



Personalized Music – The Miracle Pill & #1 Non-Pharm Approach to Care

Robin Lombardo, CTRS, MS, CDP

What if a miracle pill existed that transformed life for individuals with cognitive, mental and physical challenges?

What if it reduced agitation, falls, delirium and pain; resistance to care and reliance on a host of medications?

What if it enabled individuals to age in place, communicate and experience joy; improved post-surgical and rehab outcomes; enhanced nutrition and provided a greater continuum of care?

What if it provided respite and tools for at-home family caregivers? What if it wasn't a pill at all, but the intervention of evidence-based, personalized music?

Today we will cover:



- Alive Inside Documentary: the Story of Music & Memory
- What is personalized music?
- What sets it apart from other music offerings?
- Why, How, for Whom and Where does it work?
- How can you use it strategically?
- Published, Evidence-based Research
- Videos
- Music Exercise
- Questions & Answers

Alive Inside – The Story of Music & Memory

The Most Awarded Documentary – 2014



Have you seen the film?



The New York Times



guardian.co.uk



Case Study

Henry

Henry



Making Music Personal

- Is music important in your daily life?
- When do you listen to music?
- How often do you listen to music?
- Do you play an instrument?
- Does music impact your mood?
- What song brings you back?

A yellow sticky note with a slight shadow, tilted at an angle. It contains the text: "Music is tied to experiences and emotions. Playlists have to be personalized!"

Music is tied to experiences and emotions.
Playlists have to be personalized!

Exercise:

Build a personalized playlist





What music did you listen to in high school?

Do you remember the first live music you saw?

What was the first piece of music you purchased with your very own money?

How would you feel without access to your own music? What if you had to listen to someone else's music?

LET'S TRY THIS-----



AMERICA'S #1 HITS

FROM 1950 FORWARD

<https://www.youtube.com/watch?v=Ro45WewTff0>

Music Genre Exercise

- What is the genre of music you prefer?
Blue Grass, Blues, Broadway Musicals, Classical, Country, Easy Listening, Folk, Gospel, Hip-Hop, Jazz, Latin, Pop, R&B/Soul, Rock
- List your 5 favorite artists within music genre – keep it a secret!
- Turn to your neighbor – how many can they guess?
- How much would the quality of your day be affected if you had access to 200 of your favorite songs that could go anywhere with you?
- Is music from an era or genre sufficient? Are we missing the mark?

**Finding old music
you used to
love is
like
getting
back in
touch
with an
old friend.**



What YOUR Music Does for YOU...



Is the Same for Physically, Mentally, Cognitively, and/or Developmentally Challenged Individuals



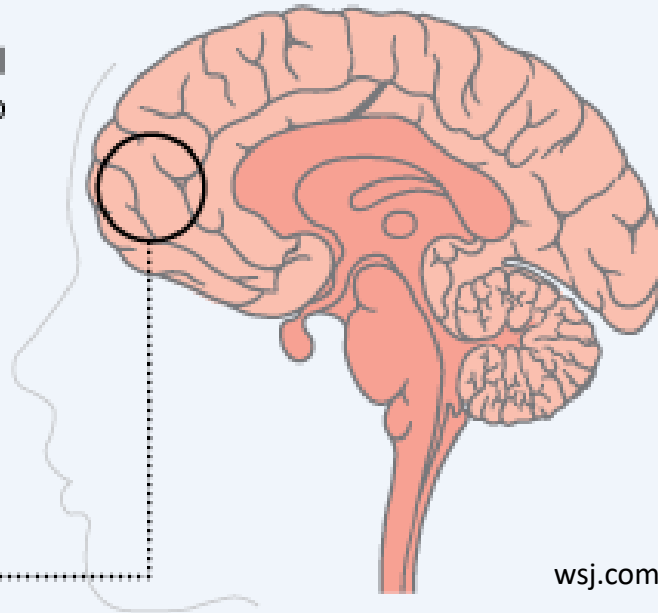
Why it works



Good News

New research indicates that the medial prefrontal cortex may serve as a hub where music, memory and emotions meet. It is also one of the last brain regions to atrophy in Alzheimer's patients.

Medial prefrontal cortex



- Chances are that our favorite music will always be with us
- Music is stored in area of the brain last effected by Alzheimer's and other dementias
- Inseparable from emotions and long-term memories
- We used to believe – brain is hard wired and cannot be changed. Now know that the brain can make new or restore connections around damaged areas.

According to A Systemized Collection of Data:

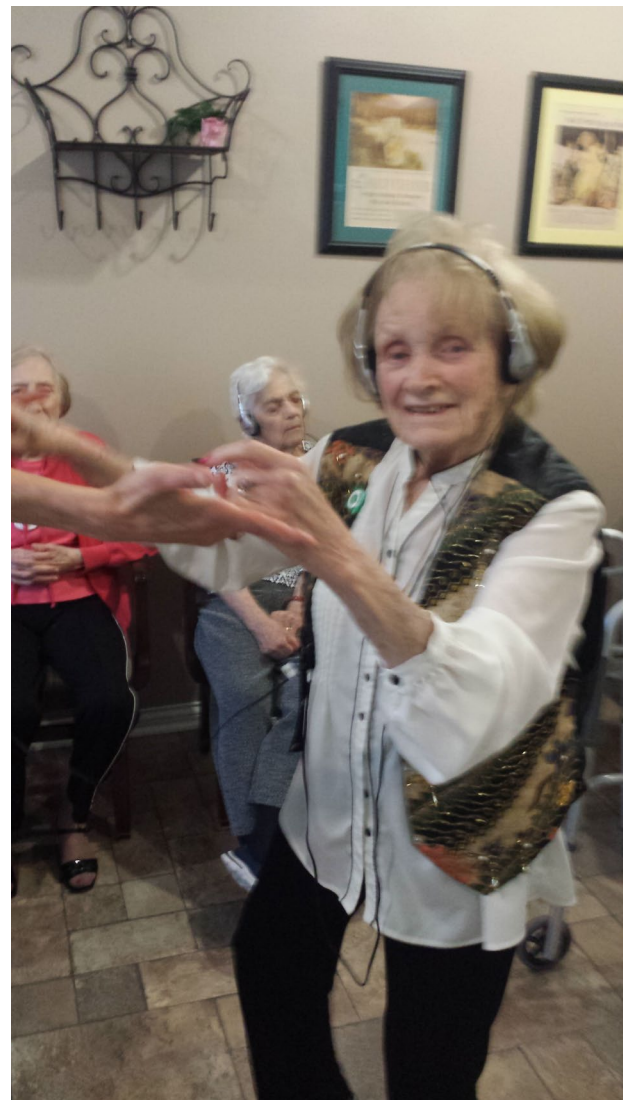
Familiar music activates more parts of the brain than any other stimulus. It's #1.

Almost all of the areas of the brain are stimulated when we hear a favorite song.

So, shouldn't we use the stimulus proven to be most effective? Our favorite music!

Seniors participate in creation of their personalized music playlist earlier rather than later.

Families can help and take an incredible journey with their loved one.



“Music has powerful (and visible) effects on the brain.”

Published in: *ScienceDaily* – April 12, 2017

Jonathan Burdette, M.D.
Professor & Neuroradiologist
Wake Forest Baptist Medical Center



Dr. Burdette used **functional magnetic resonance imaging** (fMRI), which depicts brain activity by detecting **changes in blood flow**. Scans were made of **21 people** while they listened to music they said they most liked and disliked from among five genres and to a song or piece of music they had previously named as their **personal favorite**.

How it Works



Individual, Family & Caregivers



Bringing Everyone Together
Creating a Supportive & Rewarding Network
Enhancing Relationships and Bringing Respite and Hope

Benefits for Participants



- Brings joy and enhances quality of life
 - Offsets symptoms of Sundowning
 - Reduces use of medications so individuals can be their best selves
 - Increases nutrition and appetite
 - Individuals are more active and communicative
-
- Enhances community, engagement and personal connections
 - Restores identity and personhood, connections with family
 - Offsets boredom, isolation, pain and depression

Benefits for Family Members

- Renews hope
- Provides respite and decreased stress for family members
- Family caregivers can find time for themselves when their loved one is enjoying their music or they can listen together and reminisce
- Transforms visits from other family members and friends – music is a great activity to bring everyone together



Making Caregiving Easier and More Rewarding



- Staff is more efficient – participants are more engaged and willing to accept care – caregiving is easier
- Reduce unscheduled visits by care staff when family members have this valuable tool they can use 24/7
- Increases morale/team approach
- Help meet person-centered quality measures
- Supports fulfillment of purpose and desire to make a difference
- Enhances staff/family relations. Family members won't believe that you're willing to do something so personal and meaningful for their loved one. Better personal connections.



Personalized Music

How can you use it strategically?

Think of Music as Medicine

"The closer we get to the songs that have deep emotional connection for a person, the more therapeutic 'dose effect' we see." —Mark Hammond, MD, 30 Year Geriatrician





MUSIC & MEMORY[®] Personalized Music Prescription



Name: _____

Address: _____

Medication: 150 Artist-Specific Songs that hold personal meaning to individual



WARNING: MAY CAUSE EPISODES OF

- ✓ Excessive movement and singing
- ✓ Enhanced quality of life and joy
- ✓ Decreased behaviors and episodes
- ✓ Improved cognition, social engagement and communication
- ✓ Reduced agitation and anxiety
- ✓ Reduction of meds (pain, anxiety, sleep aids, anti-depressants, etc)
- ✓ Reduced falls
- ✓ Improved appetite, swallowing and nutrition
- ✓ Ease of care and efficiency for family caregivers and care pros
- ✓ Reduced stress during, hygiene care and bathing, transitions of care and medical treatments
- ✓ Caregiver respite and hope
- ✓ Enhanced visits with friends and family members

Dosage & Regimen: Daily music PRN (as needed) to eliminate or decrease indications noted and improve outcomes. 30 minutes – 1 hour per session as tolerated. Review quarterly.

Signature: *Jay Melody, MD*

Date: *5/3/18*



Which medication
should be used?

When? How often?
For how long? And for
what purpose?

Med = Which Songs.
Regimen = How Often.
Dosage = How Long.

Sylvia – Suffered from Parkinson's Disease

During Face-time sessions with her sister, Mimi, Sylvia began making eye contact. After years of silence, she started to speak again. It was thrilling. For a little while, Mimi has her sister back. However, if Sylvia didn't listen to her music prior to Face-time sessions, there was no response and no connection. The transformation was incredible. Ultimately, Sylvia was no longer administered any pain meds.

After one Face-time session with Mimi, Sylvia told Chaplain Donna that she wanted some white chocolate. Donna ran to grab a few white chocolate Hershey's kisses from her office. Sylvia's eyes lit up and then she said, "I want a whole box!"

- Chaplain Donna Stewart
Signature HealthCARE–Columbia, TN

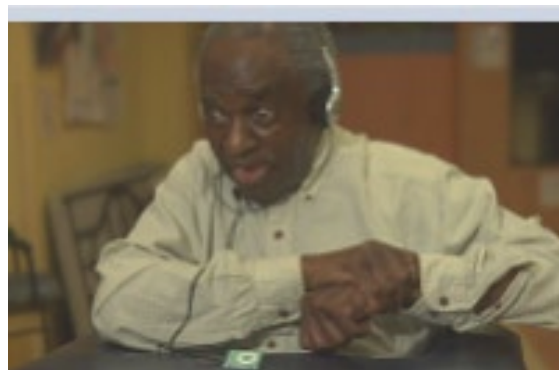


Residual Effect?

When an individual's personalized music playlist has been written into their plan of care and is being administered consistently, like medication, there can often be a positive residual effect.

The benefits and uses of personalized music are as unique and person-centered as each music playlist itself.

Emergency or Disaster Preparedness

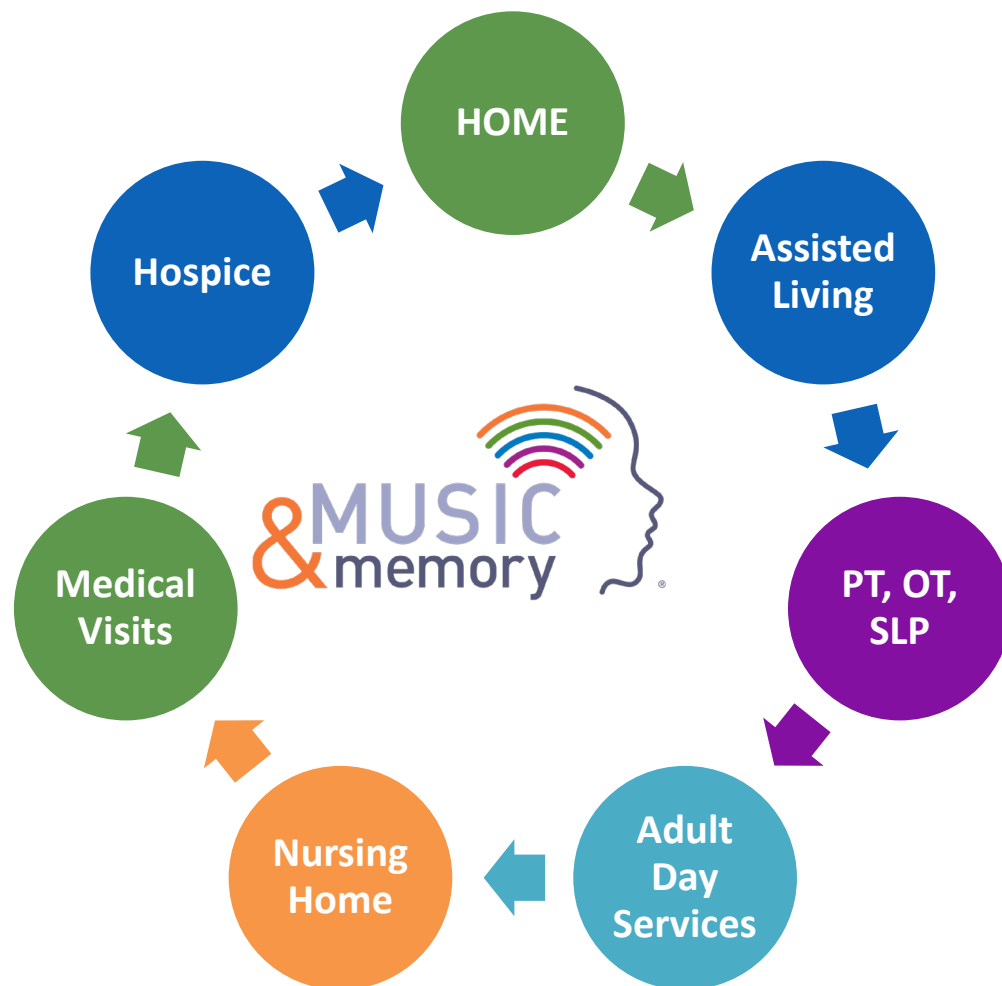


Turn Your Program into a Quality Improvement Initiative

Administrators
State Surveyors
Attending Physicians
Nursing staff
Direct Care
Rec Therapy & Activities
MDS Specialists
Dietary
Marketing & Social Services
Therapy (OT, PT & Speech)

Transitioning with Music

Our goal is to ensure that the people you are working with experience uninterrupted access to music when transitioning between different settings. Transition trauma and stress are reduced. A greater continuum of care is possible.





Who can Benefit? Any Diagnosis?

- Enhance Quality of Life
- Alzheimer's & Other Dementia's
- Stroke Victims
- Parkinson's Disease
- Multiple Sclerosis
- Traumatic Brain Injury
- Huntington's Disease
- Intellectual Impairments
- During Chemotherapy & Dialysis
- Prior to the Delivery of ADL's
- Enhance Treatment Outcomes – Dr. Visits/Procedures
- Curb or Eliminate Behaviors and Episodes, Anxiety, Agitation
- Stimulate Activity & Therapy Participation
- Decrease Pain and Depression



A Tool! An Intervention

- Nutrition & Weight Maintenance
- In Lieu of Medications
- Eliminate or Decrease Physical and Verbal Aggression
- Reduce Falls, Feeding Tubes
- Enhance Sleep
- Reconnect Families and Transforming Relationships
- Help Individuals Age in Place
- Transitions of Care – Reduce Trauma & Stress
- Hygiene Care/ Music Assisted Bathing
- Emergency Room Moments
- Vocational Rehabilitation
- Self-Directed Advocacy
- Person-Centered Decision Making
- Improve Cognition, Communication, Social Engagement & Mood

Where it Works: It's Not Just for Recreation Anymore – Not just an Activity



New South Wales – Largest Hospital System in Australia



What Care Categories Use It? Program Status

- Currently over 5,000 certified programs – all 50 states and 11 countries utilized in a variety of settings:
 - Skilled Care, Assisted Livings, Home Care, Adult Day Programs, Veterans Homes
 - Hospitals, Rehabilitation Centers, Behavioral Health
 - Palliative Care & Hospice
 - Broad diagnostic group from Psychiatric, Dialysis, Chemotherapy and more
 - At-home by family caregivers
 - Alzheimer's Organizations, Community Based Orgs including Libraries, Respite Care

Home: An Ideal Setting for Personalized Music

Seventy percent of individuals with Alzheimer's are being cared for at home, where personalized music provides important benefits to persons with dementia, as well as their family caregivers faced with the daily challenges of the disease, to **connect, communicate** and keep their loved **ones safe at home longer**.



Home Care professionals are finding that personalized music is a valuable tool that enables them to achieve greater outcomes.

Evidence Based Research

Published Research

Dementia: The International Journal of Social Research & Practice to be published Fall, 2018

"Music & Memory and Improved Swallowing in Advanced Dementia"

Stephen G. Post, PHD

Professor, Dept of Family, Population & Preventive Medicine

Division Head, Medicine in Society

Director, Center for Medical Humanities, Compassionate Care & Bioethics

Stony Brook University School of Medicine

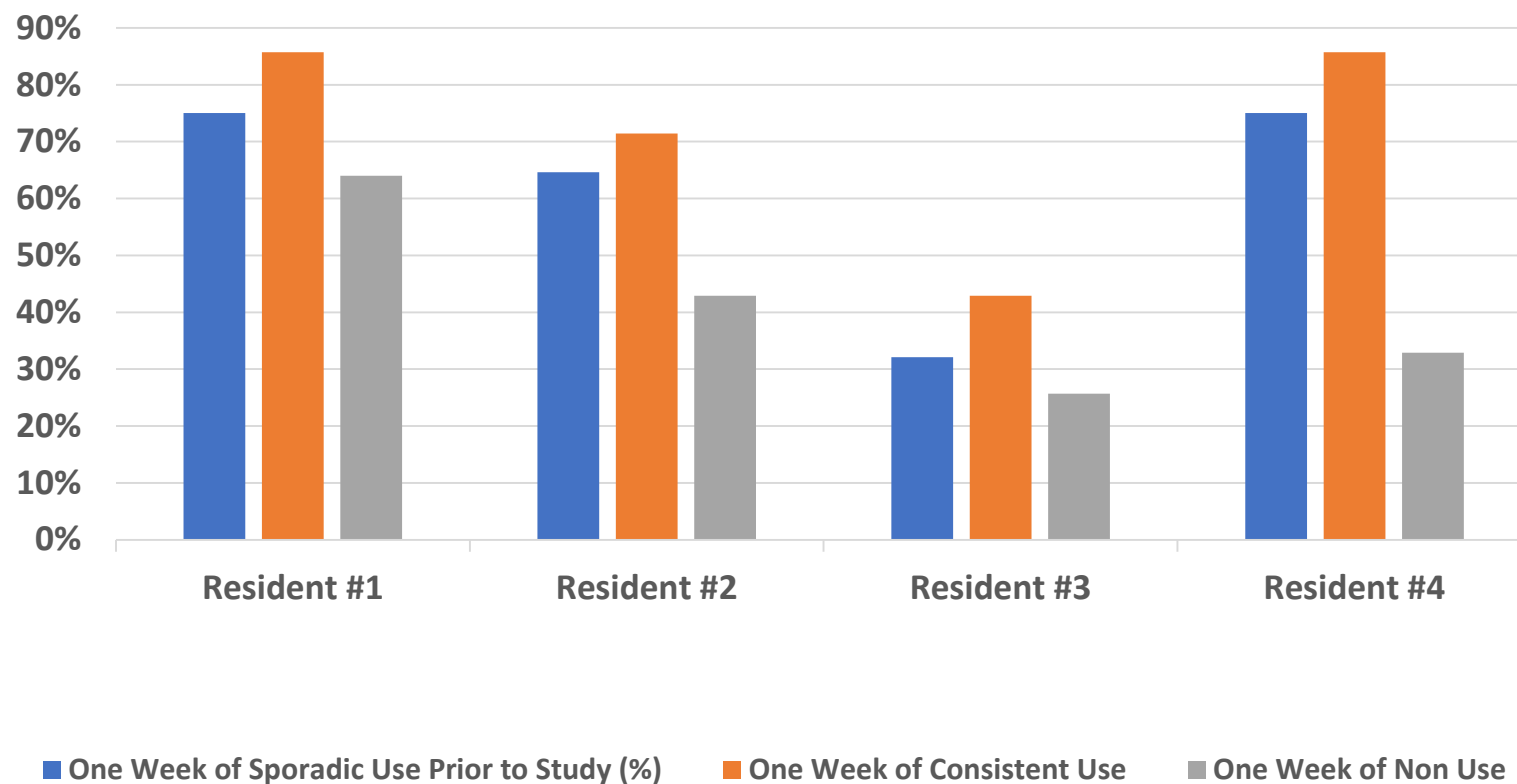
Manuscript ID is **DEM-17-0144.R1**

MEASUREMENTS: 4 Study Participants. Observational by eight professional caregivers at Columbia Health Care – Quality Assurance Team in Wisconsin

RESULTS: (1) Enhanced swallowing mechanism with Music & Memory prior to dining; (2) decreased incidents of choking during mealtime; (3) improved nutritional status by 72.5%; (4) reduced weight loss; (5) reduced need for speech interventions/thickened liquids; (6) enhanced quality of life/aging in place.

CONCLUSIONS: Based on significant preliminary observational data, we conclude that dysphagia may be in part resolvable through Music & Memory interventions.

Music & Memory Average Nutrition Intake Data



"An Individualized Music-Based Intervention for Acute Neuropsychiatric Symptoms in Hospitalized Older Adults With Cognitive Impairment: A Prospective, Controlled, Nonrandomized Trial."

1 University of Kansas School of Medicine—Wichita, USA

2 Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, Hempstead, NY, USA

3 Via Christi Hospital—Wichita, KS, USA

Schroeder et al.

MSN First Published June 21, 2018 Research Article

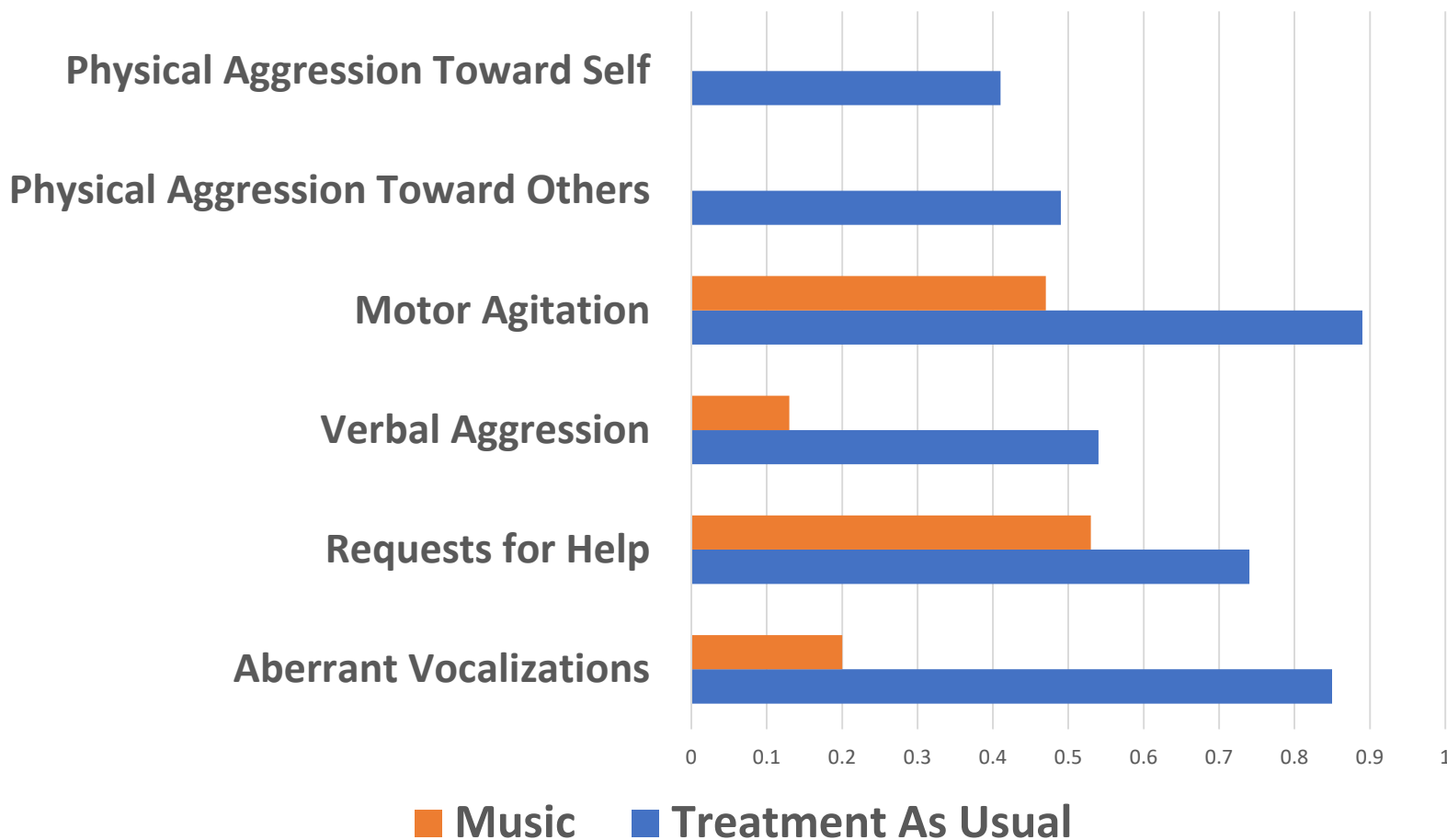
<https://doi.org/10.1177/2333721418783121>

Outcomes (A total of **41 patients** participated)

The outcome variables examined in this study included level of agitation, negative mood, positive mood, resistance to care, number of one-on-one nursing staff interventions, and number of agitation-related PRN medications.

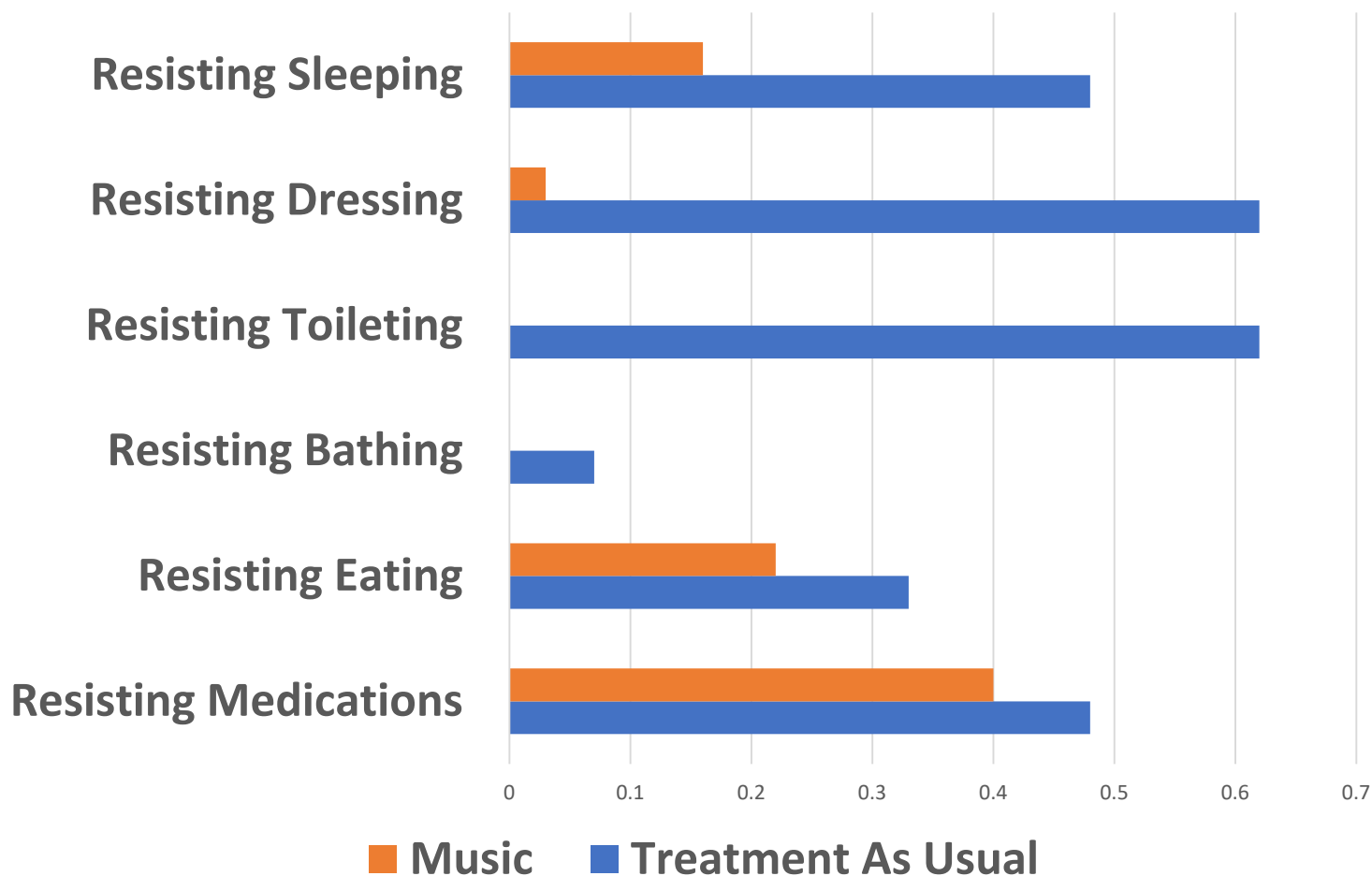
All variables were documented by nursing staff who were trained to identify and rate each of the behaviors comprising the variables. Nursing staff used behaviorally anchored Likert-type scales to do so. Patients were rated every 12 hours during the hospital stay.

Agitation Measures



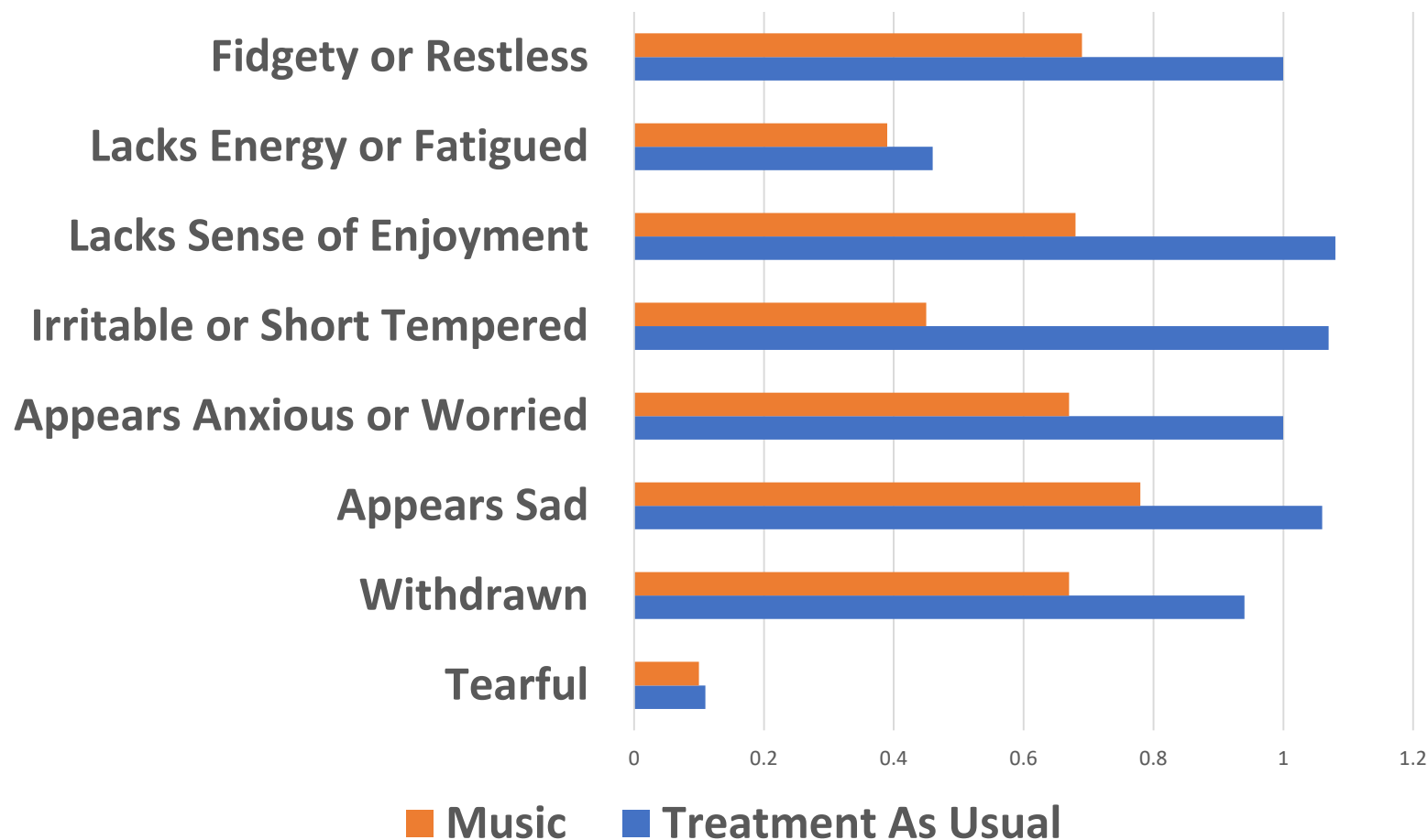
This chart was created from the data collected from the previously cited research.

Resisting Care Measures



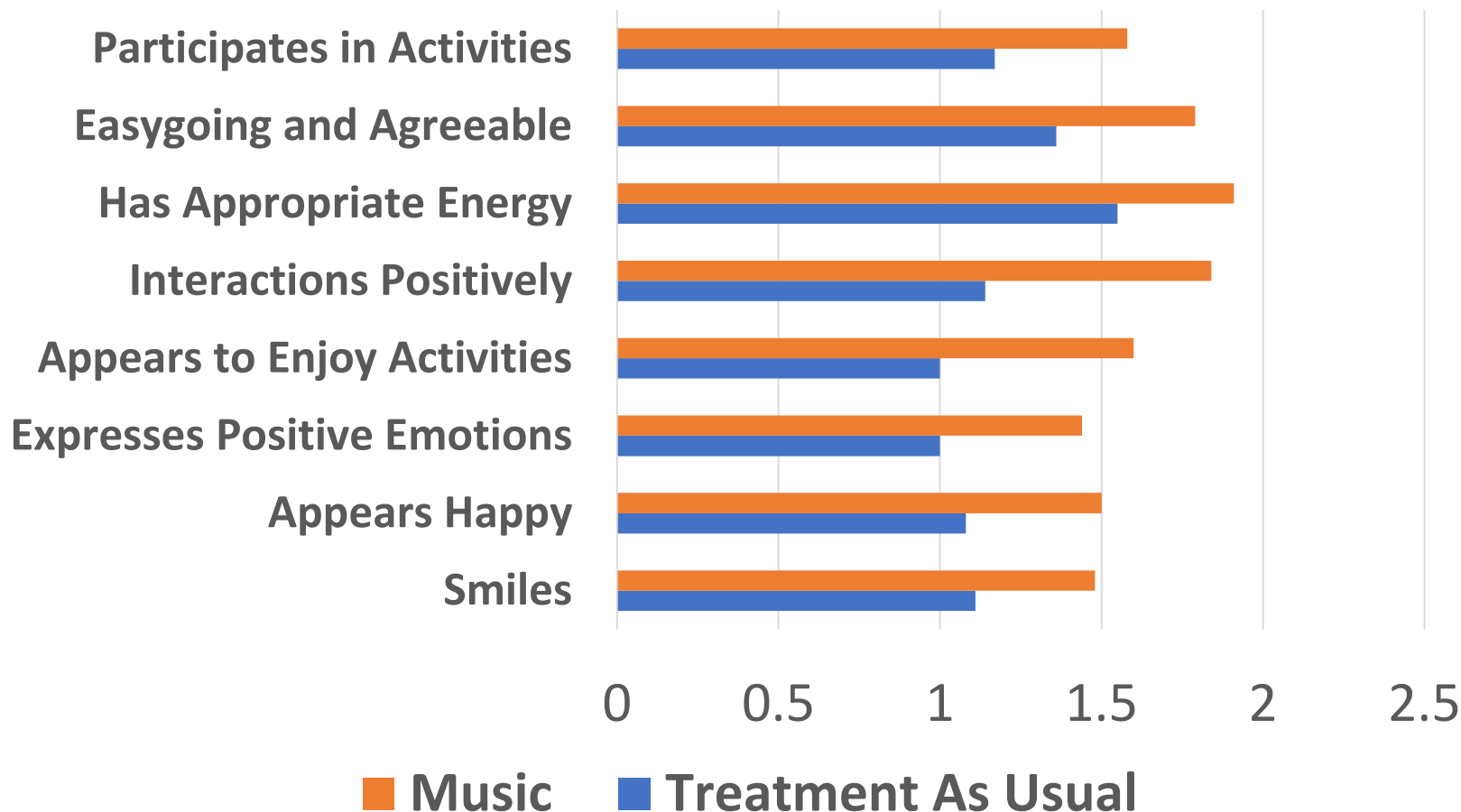
This chart was created from the data collected from the previously cited research.

Negative Mood Measures



This chart was created from the data collected from the previously cited research.

Positive Mood Measures



This chart was created from the data collected from the previously cited research.

The Journal of Prevention of Alzheimer's Disease

"Increased Functional Connectivity After Listening to Favored Music in Adults with Alzheimer Dementia"

Published by a team at University of Utah Health in Salt Lake City.

April, 2018 study reports "objective evidence from brain imaging shows personally meaningful music is an alternative route for communicating with patients who have Alzheimer's disease."

Findings:

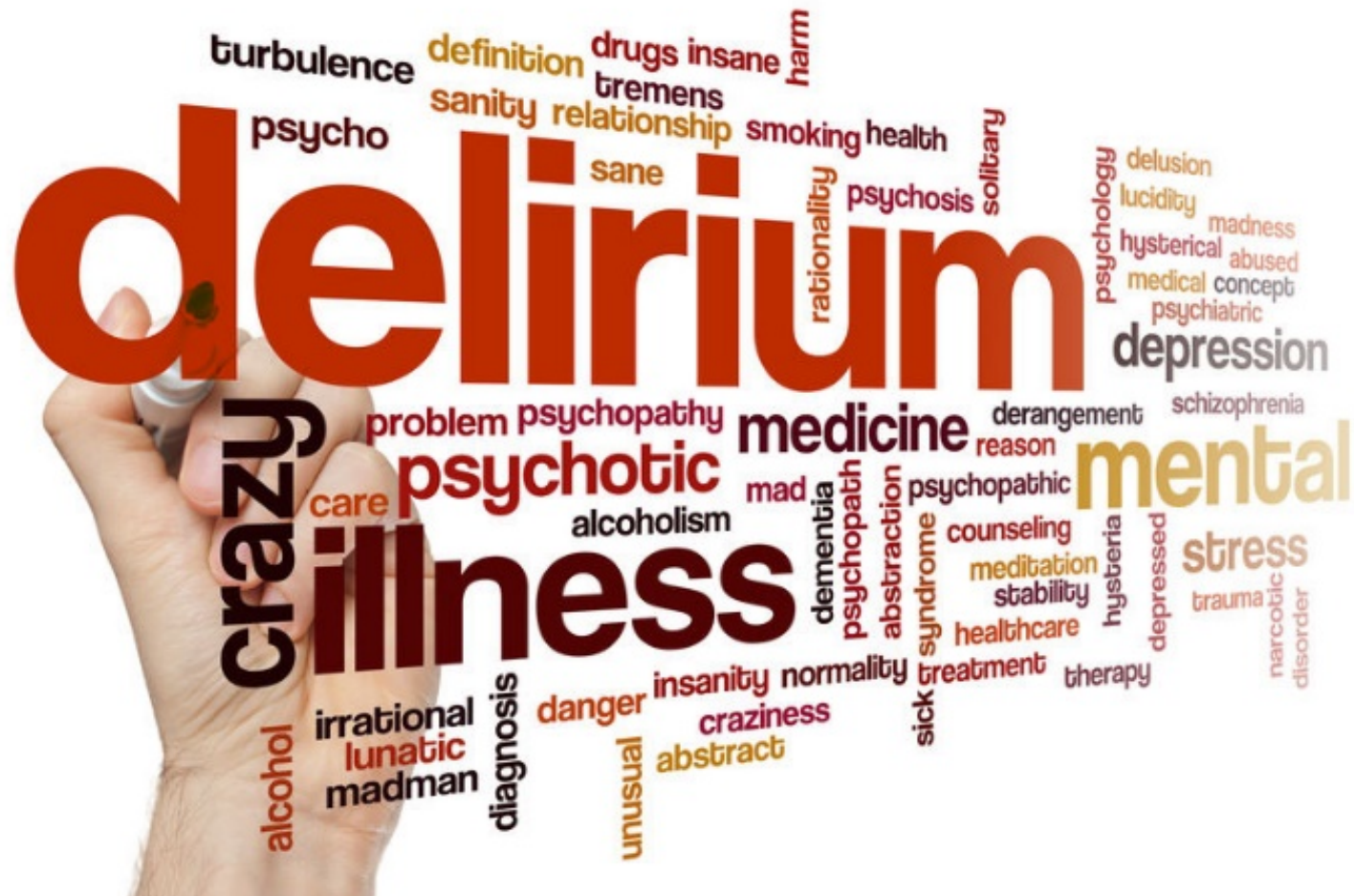
By listening to the personal soundtrack, the **visual network**, the **salience network**, the **executive functioning network** and the **cerebellar** and **corticocerebellar network** pairs all showed significant higher functional connectivity, addressing areas most challenging to caregivers.

This demonstrates re-connectivity in part of the brain that facilitates attention span and focused skills“staying on task.”

Findings mark a significant step toward demonstrating how personalized music is a therapeutic mechanism to address measurable improvement in mood, awareness and quality of life for people with dementia.

Improved connectivity = Improved function.

Activation of neighboring regions of the brain may also offer opportunities to delay the continued decline caused by the disease.



Mark Hammond, MD 30-Yr Gerontologist



Has worked with Memphis, TN nursing homes for three decades. Dr. Hammond says about a third of those who become delirious during a hospital stay are unable to get clear of the confusion—placing them at greater risk of additional health complications, both in the hospital and after discharge. “It causes a **cascade** of problems. Their risk of death over the next 12 months doubles.

“Preventing delirium can significantly alter the patient’s health trajectory. Any music that is meaningful to the patient, the playlist of the person’s life, connections to childhood or adolescences—bridging neurological pathways can bring the patient back to reality.”

NHC Health & Hospitals Corp – Reduced Antipsychotic Use from 38% to 13% Over a 3-year Period



Tackling Delirium – A Low Hanging Fruit:

Behavioral Health Opportunities in 2019

Ravindra Amin, MD

Chief of Psychiatry, Coler Rehabilitation and Nursing Care Center

Adjunct Assistant Professor of Psychiatry, NYU Medical Center

Ravindra.amin@nychhc.org

CCLC – LMP Dec 12th, 2018

Delirium:



the stealth bomber
of Medicine....

What is Delirium?



- Delirium, defined as an acute and sudden change in attention and overall cognitive functions, is a serious medical problem for older persons
- Acute onset and fluctuating course
- Attentional difficulties
- Disorganized thinking
- Disturbance in the level of consciousness
- Unrecognized in 32 – 66% of cases in all care settings

(Levkoff et al. 1992; Schor et al. 1992; Shua-Haim et al. 1999; International Psychogeriatrics)

Clinical Features: Teasing Apart Delirium from Dementia and Depression

<u>Delirium</u>	<u>Depression</u>	<u>Dementia</u>
<i>Rapid Onset</i>	Slow	Slow and progressive

Primarily affects <i>attention</i>	Primarily affects mood	Primarily affects memory

Symptoms <i>Fluctuate</i>	Possibly worse in mornings	Non-fluctuating

Why Screen for Delirium?

- Majority of delirium is missed or not diagnosed
- Delirium has short and long term impact for everyone involved (pt, family, health care providers, cost)
- Delirium can be effectively reversed in 50% of the cases
- Treatment of delirium improves long term outcomes
- Education and explanations improves patient / family satisfaction and their subjective distress

Intensive & Critical Care Nursing 47 (2018 7-14)

Conclusion: In the music intervention group, there was a statistically significant reduction in heart rate and systolic blood pressure, versus no change for the control group, indicating that the intervention had helped to reduce patient anxiety.

None of the patients in either group developed symptoms of delirium over the three days.

"If we could prevent delirium, we could change lives," he says. "We'd reduce the patient's chances of dying after hospitalization, being moved to a nursing home, dependent on others for activities of daily living. We'd reduce fall rates and fractures. Prevention is so much more effective than treatment."



Music and Memory in Dementia Care

Deepa Vinoo*, Jove May Santos, Milana Leviyev, Paul Quimbo, Jennifer Dizon, Frankie Diaz, Christopher Wittman, Ioana Dulgheru, Robert Hughes, Leah Matias, Floyd R Long, Susan Tadique and Monserrate Nieves-Martinez

New York City Health and Hospitals, USA

Introduction

Behavioral disturbances among patients with dementia, including agitation, aggression and psychosis form a constellation of symptoms referred to as behavioral and psychological symptoms of dementia (BPSD). These impact heavily on resident's quality of life, caregiver stress and management options for the team.

In the United States, CMS (Center for Medicaid and Medicare services) launched the National Partnership to Improve Dementia Care and established a goal of reducing the use of antipsychotic medications in long-stay nursing home residents by providing person centered comprehensive care.

Objectives

- Implement CMS regulatory standards to improve dementia care.
- Improve the quality of care of residents with diagnosis of dementia by providing person centered memory care programs.
- Reduce falls and physical altercations by providing music and memory.

24%, percent of long stay nursing home residents were receiving an antipsychotic medication. In last quarter of 2016, 16% percent of long stay nursing home residents were receiving an antipsychotic medication.

CMS Standards (Center of Medicare and Medicaid Services)

- F-329: Drug regimen is free from unnecessary drugs; Residents on Antipsychotic receive gradual dose reduction and behavior intervention unless clinically contra indicated, in an effort to discontinue these drugs.
- F-248: Activities; the facility must provide ongoing activities and services to maintain highest physical, mental and psychosocial wellbeing of the residents.
- F-309 Quality of care; the facility must provide care and services to attain or maintain highest physical, mental and psychosocial well-being.

Background

Using Lean Methodology, a "Memory Care" Project team came together in October 2014 to review current dementia care practices.

NYC Health & Hospitals: Coler: Long-term Stay Memory Care Units

Metric (Rehabilitation Medicine, Behavioral Health, Seniors w/ Dementia)

Altercations Still at 0 as of 2018.



Metric (108 Participants, 4 Memory Care Units in 850 Bed Facility)	Baseline (4 th Quarter 2014)	Actual (4 th Quarter 2015)
% of Residents on Antipsychotic Medications	30%	18%
# of residents involved in Physical Altercations	8	0
# of Falls	11	3
% Residents using Music and Memory	4%	78%
% of Residents on Liberalized Diets	30%	86%
% of Staff that are Certified Dementia Care Practitioners	0%	90%
% of I GLANCE/ I CARE PLAN	0%	100%

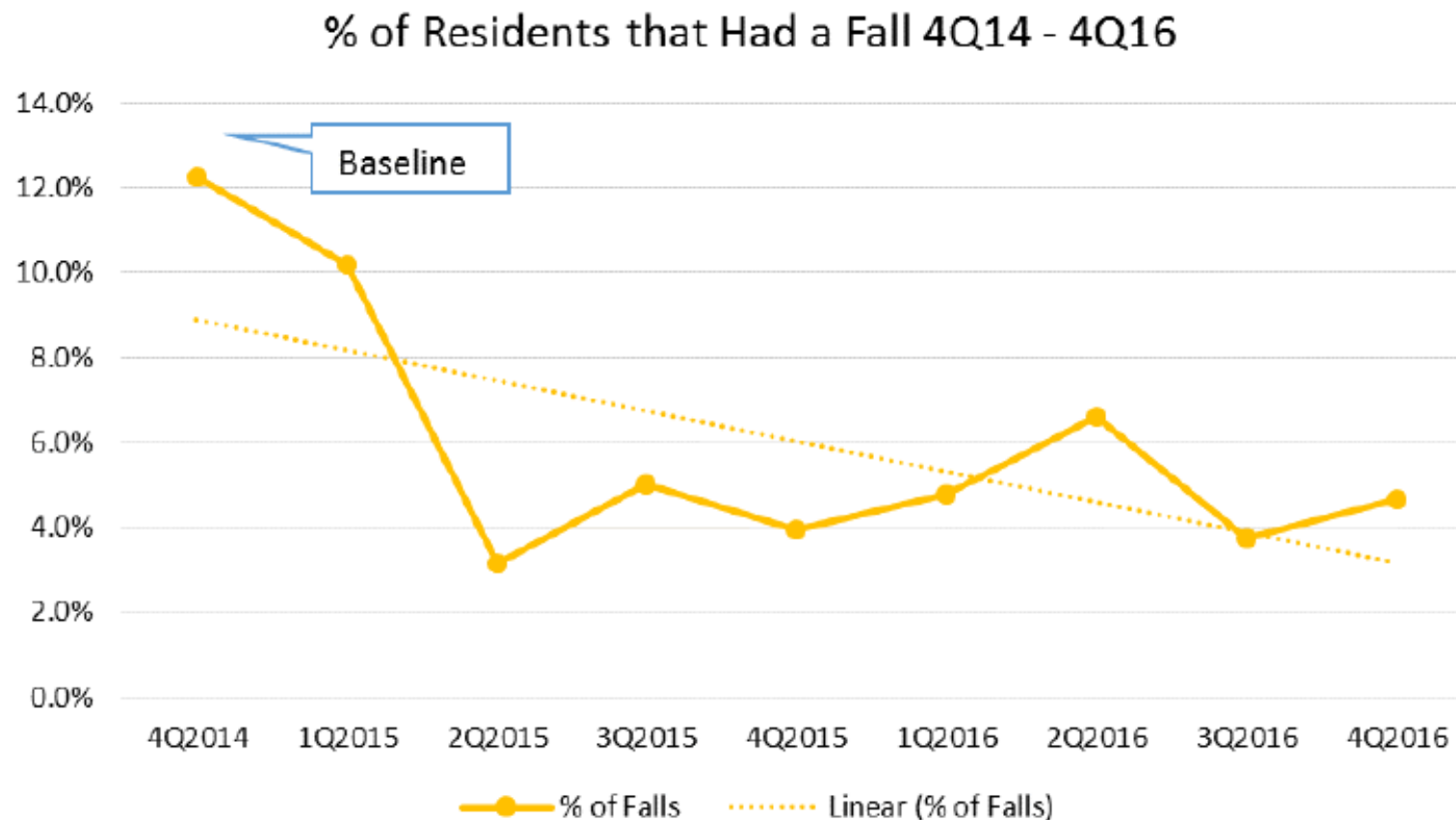


Figure 3: Percentage of residents that had a fall.

Citation: Vinoo D, Santos JM, Leviyev M, Quimbo P, Dizon J, et al. (2017) Music and Memory in Dementia Care. Int J Neurorehabilitation 4: 255. doi: [10.4172/2376-0281.1000255](https://doi.org/10.4172/2376-0281.1000255)

% of Residents that had Physical Altercation 4Q14 - 4Q16

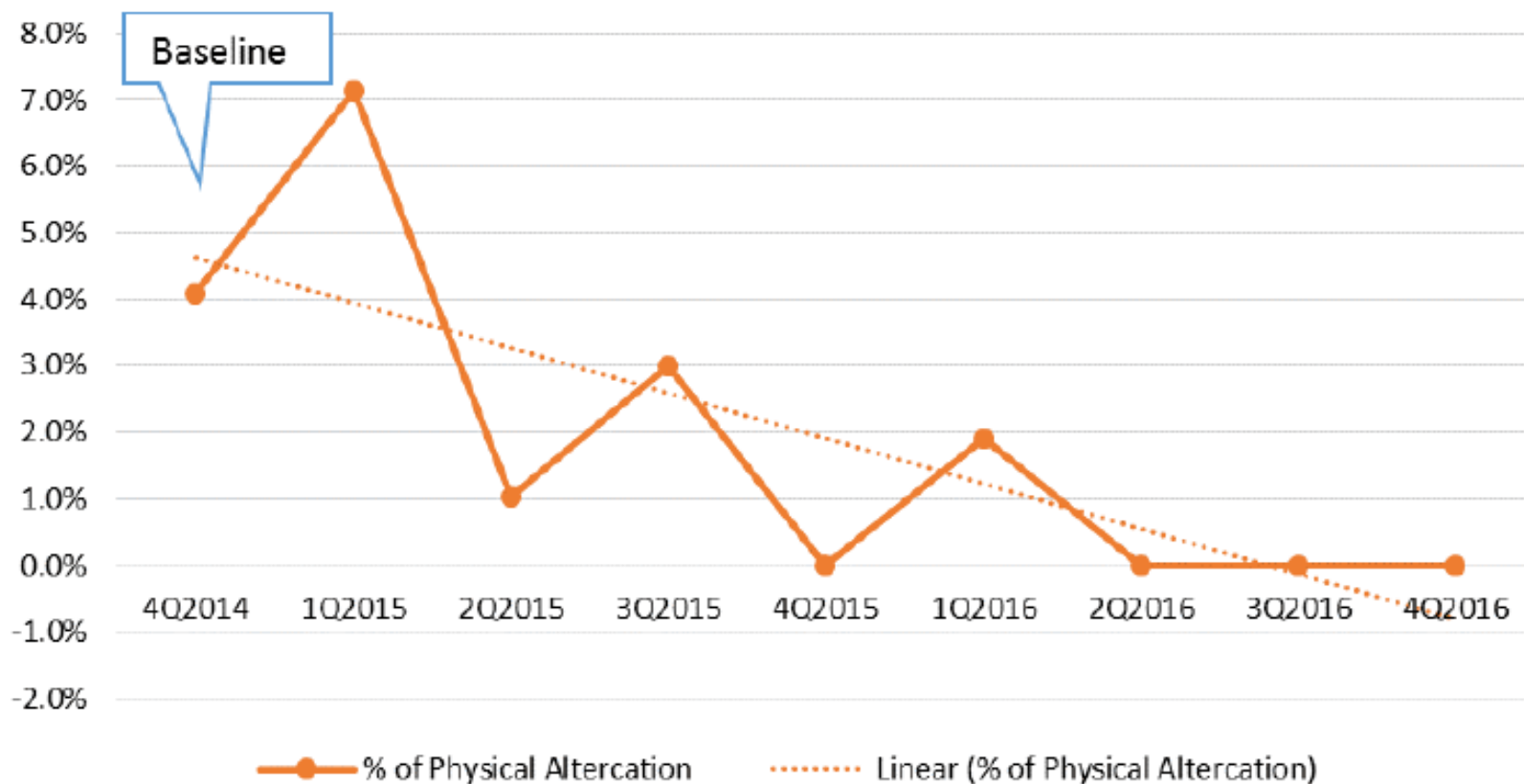


Figure 4: Percentage of residents that has physical altercation.

Citation: Vinoo D, Santos JM, Leviyev M, Quimbo P, Dizon J, et al. (2017) Music and Memory in Dementia Care. Int J Neurorehabilitation 4: 255. doi: [10.4172/2376-0281.1000255](https://doi.org/10.4172/2376-0281.1000255)

Coming Soon...



Improving Dementia Care Through the CAHF Music & Memory Project

Deb Bakerjian, PhD, APRN, FAAN, FAANP, FGSA
Kristen Bettega, BS, Project Manager
Leslie Azzis, MPH(c), Co-Project Manager
Ana Marin Cachu, MPH, Analyst
Sandy Taylor, PhD, Statistician



UCDAVIS
BETTY IRENE MOORE
SCHOOL OF NURSING

Participants: 4,107 residents in 300 Nursing Homes



Aggressive Behaviors: decreased by approx 11.8% per qtr

Medications:

- Antipsychotics: declined by approx. 10% per qtr
- Antianxiety: declined by 17% per qtr
- Antidepressants: declined by 9% per qtr

Conclusion:

- Music & Memory is a relatively low cost, non-pharmacological intervention that has a significant positive impact on NH residents

*These results are the findings for only those residents who were taking the different medications as a subgroup.



Community Engagement

Active Seniors – Finding New Purpose

Active Seniors are finding new purpose and are proficient in song selection for their peers - intuitive



Conducting the Music Assessment – It's FUN





We do the best we can with what we
know, and when we know better, we
do better.

— *Maya Angelou* —

AZ QUOTES

Call to Action

- The time to create your own personalized music playlist is NOW! No one can do a better job than you.
- Then create one for someone else. It's a rewarding journey you'll never forget.



Personalized Music ticks all the boxes.....

It's the **SPICE** of Life!

S = Social

P = Physical

I = Intellectual

C = Cognitive

E = Emotional



“If a pill could do this, every doctor would prescribe it and every family would want it.”

– Dan Cohen – Founder of Music & Memory

The Solution is Simple, Scalable, and Highly Effective

The MM Toolkit provides:

- **Training** for care professionals
- **Discounted equipment**
- **Certification** and PR
- **Volunteer Engagement**
- **Support** and Follow-up
- Online exclusive **Care Community** portal access





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MUSIC & MEMORY IN THE NEWS

Tapping Into Musical Memory

AUG. 01, 2014



Why do musical memories linger long after other memories have faded? That question is at the heart of a new documentary, *Alive Inside*, which looks at the effects of music on people living with Alzheimer's and other age-related

Thank you!



Have Questions?



For more information –
carequestions@musicandmemory.org