

MUSIC & MEMORYSM Final Report

Front Porch Center for Innovation and Wellbeing

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Executive Summary

The Front Porch Center for Innovation and Wellbeing (FPCIW) evaluated MUSIC & MEMORYSM (M&M) at **Villa Gardens** and **St. Barnabas Senior Services (SBSS)**, a community partner of FPCIW, for 4 weeks. MUSIC & MEMORYSM is a non-profit organization that brings personalized music into the lives of the elderly or infirm through digital music technology, vastly improving quality of life through inexpensive, portable digital music players (iPods) and individualized playlists.

FPCIW set out to measure the impact of MUSIC & MEMORYSM on residents and caregiver staff. The research goals were to:

- Determine if M&M increases the quality of life for memory care residents/participants and the quality of care for the care center staff
- Gauge the amount of resources required to train the staff
- Gauge the amount of resources to sustain and expand the program
- Evaluate if participants will experience a visible improvement in overall wellbeing

Feedback has been overall positive; caregiver staff at Villa Gardens and St. Barnabas unanimously responded that the intervention increased the quality of life for memory care residents from the feedback survey. Other key findings were:

- Overall mood improvement of between 31% to 46% positive changes
- 66.7% of the staff observed that the program was substantially effective in reducing and easing pain for the residents
- 57.1% of staff observed it has been effective in reducing disruptive verbal/physical behavior, replaced with better moods.
- Staff reported participants who were known to be socially withdrawn were more alert and socially engaged.

Based on these impressive results and given the low cost barrier and resource investment towards adoption, FPCIW recommends the deployment and diffusion of MUSIC & MEMORYSM to other Front Porch communities, and to share our learnings with other community-based senior service centers that provide care to populations of older adults with dementia and other cognitive challenges.

Project Summary and Background

The Front Porch Center for Innovation and Wellbeing (FPCIW) piloted MUSIC & MEMORYSM (M&M), an affordable yet innovative approach to helping caregivers engage people with dementia and others experiencing cognitive decline. The program uses iPods (or other digital music devices) with curated playlists to promote social engagement and improve emotional wellbeing. FPCIW piloted the program at Villa Gardens and St. Barnabas Senior Services center.

Villa Gardens, a Front Porch community, was initially inspired by the movie “Alive Inside” to use MUSIC & MEMORYSM in its Wellness Center (formerly known as Assisted Living) and Health Center. St. Barnabas Senior Services (www.sbssla.org) tested M&M at its S. Mark Taper Foundation Adult Day Care Center, which specializes in clients with Alzheimer’s Disease and other dementia.

The 4-week pilot established the following goals:

- Determine if M&M increases the quality of life for memory care residents/participants and the quality of care for the care center staff
- Gauge the amount of resources required to train the staff
- Gauge the amount of resources to sustain and expand the program
- Evaluate if participants will experience a visible improvement in overall wellbeing

Using pre- and post-intervention surveys, caregiver feedback, and focus group interviews, FPCIW found impressive results with the solution as a cost-effective, dignified approach to supporting the health and wellness needs of older adults in memory care programs.

Vendor Program Background

MUSIC & MEMORYSM (<http://musicandmemory.org>) is a non-profit organization founded by Dan Cohen to train elder care professionals to bring personalized music into the lives of the elderly using the iPod.

M&M is rooted in neuroscience research which demonstrates that listening to preferred and personally meaningful music can tap deep into memories and

enabling them to be social and present. A program that uses iPods and individualized playlists, M&M currently operates in elder care facilities throughout the U.S. and Canada showing consistent results of participants being happier and improving quality of care with staff.

Being a certified MUSIC & MEMORYSM facility costs \$1,000 (U.S.) per organization (for-profit or non-profit). For groups with multiple sites, the price is \$1,000 for the first site and \$600 for each additional. Pricing is adjusted based on number of residents/clients at a site:

- 51 or more: \$1,000
- 36-50: \$600
- 21-35: \$400
- 9-20: \$350
- 8 or fewer: \$250

This includes a live 3-day webinar training, a full-year of coaching support via conference calls, one-to-one consultations as needed, and free training for up to two additional staff yearly. A registered M&M facility becomes a designation site for prospective volunteers and a donation site for iPods.

Project Technical Requirements

The program requires Apple iTunes, a media player (iPod) and a music library. iTunes is required to play, purchase, and organize music on a computer. Facilitators can use iTunes to create playlists to copy and to load into iPods for the residents.

Villa Gardens purchased 8 iPod shuffles, 8 headphones, and a \$25 iTunes gift card to purchase songs. They also received a \$50 iTunes gift card from FPCIW. For Villa Gardens, the project required the installation of an external network drive to store the music library and an iTunes account set up by the Front Porch IT team.

St. Barnabas received 5 iPod shuffles, 5 Koss headphones, and a \$50 gift card from FPCIW. St. Barnabas was responsible for setting up its own necessary software and dedicated computer for the pilot.

Support and Training

The MUSIC & MEMORYSM program provides care staff training on how to handle multiple personalized play lists, deal with extensive change management, and operate iPods. The training also outlines strategies and approaches for adoption, and provides a comprehensive toolkit for guidance and sustainability.

MUSIC & MEMORYSM holds regular webinar trainings throughout the year, and is divided into three parts:

- **Webinar I (Day 1, 90 minutes): Getting Started**
Goes over the benefits of personalized music, understanding the legal boundaries of music sharing.
- **Webinar II (Day 2, 90 minutes): Creating Personalized Playlist**
Understanding the iTunes store, building the iTunes library, and finding the most efficient way to buy music on iTunes.
- **Webinar III (Day 3, 90 minutes): Maximizing Benefits for the Resident**
How to use the iPod shuffle, introducing the program to residents, staff, and family members, expanding the M&M program

Following the webinar, M&M also provided a Music & Memory Resource folder that included the following materials:

- **Assessing Impact:** Shares various scales and surveys from different care facilities to measure the impact of the program.
- **Community Engagement:** Shares examples of marketing materials from other facilities to launch an iPod drive and recruit volunteers for your facility.
- **Media:** Articles on how memory care centers and senior living communities are using MUSIC & MEMORYSM and the impact it has made to their site.

- **Operations:** Shares examples of how facilities created materials to help structure and organize the M&M such as assessing music preferences, assigning and managing iPods, examples of storing iPods, and where to buy more iPod equipment.

FPCIW provided support by providing additional training and created a tool kit for Villa Gardens and St. Barnabas Senior Services to help structure the program:

- Musical Assessment Preference forms
- Reference of popular artists and songs in foreign languages (Korean, Chinese, Spanish, Armenian, Tagalog)
- Reference of popular Western artists and composers divided by genre
- Procedure and examples to save iTunes and/or Amazon receipts when making M&M related purchases with gift cards,
- Vendor list of where to purchase more iPod Equipment ,
- iPod Assignment and Tracking Sheet,
- Gift card donation tracker, and
- Wong-Baker Facial Grimace Scale used to measure impact

FPCIW also scheduled once-a-week conference calls with St. Barnabas and Villa Gardens to exchange stories, lessons learned, and provide moral support.

FPCIW volunteer, Nicole Turnier, contributed to the M&M by providing additional training and support on iTunes when needed, training on Amazon to purchase music and other M&M related items, insight on assessing musical preferences, and producing a reference table on popular Western music.

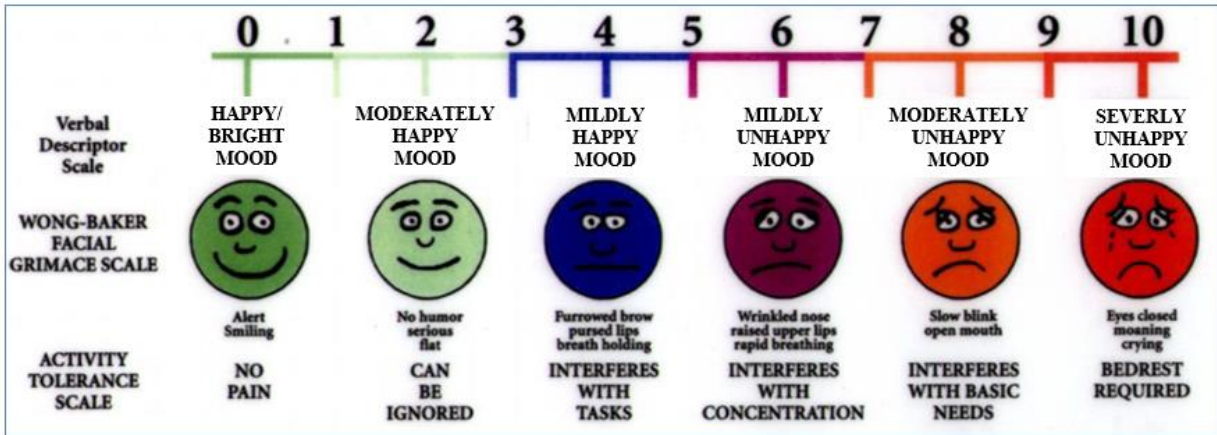
Project Findings

Assessing Impact on Participants

FPCIW modified the Wong-Baker Facial Grimace Scale (see figure 1 below) to track how M&M listening sessions impacted the residents. The impact scales provided in the M&M Resource folder were too long to be used on a daily basis with each individual participant--the scales from the resource folder mainly measured for geriatric depression and did not include an opportunity for

facilitators to note their observations such as changes in alertness and anxiety. FPCIW’s modified tracking form was designed to be quick and allowed to note observations as needed.

Music and Memory Resident Evaluation



Wong-Baker FACES Pain Rating Scale

Activity: IL / AL / Memory Care
(circle)

Date:

Instructions: For each intervention, randomly select the first 5 residents before starting, and note the Baseline Mood from your observations according to the scale above. After the intervention, note the Follow-up Mood and any brief observations.

Resident's Name	Baseline Mood (##)	Baseline Time	Follow-up Mood (#)	Follow-up Time	Notes
1.					
2.					
3.					
4.					
5.					

Figure 1: The Wong-Baker scale depicts 6 faces along a numerical scale ranging from 0 to ten. Zero on the scale is represented as a happy face, while ten is represented as a crying, grimace face.

Facilitators filled the tracking form by listing the participants who listened to their iPods that day. Facilitators wrote a number from the scale corresponding to the face that best represented how the resident appeared to be feeling before and after listening to the iPod (the lower the number, the more positive the observed mood). On the form, there was also a “Notes” section to mention any behavior changes.

Results in Villa Gardens:

	Wellness Center	Health Center	Total
Number of participants	4	4	8
Total number of interventions	25	81	106
Number of successful Interventions	25	75	100
Number of unsuccessful interventions (declined to listen, facilitators wrote “refuse” or “decline” in the notes)	0	6	6
Number of sessions where there was no change in mood	2	9	11
# of sessions where there was a negative change in mood (mood got worse, participant received a higher number in follow-up)	0	0	0

Table 1. Breakdown number of sessions in Villa Gardens

The activities staff in Villa Gardens facilitated the M&M sessions and provided one iPod per resident. The staff distributed iPods at different points of the day on an as-needed basis.

The Wellness Center residents live independently but may require care staff to assist them with activities of daily living (ADLs). Health Center residents stay temporarily for rehabilitated care or stay long-term and require skilled nursing care. Both populations had various degrees of dementia. Some participants were isolated and generally did not participate in activities not by choice, but due to

physical limitations. Some participants were described as agitated and restless at certain times of the day.

At the Health Center, resident turnover sometimes presented a challenge.

	Wellness Center	Health Center
Average Baseline mood (Pre-intervention)	5.00	3.12
Average Follow-up Mood (Post-intervention)	2.72	2.15
Change (Difference between the average baseline mood and follow-up mood)	2.28 (46% change)	0.97 (31% change)

Table 2. Average mood results in Villa Gardens

Highlights from tracking survey notes:

- “Seems like she is reading more, happy.” GL 11/20/14
- “Used overnight, calms her down. Slept well.” MN 12/01/14
- “Eyes open, more alert.” LL 12/1/14
- “Happy, dancing, talking.” BD 12/9/14
- Frequently used words on the notes:
 - o “Smile(s), smiling” appeared 31 times
 - o “Happy”, “Happiness” appeared 22 times
 - o Words such as “sing(ing)”, “mouth(ing)”, or “hum(ming)” appeared 12 times
 - o “[eyes] open” or “alert” appeared 10 times

The intervention happened at different parts of day for different residents. For example, at the Health Center, staff gave the iPod to help calm a resident during a caregiving activity and during therapy sessions. At the Wellness Center, a resident

would listen to music before going to sleep to reduce agitation and sleep better at night. Listening sessions were usually about 15-30 minutes.

Results from St. Barnabas Adult Day Care Health Center

	St. Barnabas Senior services
Number of participants	10
Number of successful Interventions	40
Number of unsuccessful interventions (declining, refusing headphones)	3
# of sessions where there was no change in mood	4
# of sessions where there was a negative change in mood (mood got worse, participant received a higher number in the mood scale)	3

Table 3. Breakdown number of sessions at St. Barnabas

In the beginning of the pilot, M&M sessions were facilitated by David Lee, a Masters in Social Work intern, who held iPod sessions twice a week. On week three, David held a training session with the activities coordinator and two CNAs so the program could run on a daily basis. The staff distributed iPods at different points of the day on an as-needed basis.

The population at St. Barnabas included members with advanced dementia with behavior described as self-isolating, socially withdrawn, wandering tendencies, and/or displays of aggressive behavior. The demographics of the population consisted of 4 Korean monolingual speakers, 3 monolingual Spanish speakers, and 3 English speakers.

Average baseline mood	5.63
Average Follow-up Mood	3.56
Change	2.07 (37% change)

Table 4. Average mood results in St. Barnabas

Highlights from the notes from the mood scale:

- “Did not want to leave [the day care center].” MS 12/01/14
- “Instantly sang.” CC 11/24/14
- “Patient is alert and smiling.” LC 12/09/14
- Most frequent words used on the notes:
 - o “calm” appeared 8 times
 - o “a/sleep”, “sleeping” appeared 6 times
 - o “smile(d), smiling” appeared 5 times

Staff used the intervention with members who generally do not participate in daily morning group activities. The staff also used the intervention with participants after lunch hour when they showed some symptoms of sun-downing such as restlessness, anxiety, agitation, and wandering because participants were waiting for their caregiver or family member to pick them up from the day care. Listening sessions were usually between 30 minutes to an hour.

Issues

There were no hardware issues during the course of the pilot. iPods are known to be very sturdy and able to withstand common impact such as dropping and throwing. According to the M&M webinar training, the iPod breakage rate in the program have been less than 1%.

iTunes – During the pilot, Apple updated its iTunes software. This may have caused confusion some with some staff who had previous experience with iTunes from personal use. *A short guide on navigating the new version of iTunes will be made as part of the tool kit and handed to Villa Gardens, St. Barnabas, and other Front Porch communities as a reference.*

Access to the iPods around the clock and available to more staff– This applied to Villa Gardens because the activities staff who facilitated this pilot worked during regular business hours between 8 AM to 5 PM. The activities staff felt that that residents could benefit more from M&M if they listened either early in the morning or before going to bed. Maria Gallegos from the Villa Gardens Health Center currently lends an iPod to the husband of one of the residents when he visits; however, they have not yet given access to the iPods to other staff members. In the Wellness Center, Evita, lends the iPod to one of the resident’s caregivers who works the night shift so one particular resident could listen to her music before going to sleep; as a result, she has been sleeping better.

Post-pilot, Villa Gardens will hold in-service with key staff in the Wellness Center and Health Center so staff could have access to the iPods.

Post Assessment

Staff’s response on the M&M project has been overall positive. According to the follow-up survey, they unanimously answered that M&M increased the quality of life for memory care residents.

Based on answers from the follow-up survey, staff answered that M&M was effective with participants in the following ways:

- **Easing and reducing pain** – This answer was rated the highest at 66.7%. The comments from the survey were:

“During rehab therapy, resident seemed to focus on the music and did not complain of pain during her session as she usually does.”

“For a particular resident, she screams when she's being transferred, but with the music, it seems to alleviate her pain.”

- **Disruptive verbal/physical behaviors** - 57.1% of staff said “yes”, while 14.3% answered “no”, and 28.6% answered “not applicable, did not use for verbal/physical behavior”. The comments from the survey were:

“In some cases, listening to the music has seemed to calm patients who were distressed, and we have observed a very good response from some of our patients who most often demonstrate disruptive behaviors such as wandering and aggressiveness.”

“Staff has observed that resident was less combative in the morning during activities of daily living (ADLs).”

- **Depression** – 42.8% of the staff answered “yes”, while 28.6% said “not sure/did not notice” and 28.6% said “not applicable, did not use for depression.” The comments from the survey made were:

“I don't know about long-term effects, but we've observed improved mood in most cases when using the program.”

Depression is difficult to detect and diagnose with Alzheimer’s and other dementia patients. The staff who answered “not applicable, did not use for depression” and “not sure/did not noticed” explained they did not have any participants who were clinically diagnosed as depressed.

Positive outcomes from the MUSIC & MEMORYSM program:

- The program was easy to use and easy to train other people
- Program is relatively inexpensive to start, great for facilities with limited resources
- Recommended for people who normally do not participate in activities due to self-isolation, physical limitations, and/or advanced dementia

What could be improved about the MUSIC & MEMORYSM program:

- More training on iTunes
- The Villa Gardens activities department felt that some of the residents could benefit more from M&M outside regular hours (before 8 AM, after 5

PM). Villa Gardens would like to have more care staff involved to support M&M after hours.

- The Villa Gardens staff thought the tracking survey should have a larger “Notes” section to allow more writing space for observations.

Conclusion

FPCIW succeeded in meeting the goals for the pilot. Through the tracking scales and feedback left by staff, FPCIW found that M&M increased the quality of life for memory care residents and care delivery. The tracking scales used to evaluate the participants revealed visible and apparent improvements in their wellbeing. FPCIW’s goals to gauge the amount of resources needed to train, sustain, and expand the program were met when it was determined it required additional training and support from other departments to expand and sustain the program. The staff said they would like to receive more training on iTunes. Post-pilot, an iTunes navigation guide will be produced and will be part of the M&M tool kit. The staff also felt participants could maximize the benefits of personalized music if the iPods were more readily accessible throughout the day, especially outside business hours; this will require training and support from other staff members such as CNAs and LVNs to distribute iPods.

Since the formal end of the pilot, Villa Gardens and St. Barnabas have continued to demonstrate the impact and effectiveness of the program by reporting better behavior management, improved moods, and greater social engagement. Staff also experienced a reduction in caregiving stress with the participants in the program.

Both communities plan to expand the program by obtaining more iPods and iTunes gift cards through iPod drives and getting more care staff involved. St. Barnabas is in the process of planning an “Alive Inside” screening as a way to fundraise for more iPods. St. Barnabas is planning to integrate M&M as part of the care staff service delivery; currently two CNAs and an activities coordinator are trained to distribute the iPods and continue to use the tracking scale. Villa

Gardens is working to get more departments involved and planning to create a storage space for iPods for key staff to have access and support M&M after hours.

The overall success of the pilot has been apparent, and FPCIW strongly recommends the diffusion of the MUSIC & MEMORYSM program throughout Front Porch communities, and will integrate a staff development and sustainability plan in our training program.