6.87)	$F(2,175) = .70$, $p = .50$
Gender (*N*)				Chi square (14,142) = 1.10, $p = .58$
Female	38	37	73	
Male	7	6	19	
Education (*N*)				Chi square (14,142) = 8.02, $p = .88$
8th Grade or less	8	8	20	
Attended high school	3	4	8	
Completed high school	19	11	34	
Vocational training	0	0	1	
Attended college	0	0	1	
Completed college	4	5	5	
Graduate school	0	2	3	
Other	1	2	3	
MMSE (mean), possible range: 0–30	7.40 (7.13)	10.35 (7.95)	9.02 (7.64)	$F(2,171) = 1.62$, $p = .20$
MOSES withdrawal (mean), possible range: 8–32	20.44 (5.92)	20.69 (5.17)	21.96 (5.21)	$F(2,177) = 1.24$, $p = .29$
MDS ADL (mean), possible range: 0–40	25.05 (12.52)	27.41 (10.49)	25.99 (11.18)	$F(2,179) = .48$, $p = .62$

Note. ADL = Activities of Daily Living; IPPI = Individualized Positive Psychosocial Intervention; MDS = Minimum Data Set; MMSE = Mini-Mental State Exam; MOSES = Multidimensional Observation Scale for Elderly Subjects.

then chose the one activity she/he would most enjoy leading as the resident's IPPI. CNAs followed highly structured protocols developed for the project (manual available upon request). In order to make the intervention easier for facilities to adopt, the 30 protocols use basic materials and small blocks of time. The protocol outlines how to begin the activity, the specific steps involved and discussion prompts, and how to conclude the activity.

RAs began practicing their observations during the CNA training process. This "washout period" gave residents and staff time to adjust to the presence of RAs and helped to minimize subject reactivity as a concern in data collection. Participants then entered into a 3-week treatment period where they were observed receiving UC or their assigned experimental activities for 10 min, 3 days per week. The AC activity was a standardized one-on-one social interaction in which residents discussed a magazine with their CNA. This activity was chosen because it is a commonplace activity in nursing homes requiring little explanation and training on the part of the CNA.

Nurse managers posted intervention schedules at the unit desk to ensure that the AC or IPPI conditions took place as planned. AC and IPPI interventions occurred at a consistent time during the day (7 a.m. to 3 p.m.) or evening (3 p.m. to 11 p.m.) shift. The resident's interdisciplinary care team chose the time when the resident might be most alert or in need of stimulation or comfort. To accommodate facility needs, interventions were not scheduled during peak activity periods (e.g., mealtimes or shift changes).

Fidelity monitoring.—Throughout the project, the research team assessed CNA adherence to AC and IPPI protocols. During randomly selected sessions, researchers observed CNAs providing the experimental conditions and evaluated their compliance with study procedures. Overall adherence to protocol was 68% regardless of intervention type. Adherence to protocol was significantly improved for CNAs delivering IPPI protocols (73%) compared with those delivering the generic attention control protocol (60%).

RA training and reliability.—Before data collection began, RA training included studying the coding manual, observing senior researchers code resident behavior, discussing coding decisions, and practicing coding with a mentor. Within 2 months, all trainees showed adequate reliability (75% agreement or better) and could code interventions independently. Each week, the research team analyzed reliability. The group looked for "window matches" (i.e., staff observed the same intervention and entered the same code within 10 s of each other). Staff clarified coding criteria, coached RAs, or recommended additional coding practice when discrepancies arose. Inter-rater reliability between RAs was in the "substantial agreement range," averaging 74.5% agreement across all coded categories (Landis & Koch, 1977). Kappas were calculated for each variable category separately for a subsample of 169 interventions coded by two RAs, resulting in acceptable values.

Statistical Analysis

In order to test our hypotheses, three groups of behavioral observations (affect, verbal and nonverbal behaviors) were analyzed individually using the SPSS GLM multivariate program. Three covariates (centered measures of

ADL, MMSE, and withdrawal behaviors) were employed to control or remove shared influences from the observational variables. We selected these covariates because they were significantly related to the primary outcomes of interest. This is in keeping with our previous research that also found associations between cognitive impairment, functional impairment, depressive symptoms, affect, and behaviors (Lawton et al., 1996; Lawton, Van Haitsma, Klapper, Kleban, Katz, & Corn, 1998; Van Haitsma, et al., 1997). Therefore, MANCOVA-adjusted results are presented, including the margins, delta method standard errors, *F*-ratio, and effect size (*d*) contrasts between treatments for each of the observed behaviors by group (UC, AC, and IPPI; see Tables 3–5). The univariate GLM was conducted separately for each behavioral observation on each of the UC-AC, UC-IPPI, and AC-IPPI group contrasts. The covariates were included in these analyses. Additional tables with observational means and standard deviations for the original data and for the MANOVA can be found in the Supplementary Data Appendix.

Results

Observations of Affect

Both positive and negative affect were observed simultaneously (pleasure, alertness, anger, anxiety, and sadness). The covariates of ADL and withdrawal were significantly related to the emotions of pleasure, anger, anxiety, and alertness. Higher withdrawal and ADL impairment scores were related to less pleasure, more anger, more anxiety, and less alertness; however, these covariates were partialled from the dependent variables by the MANCOVA and did not prevent the treatment effect from being highly significant: $W = .44$ (2), $F = 16.60$ (10, 328), $p = .0000$. The partialled effect size for the treatment condition was $f^2 = .51$ which, based on categorization by Cohen (1988), is a high effect size.

Table 3 presents three pairwise comparisons for each affect. Each of the three rows contains a pairwise contrast, that is, UC versus AC, UC versus IPPI, and AC versus IPPI. We found an increase in positive affect; AC and IPPI groups experienced greater pleasure and alertness compared with UC group. With regards to negative affect, the AC group expressed significantly more anger than UC and IPPI groups; there were no significant differences among the groups for anxiety and sadness. Based upon an alpha = .05, beta = .20 (80% power), the effect size (*d*) column provides an index of which contrasts were under or over powered with respect to the treatment sample sizes.

Observations of Nonverbal Behaviors

The same MANCOVA model was used to analyze the observations of nonverbal behaviors. The seven dependent variables of the nonverbal behavior set were psychosocial tasks, general restlessness, null behaviors, eyes closed, uncooperativeness, aggression, and positive touching. Only the centered ADL covariate was significant: $W = .87$ (1), $F = 2.95$ (8, 161), $p = .0042$. Participants with higher ADL impairments tended to show more incidences of null behaviors, eyes being closed, uncooperativeness, and aggression.

Table 4 shows pairwise contrasts for the seven nonverbal behavior observations. The AC and IPPI groups had significantly greater psychosocial task participation than the UC group; no significant difference was found between the AC and IPPI groups. The UC group showed more general restlessness and eyes closed than the AC or IPPI groups. The

Table 3. Comparison of Adjusted Mean Affect Observations by Treatment Group

Treatment	Mean	Standard error	Treatment	Mean	Standard error	*F* (1, 168)	*p*	*d*
Pleasure								
UC	1.52	.08	AC	2.93	.13	82.88	.0000	1.72
UC	1.52	.08	IPPI	3.19	.13	113.52	.0000	2.00
AC	2.93	.13	IPPI	3.19	.13	1.97	.1622	.24
Sadness								
UC	1.24	.05	AC	1.44	.08	4.15	.0433	.38
UC	1.24	.05	IPPI	1.23	.09	.00	.9923	.00
AC	1.44	.08	IPPI	1.23	.09	2.92	.0839	.37
Anger								
UC	1.17	.04	AC	1.42	.07	9.69	.0022	.58
UC	1.17	.04	IPPI	1.19	.07	.07	.7975	.05
AC	1.42	.07	IPPI	1.19	.07	5.68	.0183	.51
Anxiety								
UC	1.85	.10	AC	2.15	.15	2.69	.1031	.30
UC	1.85	.10	IPPI	2.04	.15	1.11	.2933	.20
AC	2.15	.15	IPPI	2.04	.15	.23	.6336	.10
Alertness								
UC	3.92	.08	AC	4.78	.13	30.68	.0000	1.03
UC	3.92	.08	IPPI	4.85	.13	35.00	.0000	1.10
AC	4.78	.13	IPPI	4.85	.13	.14	.7080	08

Note. AC = attention control and IPPI treatment; IPPI = Individualized Positive Psychosocial Intervention; UC = usual control.

Table 4. Comparison of Adjusted Mean Nonverbal Behavior Observations by Treatment Group

Treatment	Mean	Standard error	Treatment	Mean	Standard error	F (1, 168)	p	d
Psychosocial tasks								
UC	58.80	18.83	AC	476.31	29.05	145.44	.0000	2.24
UC	58.80	18.83	IPPI	441.29	29.56	119.14	.0000	2.02
AC	476.31	29.05	IPPI	441.29	29.56	.71	.3993	.18
General restlessness								
UC	23.47	3.60	AC	5.28	5.56	7.54	.0067	.51
UC	23.47	3.60	IPPI	6.50	5.66	6.40	.0123	.47
AC	5.28	5.56	IPPI	6.50	5.66	.02	.8780	.03
Null behaviors								
UC	23.13	5.60	AC	20.69	8.64	.06	.8131	.04
UC	23.13	5.60	IPPI	13.41	8.79	.87	.3523	.17
AC	20.69	8.64	IPPI	13.41	8.79	.35	.5554	.13
Eyes closed								
UC	193.26	12.63	AC	25.88	19.49	51.96	.0000	1.34
UC	193.26	12.63	IPPI	19.41	19.82	54.71	.0000	1.37
AC	25.88	19.49	IPPI	19.41	19.82	.05	.8163	.05
Aggression								
UC	.000	.02	AC	.117	.04	7.08	.0086	.50
UC	.000	.02	IPPI	.061	.04	1.85	.1753	.25
AC	.117	.04	IPPI	.061	.04	1.15	.2855	.23
Uncooperative								
UC	.006	.02	AC	.149	.04	9.65	.0022	.57
UC	.006	.02	IPPI	.016	.04	.04	.8333	.04
AC	.149	.04	IPPI	.016	.04	5.84	.0167	.51
Positive touch								
UC	.059	.10	AC	.741	.16	13.26	.0004	.68
UC	.059	.10	IPPI	1.173	.16	34.53	.0000	1.09
AC	.741	.16	IPPI	1.173	.16	3.71	.0557	.41

Note. AC = attention control and IPPI treatment; IPPI = Individualized Positive Psychosocial Intervention; UC = usual control.

AC group showed more uncooperativeness than the UC or IPPI groups and had more incidences of aggression than the UC group. Both the AC and IPPI groups had more observations of positive touch behavior than the UC group.

Observations of Verbal Behaviors

The same MANCOVA model was used to analyze the observations of verbal behaviors. The dependent variables were five different observations of very negative, negative, positive, very positive, and no verbal behaviors. Based upon their Wilks' lambdas, all three centered covariates were statistically significant—ADL: $W = .91$ (1), $F = 3.07$ (5, 164), $p = .0133$; MMSE: $W = .86$ (1), $F = 5.54$ (5, 164), $p = .0001$; and withdrawal: $W = .90$ (1), $F = 3.75$ (5, 164), $p = .003$. Very negative verbal and negative verbal behaviors were found in participants with high ADL levels of impairment, low MMSE scores, and high measures of withdrawal. Participants with positive and very positive verbal behaviors had low levels of ADL impairments, high MMSE scores, and low scores on withdrawal. Participants who were not verbally responsive had high scores on ADL impairment, low MMSE scores, and high scores on withdrawal.

Table 5 is a presentation of the pairwise contrasts of the five observations of verbal behavior. More very negative verbal behaviors were expressed by the AC group compared with the UC or IPPI groups. AC participants showed more positive behaviors than IPPI participants; the AC and IPPI groups showed more positive behaviors compared with the UC group. The IPPI group showed significantly more very positive responses than either the UC or AC groups. Nonverbal responses were significantly higher in the UC group compared with either the AC or IPPI groups.

Discussion

This study examined the effectiveness of individualized activities to increase positive affect and behavior and to reduce negative states in nursing home residents with dementia. To our knowledge, it is the first RCT to use certified nursing home assistants to lead preference-based, one-to-one activities. It builds on earlier studies of clinical efficacy (Kolanowski et al., 2005, 2011), which found positive results using research-trained staff to deliver individualized activities.

The study results provide partial support for the hypotheses. As predicted, the individualized, preference-based intervention (IPPI) increased instances of positive affect (e.g., pleasure and alertness) and positive verbal and nonverbal behavior (e.g., time on psychosocial task, positive touch, and positive verbalizations) compared with usual care. Also, the expected pattern of benefits held true: residents receiving the IPPI showed the greatest benefit, followed by those taking part in the attention control activity.

Table 5. Comparison of Adjusted Mean Verbal Behavior Observations by Treatment Group

Treatment	Mean	Standard error	Treatment	Mean	Standard error	F (1, 168)	p	d
Very negative verbal behaviors								
UC	4.74	4.42	AC	41.82	6.82	20.82	.0000	.85
UC	4.74	4.42	IPPI	12.49	6.94	.89	.3472	.17
AC	41.82	6.82	IPPI	12.49	6.49	9.09	.0030	.65
Negative verbal behavior								
UC	30.83	7.94	AC	49.44	12.26	1.62	.2043	.24
UC	30.83	7.49	IPPI	52.51	12.47	2.15	.1442	.27
AC	49.44	12.26	IPPI	52.51	12.47	.03	.8607	.04
Positive verbal behavior								
UC	44.94	11.70	AC	368.39	18.06	225.79	.0000	2.80
UC	44.94	11.70	IPPI	300.16	18.38	137.21	.0000	2.17
AC	368.39	18.06	IPPI	300.16	18.38	7.01	.0089	.57
Very positive verbal behavior								
UC	5.95	4.73	AC	20.85	7.29	2.94	.0882	.32
UC	5.95	4.73	IPPI	68.86	7.42	51.16	.0000	1.33
AC	20.85	7.29	IPPI	69.86	7.42	21.30	.0000	1.00
No verbal behavior								
UC	502.66	12.73	AC	114.23	19.65	275.33	.0000	3.09
UC	502.66	12.73	IPPI	164.93	19.99	203.16	.0000	2.65
AC	114.23	19.65	IPPI	164.93	19.99	3.27	.0722	.39

Note. AC = attention control and IPPI treatment; IPPI = Individualized Positive Psychosocial Intervention; UC = usual control.

We found less effect on negative affect (anger, anxiety, sadness), as well as negative verbal and nonverbal behaviors (e.g., withdrawal, agitation, null behavior, restlessness, aggression) than expected. This finding of less impact on negative affect is consistent with Lawton's "dual-channel" effect. According to this theory, positive and negative affects are correlated (Bodner, Palgi, & Kaveh, 2013), yet they are independent domains with different antecedent patterns. Negative affect is more related to internal factors, such as health, self-esteem, and personality (Lawton, Winter, Kleban, & Ruckdeschel, 1999; Wahl, Heyl, & Schilling, 2012), whereas positive affect is directly related to factors in the external environment. Thus, externally engaging phenomena, such as recreational activities, are more likely to produce positive affect rather than to reduce negative affect.

Finding significant effects on both dimensions would have been desirable; however, the impact on positive affect is important. The work of Fredrickson (1998, 2001, 2004) and others shows that interventions producing a positive emotional response can lead to a cascade of beneficial physiological and psychological effects. The individual's repertoire of behavior and responses broadens and strengthens, resulting in greater resilience in the face of adversity. For nursing home residents contending with frailty and institutional life, the opportunity to build resilience and experience a greater sense of well-being, even for brief periods, is critical and can lead to more long-lasting effects. This study provides strong evidence for the value of customizing one-to-one activities compared with offering generic experiences for nursing home residents with dementia.

Although a standardized intervention, such as discussing a magazine, would seem to be a neutral experience, we found otherwise. Residents in the attention control group showed greater pleasure and alertness and greater distress. They exhibited more uncooperative and aggressive behavior, as well as more sadness, anger, and negative verbal behavior than the UC group, and more very negative verbal behavior and anger than the individualized activities group. In a similar study, Kolanowski and colleagues (2011) found a worsening of mood for nursing home residents in the active control group. Findings from the two projects suggest that a standardized one-to-one intervention, while seemingly benign, can have adverse effects (albeit mild) for a highly vulnerable population. On the other hand, a customized activity does not seem to be accompanied by a downside, and in fact yields a stronger positive effect.

The relatively few differences found between the AC and IPPI conditions might lead one to conclude that the extra staff training effort required for the IPPI intervention might not be "worth it." However, we should recognize that (a) this is a pilot study in one facility that requires replication in a broader population; and (b) the IPPI intervention resulted in only positive resident outcomes, whereas the AC intervention produced a more mixed picture of positive and negative (i.e., anger, uncooperative behaviors, and very negative verbal behaviors) outcomes. This mixed outcome should give one pause, as it suggests that the AC intervention was not benign—it actually may have caused distress. Although some may advocate that any activation of a resident is better than complete disengagement, we believe that any activity that produces a negative outcome is unacceptable both for the person and the overall milieu of the environment.

This study shows that customizing care to individual preferences is feasible within the conventional nursing home environment. The project found that CNAs can lead one-to-one activities successfully. With only a modest investment

in training and materials, CNAs learned to follow protocols and engage residents in activities they were likely to enjoy. Nurse managers were supportive of the concept and arranged staff schedules to allow CNAs to work individually with residents three times per week.

Finally, this study addresses several of the issues discussed by Rahman, Applebaum, Schnelle, and Simmons (2012) regarding suggestions for addressing gaps in translating research into practice. The intervention was developed and tested collaboratively in a nursing home with input from multiple employees and residents. A central tenet in building the intervention was to ensure its long-term sustainability. To this end, we chose CNAs to deliver the intervention. The intervention itself was designed with feasibility in mind. Intervention periods were 10–15 min in length, utilized easily available and inexpensive materials, and could be delivered during non-ADL intensive time periods in the course of the work day. The intervention training program incorporated a multifaceted approach known to be efficacious in promoting sustainability of acquired skills. Training involved a combination of short in-services spread over a 2-week period, followed by two one-to-one coaching sessions with recreation therapists to reinforce learning and build confidence.

Study Limitations

Although this study produced significant findings about the impact of customizing activities to individual preferences, it has three limitations. First, the research focused on a sample of Caucasian, Jewish seniors living in a large nonprofit Pennsylvania nursing home. Although the sample was homogeneous, it allowed us to meet our objective of ascertaining whether the intervention would have an effect. Future studies will test the intervention with more diverse older adults living in institutional and community settings.

The live-observation coding system had the benefit of allowing RAs to observe residents and CNAs wherever they chose to go for an activity, and did not limit them to the artificial setting of a video-recording room. However, this approach meant that some coding nuances would be lost. Most notably, RAs enter only one affect or behavior state at a time, rather than multiple simultaneous states within a given category. For this test of clinical effectiveness, the benefits of in vivo coding in a natural nursing home setting were preferred, compared with video recording in a special room set aside for the purpose. A final consideration was that, although RAs positioned themselves to be as unobtrusive as possible during interventions, reactivity to being observed by residents and CNAs may have occurred.

Conclusion

The findings from the study show that tailoring services and activities to individual preferences can increase positive affect. Our findings contribute to the current evidence showing that matching services—activities, in this case—to the needs and preferences of the individual yields substantial benefits and is consistent with the movement in nursing homes toward providing person-centered care. The research shows that using CNAs to lead customized one-to-one activities is a feasible, effective approach to increase positive engagement and well-being for nursing home residents with dementia.

Supplementary Material

Supplementary material can be found at: http://psychsocgerontology.oxfordjournals.org/

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Correspondence

Correspondence should be addressed to Kimberly S. Van Haitsma, PhD, Director, Polisher Research Institute, Madlyn and Leonard Abramson Center for Jewish Life, 1425 Horsham Road, North Wales, PA 19454. E-mail: kvanhaitsma@abramsoncenter.org.

References

Advancing Excellence in America's Nursing Homes. (2013). Person-centered care. Retrieved from http://www.nhqualitycampaign.org/star_index.aspx?controls=personcenteredcareexploregoal

Algase, D., Beck, C., Kolanowski, A., Whall, A., Berent, S., Richards, K., & Beattie, E. (1996). Need-driven dementia-compromised behavior: An alternative view of disruptive behavior. *American Journal of Alzheimer's Disease and Other Dementias*, *11*, 10–19. doi:10.1177/153331759601100603

Alwin, D. F. (2012). Integrating varieties of life course concepts. *The Journals of Gerontology: Psychological Sciences and Social Sciences*, *67*, 206–220. doi:10.1093/geronb/gbr146

Beck, C., Vogelpohl, T., Rasin, J., Uriri, J., O'Sullivan, P., Walls, R., Phillips, R., & Baldwin, B. (2002). Effects of behavioral interventions on disruptive behavior and affect in demented nursing home residents. *Nursing Research*, *51*, 219–228.

Bodner, E., Palgi, Y., & Kaveh, D. (2013). Does the relationship between affect complexity and self-esteem differ in young-old and old-old participants? *The Journals of Gerontology: Psychological Sciences and Social Sciences*, *68*, 665–673. doi:10.1093/geronb/gbs095

Carpenter, B., Van Haitsma, K., Ruckdeschel, K., & Lawton, M. P. (2000). The psychosocial preferences of older adults: A pilot examination of content and structure. *The Gerontologist*, *40*, 335–348. doi:10.1093/geront/40.3.335

Cohen, J. (1988) *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillside, NJ: Lawrence Erlbaum Associates.

Deci, E., & Ryan, R. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*, 227–268.

Folstein, M., Folstein, S., & McHugh, P. (1975). Mini-Mental State: A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*, *12*, 189–198.

Fredrickson, B. (1998). What good are positive emotions? *Review of General Psychology*, *2*, 300–319. doi:10.1037/1089-2680.2.3.300

Fredrickson, B. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, *56*, 218–226. doi:10.1037/0003-066X.56.218

Fredrickson, B. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society of London B Biological Sciences*, *359*, 1367–1378. doi:10.1098/rstb.2004.1512

Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and complex dynamics of human flourishing. *American Psychologist*, *60*, 678–686. doi:10.1037/0003-066X.60.7.678

Garland, E., Fredrickson, B., Kring, A., Johnson, D., Meyer, P., & Penn, D. (2010). Upward spirals of positive emotions counter downward spirals of negativity: Insights from the broaden-and-build theory and affective neuroscience on the treatment of emotion dysfunctions and deficits in psychopathology. *Clinical Psychology Review*, *30*, 849–864. doi:10.1016/j.cpr.2010.03.002

Helmes, E., Csapo, K., & Short, J. (1987). Standardization and validation of the Multidimensional Observation Scale for Elderly Subjects (MOSES). *Journal of Gerontology*, *42*, 395–405. doi:10.1093/geronj/42.4.395

Kahana, E., Lovegreen, L., Kahana, B., & Kahana, M. (2003). Person, environment, and person-environment fit as influences on residential satisfaction of elders. *Environment and Behavior*, *35*, 434–453. doi:10.1177/0013916503035003007

Kasser, V., & Ryan, R. (1999). The relation of psychological needs for autonomy and relatedness to vitality, well-being and mortality in a nursing home. *Journal of Applied Social Psychology*, *29*, 935–954. doi:10.1111/j.1559–1816.1999.tb00133.x

Keyes, C. (2007). Promoting and protecting mental health as flourishing: A complementary strategy for improving national mental health. *American Psychologist*, *62*, 95–108. doi:10.1037/003.066X.62.2.95

Kolanowski, A., Litaker, M., & Buettner, L. (2005). Efficacy of theory-based activities for behavioral symptoms of dementia. *Nursing Research*, *54*, 219–228.

Kolanowski, A., Litaker, M., Buettner, L., Moeller, J., & Costa, P. (2011.) A randomized clinical trial of theory-based activities for the behavioral symptoms of dementia in nursing home residents. *Journal of the American Geriatrics Society*, *59*, 1032–1041. doi:10.1111/j.1532-5415.2011.03449.x

Kovach, C., Noonan, P., Schlidt, A., & Wells, T. (2005) A model of consequences of need-driven dementia-compromised behavior. *Journal of Nursing Scholarship*, *27*, 134–140. doi:19.1111/j.1547–5069.2005.00025_1.x

Kroes, M., Garcia-Stewart, S., Allen, F., Eyssen, M., & Paulus, D. (2011). *Dementia: Which non-pharmacological interventions? Good Clinical Practice (GCP)* (KCE Reports 160C. D/2011/10.273/37). Brussels: Belgian Health Care Knowledge Centre.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, *33*, 159–174. doi:10.2307/2529310.

Lawton, M. P., Casten, R., Parmelee, P., Van Haitsma, K., Corn, J., & Kleban, M. (1998). Psychometric characteristics of the Minimum Data Set II: Validity. *Journal of the American Geriatrics Society*, *46*, 736–744.

Lawton, M. P., Van Haitsma, K., & Klapper, J. (1996). Observed affect in nursing home residents with Alzheimer's disease, *Journal of Gerontology B Psychological and Social Sciences*, *51B*, P3–P14. doi:10.1093/geronb/51B.1.P3

Lawton, M. P., Van Haitsma, K., Klapper, J., Kleban, M., Katz, I., & Corn, J. (1998). A stimulation-retreat special care unit for elders with dementing illness. *International Psychogeriatrics*, *10*, 379–395.

Lawton, M. P., Winter, L., Kleban, M., & Ruckdeschel, K. (1999). Affect and quality of life: Objective and subjective. *Journal of Aging and Health*, *11*, 169–198.

Logsdon, R., & Teri, L. 1997. The pleasant events schedule-AD: Psychometric properties and relationship to depression and cognition in Alzheimer's disease patients, *The Gerontologist*, *37*, 40–45. doi:10.1093/geront/37.1.40

Meeks, S., Looney, S. W., Van Haitsma, K., & Teri, L. (2008). BE-ACTIV: A staff-assisted, behavioral intervention for depression in nursing homes. *The Gerontologist*, *48*, 105–114. doi:10.1093/geront/48.1.105

Meeks, S., Van Haitsma, K., Kostiwa, I., & Murrell, S. (2012). Positivity and well-being among community-residing elders and nursing home residents: What is the optimal affect balance? *Journals of Gerontology: Psychological Sciences and Social Sciences*, *67*, 460–467. doi:10.1093/geronb/gbr135.

Morris, J., Hawes, C., Fries, B., Phillips, C., Mor, V., Katz, S., … Friedlob, A. (1990). Designing the national resident assessment instrument for nursing homes, *The Gerontologist*, *30*, 293–307. doi:10.1093/geront/30.3.293

O'Neil, M., Freeman, M., Christensen, V., Telerant, R., Addleman, A., & Kansagara, D. (2011). Non-pharmacological interventions for behavioral symptoms of dementia: A systematic review of the evidence. VA-ESP Project #05-225. Retrieved from http://www.hsrd.research.va.gov/publications/esp/Dementia-Nonpharm.pdf

Penrod, J., Yu, F., Kolanowski, A., Fick, D., Loeb, S., & Hupcey, J. (2007). Reframing person-centered nursing care for persons with dementia. *Research and Theory for Nursing Practice*, *21*, 57–72.

Pruchno, R., Kleban, M., & Resch, N. (1988) Psychometric assessment of the multidimensional observation scale for elderly (MOSES). *Journal of Gerontology*, *43*, P164–P169. doi:10.1093/geronj/43.6.P164

Rahman, A., Applebaum, R., Schnelle, J., & Simmons, S. (2012) Translating research into practice in nursing homes: Can we close the gap? *The Gerontologist*, *52*, 597–606. doi:10.1093/geront/gnr157

Ryff, C., & Singer, B. (2009). Understanding healthy aging: Key components and their integration. In L.V. Bengston, M. Silverstein, N. M. Pulney, & D. Gans (Eds.), *Handbook of theories of aging* (2nd ed., pp. 117–144), New York: Springer.

Vallerand, R., & O'Connor, B. (1989). Motivation in the elderly: A theoretical framework and some promising findings. *Canadian Psychology*, *30*, 538–549. doi:10.1037/h0079828

Van Haitsma, K. (2000). The Assessment and integration of preferences into care practices for persons with dementia residing in the nursing home. In R. Rubinstein, M. Moss, & M. Kleban (Eds.), *The many dimensions of aging*. New York: Springer.

Van Haitsma, K., Lawton, M. P., Kleban, M., Klapper, J. A., & Corn, J. A. (1997). Methodological aspects of the study of streams of behavior in dementing illness. *Alzheimer Disease and Associated Disorders*, *11*, 228–238.

Van Haitsma, K., Ruckdeschel, H., Mooney, R., . . . Wills, T. (2000). Enhanced interdisciplinary care planning for nursing home residents with dementia: Catalyst for better care. In M.P. Lawton & R. Rubinstein (Eds.), *Interventions in dementia care: Toward improving quality of life*. Springer Press.

Wahl, H-W., Heyl, V., & Schilling, O. (2012). Robustness of personality and affect relations under chronic conditions: The case of age-related vision and hearing impairment. *The Journals of Gerontology: Psychological Sciences and Social Sciences*, *67*, 687–696. doi:10.1093/geronb/gbs002

Whall, A., & Kolanowski, A. (2004). The need-driven dementia-compromised model—A framework for understanding the symptoms of dementia. *Aging and Mental Health*, *8*, 106–108. doi:10.1080/13607860410001649590