



## KEY POINT SUMMARY

### OBJECTIVES

The purpose of this study was to examine the outcomes of an accessible room MSSE among residents of a memory care assisted living (MCAL) center on episodes of BPSD.

## Using an Accessible Room Multisensory Stimulation Environment to Reduce Dementia Associated Behaviors

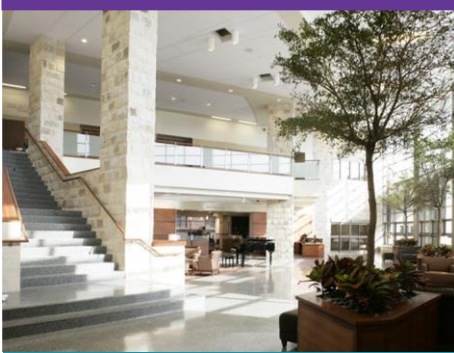
Prince, D. M., Fogarty, K. J., VanGeest, J. B., Eberth, S. D. 2022 | Journal of Long-Term Care, Issue 2022, Page(s) 289-297

### Key Concepts/Context

A growing body of literature supports using multisensory stimulation environment (MSSE) rooms to improve Behavioral and Psychological Symptoms of Dementia (BPSD). While enclosed MSSE applications have been tested, due to restrictions for enclosed-room access and caregiver shortages there is a need to evaluate outcomes associated with open-access MSSE areas. MSSE that afford greater physical and visual access but do not require one-on-one care will be used more efficiently and effectively to mitigate BPSD.

### Methods

This pre/post-intervention study used secondary, aggregated data analysis of the medical records from a single 20-person memory care assisted living (MCAL) facility. The intervention consisted of the installation of multisensory stimuli (e.g., lavender aroma, color-changing LED up-lighting, discretionary music, tactile furnishing finishes, and vestibular rocking/gliding chairs) in a common area opposite a dining room that allowed direct views for caregivers. The resident turnover resulted in a sample of 24 residents over the age of 65 during the 12-month study (six-month periods preceding and following installation). The resident population was predominantly female, white, non-Hispanic, had dementia, and utilized mobility aids. Residents were observed by the care providers from a nurse's station located adjacent to the MSSE space on each shift as the residents voluntarily interacted in the MSSE area. Secondary data from the medical records provided staff-reported episodes of BPSD on each shift, each day, but did not account for whether the subject entered the MSSE on each shift. The amount of time, or dosage, a resident spent utilizing the MSSE was not considered in this study as this was an open floorplan design in a secured MCAL setting. A Comparison of Proportions analytical test was performed to determine the difference in the proportion of BPSD episodes documented pre-and post-intervention.



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## Findings

The documentation listed observed BPSD episodes of each subject for each shift, equaling 5,159 total observations. A total of 2,163 documented observations, either observing a BPSD episode or none observed, were documented prior to the installation of the MSSE, with 16.9% of total episodes documented as a BPSD episode. A total of 2,996 observations were documented after installation of the MSSE, with 9.9% of total episodes documented reported as a BPSD episode. The number of observed BPSD episodes decreased from 367 documented observations prior to the installation to 298 documented observed episodes after the installation. The Comparison of Proportions analytical test revealed clinical and statistical significance [ $X^2(1) = 55.136, p < 0.0001$ ] related to the proportion of BPSD episodes documented pre-and post-intervention. These findings are consistent with other more recent studies and reviews have identified the MSSE as potentially effective at managing mood and behavioral disturbances in the short term, further highlighting the promise of nonpharmacological treatments for dementia. This study, however, extends these findings beyond the confines of an enclosed room, revealing that an open floorplan MSSE area design has the potential to have a positive impact in reducing the reported BPSD episodes in an accessible room setting without the need for a care provider to dedicate direct supervision to an ambulatory older adult diagnosed with dementia.

## Limitations

The small homogenous sample makes it difficult to generalize outcomes to other MCAL settings. Variations in MSSE locations and stimulus elements as well as subject and caregiver population may alter results. The frequency and duration of time a resident spent utilizing the MSSE was not documented in this study, nor was the potential conflicting or additional stimuli occurring outside of the designated MSSE space, which could impact outcomes by increasing or decreasing BPSD. Resident biomedical factors were not controlled for, nor was staff turnover, inter-rater reliability, or varying cultural/racial perceptions of what constitutes BPSD.



## Design Implications

Providing monitored access to MSSE in open-floorplan areas increases access to non-pharmacological interventions for BPSD and reduces the workload for staff.

## And Also...

The authors include a floor plan of the Memory Care Assisted Living facility.

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