### Background

Behavioral and psychological symptoms of dementia (BPSD) are common in patients with dementia who are admitted to assisted living facilities. These symptoms place a large burden on the staff and care providers of such patients to ameliorate such elusive affects, especially since there are no FDA approved drugs to treat BPSD. Recently, personalized music has been touted as a safe, inexpensive, and non-pharmaceutical intervention for dementia.

In this quality improvement project, we implemented a personalized music program to enhance the ability of the care team to effectively respond and manage behaviors and psychological symptoms of dementia.

# **QI** Methods

We implemented a personalized music program at Eno Pointe Assisted Living Center in Durham, NC that includes many residents with limited financial means. Residents were selected in collaboration with the facility administrator, and the medical technicians (MTs) were trained in the distribution and upkeep of the music devices that were preprogrammed with music tailored to their preferences. Preferences were determined through questionnaires, phone interviews with family, and by observing residents' reactions during listening periods. The MTs encouraged to incorporate the were personalized music devices into the residents' daily routines. The length of time and frequency was not otherwise specified.

We collected qualitative notes to describe the implementation process and measured outcomes using a simple rating scale completed by the medical technicians to determine whether this music program had a positive impact on participants and staff. The recordings included initial emotional state as normal, depressed/ withdrawn or anxious/ agitated, and the response to music as improved, no change, worse or refused.

# Implementation and Efficacy of a Personalized Music Program in an Assisted Living Center

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> *"Turn it up!"* "R-E-S-P-E-C-T..." "I love it, I appreciate it." "You all have beautiful music."



70% of use when mood already 'normal,' 10% of the time devices were refused.



96% of uses maintained or improved mood 4% of uses resulted in worsening of mood.



### Results

We enrolled and tracked 17 participants and evaluated music use over two distinct time periods of 5 months and 3 months, which spanned more than one year. During this time, substantial use was recorded (7 participants had >50 uses recorded) with a total of 822 logs, each with an initial mood and a post-music response, for a total of 1644 data points.

Of these, initial mood was recorded as depressed/withdrawn 76 times (9%) and anxious/agitated 91 times (11%). Initial mood was normal in 575 cases (70%), while in 80 cases (10%) music devices were refused by the resident. Excluding the refusals, of these 742 listening periods, the resident response showed an improved mood 461 times (62%), while 255 logs (34%) showed no change and the mood response in 26 (4%) actually worsened.

Additionally, administrators and staff displayed increased willingness to participate as positive became apparent overtime. outcomes Challenges included keeping the devices charged, and keeping them secure yet available to staff.



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## Discussion

Gradually we have seen staff becomes invested in the use of more personalized music as they appreciate the positive responses of individual participants and utilize it commonly for individuals problematic without behaviors. We were pleased to find that staff did not wait for problematic behaviors to use the personalized music. Personalized music can serve as both an intervention to help with behaviors and a means of improving affect or passing time in residents who simply enjoy listening, which may help to allay BPSD.



# Conclusions

- Safe, inexpensive, and nonpharmaceutical intervention for BPSD
- Provides insular listening experience.
- Appropriate for variety Of types/stages of dementia showing acclimation with repeated use.
- Staff investment improves overtime as positive responses become evident.
- Challenges with keeping devices charged & secure (yet accessible) can be overcome.
- Utilized regardless of problematic behaviors, improves quality of life.
- Rarely worsens behavior.