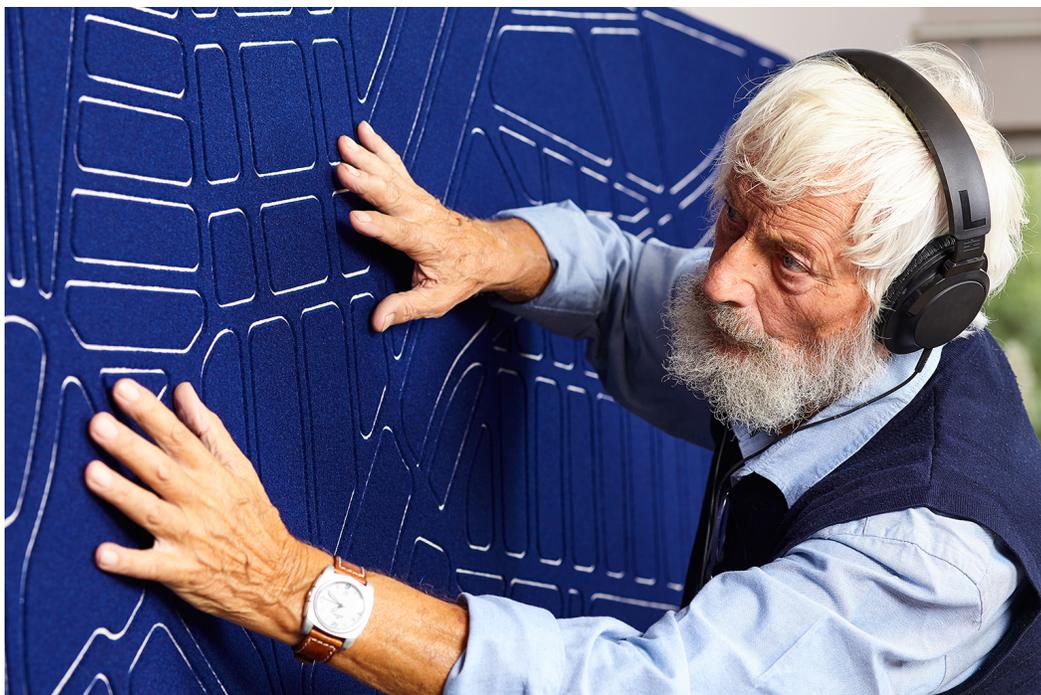


Music Plays a Leading Role in New Health Products for Alzheimer's and Dementia

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Michiel Spijkers Kozie

“To be able to express a song, you’re literally capitalizing on the whole brain,” says Andy Tubman of Musical Health Technologies.

On a recent Thursday at OPICA, an adult daycare center in West Los Angeles, a music therapist named **Andy Tubman** leads a group of 10 seniors through a sing-along of “America the Beautiful.” As the music starts, he points to his ear. “Listen for the words,” he coaches.

The seniors -- all experiencing “some degree of cognitive decline,” as Tubman puts it -- start hesitantly at first. But with the therapist’s encouragement, most are soon belting out the familiar tune. “Oh my goodness, you’re singers!” Tubman effuses, as aging vocal cords strain to reach the high notes of “above the fruited plain.”

They’re also helped by a unique feature on the track they’re singing along to: a soothing male voice that speaks each lyric before it’s sung. This comes especially in handy on the song’s next verse, the seldom-heard, “O beautiful for patriot dream, that sees beyond the years.” But for people with advanced Alzheimer’s disease or dementia, remembering the first verse of “America the Beautiful” can be a challenge, too -- hence the spoken-word prompts built into the therapeutic music program called SingFit, developed by Tubman’s company, Musical Health Technologies.

Founded in 2012 by Tubman and his sister, **Rachel Francine**, Musical Health Technologies is one of several companies developing products based on a growing body of scientific evidence that music can be a powerful tool in the treatment of Alzheimer’s and dementia. “To be able to express a song, you’re literally capitalizing on the whole brain,” says Tubman, a licensed music therapist and the main designer of his company’s suite of singing programs for eldercare facilities, which is called SingFit Prime. “Language centers, timing centers, motor centers, planning centers -- you get this whole brain exercise.”

SingFit Prime, which Musical Health Technologies launched in 2014, focuses on using music as an interactive tool, but even passive music listening stimulates the brain in ways that can be beneficial to Alzheimer’s patients. A 2018 study at University of Utah Health used real-time MRI scans of patients’ brain activity to demonstrate that familiar music lit up areas of the brain, like the supplemental motor area, that remain active in

patients with advanced Alzheimer's, even as activity in speech and memory pathways declines as the disease progresses.

“This might be a sort of window where you can reach patients with Alzheimer's disease, because it's a part of the brain that still tends to be functioning until very late in their whole disorder,” says **Dr. Jeff Anderson**, one of the co-authors of the study.

Anderson notes that part of the inspiration for the study was the 2014 documentary *Alive Inside*, which showed patients with extremely advanced Alzheimer's appearing to become animated and lucid in response to familiar music. As powerful as that film was, its depiction of Alzheimer's patients interacting with music was anecdotal. Anderson's colleagues, and the philanthropist who funded their study, thought that “maybe there's some way to put a little more science behind it.”

In the Netherlands, another set of Alzheimer's-related products began not as a scientific experiment, but as an art project. In 2015, Dutch artists and designers **Roos Meerman** and **Tom Kortbeek** created [the Tactile Orchestra](#), a large wall installation covered in soft fur that responds to different kinds of touch with a range of sounds and musical tones. Soon after they debuted the project, they were contacted by several Dutch health organizations. “This multisensoric experience that your art piece provides will be very useful maybe for our healthcare process, for people with dementia,” Kortbeek recalls them saying.

Last year, Meerman and Kortbeek launched *Kozie*, a company that takes the tactile, multisensory experience of the Tactile Orchestra and applies it to therapeutic music products. Their first product, the *KozieWe*, is a modified version of the Tactile Orchestra, designed for group therapy sessions in which the goal is to get Alzheimer's patients connecting and interacting with one another. They also introduced the *KozieMe*, a pillow with built-in speakers that can play familiar music or comforting messages for the patient,

activated with a simple touch or a squeeze. Last month, both products made their U.S. debut at the South by Southwest Interactive Festival; Kortbeek and Meerman say the response was overwhelmingly positive and they've already begun plans for introducing Kozie products to the U.S. market.

“The whole goal is to make healthcare really personal,” says Meerman, who watched her own grandmother struggle with dementia. “Music is really a way to connect with a person that has dementia.”

At Tubman's SingFit Prime session at OPICA, you can see those connections happening. Both during and between songs, Tubman gently encourages the seniors to participate not only by singing, but by clapping, tapping their feet, and finishing his sentences. After “American the Beautiful,” he introduces the next song with a few clues: It's a city to the north, with a famous bridge. “I Left My Heart in' ...” he says, voice trailing off.

“San Francisco!” several participants call out.

All of the session's songs are centered around the theme of geography: Other selections include “When the Saints Go Marching In,” “Tennessee Waltz” and “When Irish Eyes Are Smiling.” “The theme keeps people on task better,” Tubman explains. Other SingFit Prime curricula are centered around such themes as pets, holidays and the outdoors.

A SingFit app on Tubman's iPad, played through external speakers, provides the soundtrack. Within the app, Tubman can control the volume of both the guide singer and the “lyric coach,” that speaking voice that telegraphs the line of each song. The guide singer is not [Tony Bennett](#), but a convincing facsimile; a [Frank Sinatra](#) impersonator on “Fly Me to the Moon” and “New York, New York” sounds even more like the real deal. Tubman says his company is “snobby” about their singers and arrangements, which are all original and paced so as to provide space for the lyric coach's prompts.

“We really try to filter through so that the music is authentic,” he explains. **Kate Richards Geller**, another music therapist who works with Tubman on SingFit, says they choose repertoire based on what she calls seniors’ “sticky years” -- that formative period roughly between ages 13 and 23, “the years they were listening to [that] music and all those songs went in and stayed. That’s what we’re providing them is this opportunity to reenter that world.”

In addition to the app, SingFit Prime provides eldercare centers with training for facilitators, props (at OPICA, brightly colored handkerchiefs prove especially popular) and detailed workbooks for each music session, which the facilitator can follow step-by-step to introduce each song, add trivia and commentary to encourage discussion and participation, and adjust the difficulty level depending on the group’s response. The goal, Tubman explains, is to provide a “turnkey” product so that “people who are not music therapists can utilize singing in a really powerful, robust way.” He says over 430 senior communities around the U.S. currently use SingFit Prime, including assisted living, memory care facilities, and adult daycare centers like OPICA.

By the time the group at OPICA finishes their 45-minute singing session, nearly all are fully engaged to a degree that’s rare among patients with advanced Alzheimer’s or dementia. During the final song, “New York, New York,” one man begins to weep; most join Tubman in forming a seated but enthusiastic kick line. As the group disperses, another man laments that the session is ending before they got to his favorite city, then bursts into an impromptu rendition of another geographic Sinatra classic, “Chicago.”

Much clinical work is still to be done before scientists and music therapists fully understand music’s effect on Alzheimer’s patients, or how best to effectively employ music as a therapeutic tool within the Alzheimer’s community. “It’s not any kind of cure,” Anderson cautions. “There’s nothing that changes the course of the disease.” But studies like the one Anderson

co-authored, and the early successes of products like Kozie and SingFit, suggest that music's potential to improve the quality of life for those with Alzheimer's -- and, possibly, its power to at least mitigate the long-term effects of the disease -- has yet to be fully realized.

“Singing takes place in the whole brain. There are many redundant pathways,” says SingFit's Francine. “You start to sing and then brain plasticity takes over... It's really mind-boggling what they're finding out about the brain and its ability to heal itself.”

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