

New Connections in Music Therapy and Audiology

By Nina Kraus, PhD, and Travis White-Schwoch

In May 2018, Northwestern University hosted “Music Therapy at the Crossroads,” an interdisciplinary conference on the intersections between music therapy, medicine, society, and everyday life. The conference featured several pioneers in the field who have employed music therapy in multiple arenas of clinical care, including audiology. The event garnered wide interest and support from Northwestern’s Office of the President, the Music Institution of Chicago, National Association of Music Merchants, and Interactive Metronome, showing the many aspects of life that engage with music therapy.



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DEVELOPMENT OF MUSIC THERAPY

The conference opened with a keynote by Concetta Tomaino, DA, the executive director of the Institute for Music and Neurologic Function and past president of the American Association for Music Therapy. Tomaino gave a broad and historical overview of the field of music therapy, which she defined as the clinical and evidence-based use of musical interventions to accomplish health-related goals. She highlighted how the neuroscience of music has helped strengthen the evidence on which music therapy rests, especially in neurologic disorders such as Parkinson’s disease. She also highlighted the growing demand for music therapy: Over 8,000 credentialed music therapists practice today, and about 5,000 new jobs are expected this year. Deforia Lane, PhD, the associate director of the Seidman Cancer Center and director of music therapy at the University Hospitals of Cleveland, echoed these sentiments and presented rigorous clinical trials that showed how music therapy programs mitigate the pain and anxiety of cancer patients before they undergo surgery.

HEARING-BRAIN CONNECTION

One of the consistent themes throughout the conference was the connection between music therapy and hearing. Nina Kraus, PhD, shared evidence that music training strengthens the brain’s sound processing mechanisms and improves listeners’ ability to understand speech in noisy environments—work that we have highlighted in previous “Hearing Matters” columns in *The Hearing Journal*. Of special interest were two clinical trials showing that community- or school-based music programs result in these neurobiological gains (*Neuroscientist*. 2016 Jun 9. pii: 1073858416653593).

Another theme was the strong connections between hearing, thinking, and moving. World-renowned soprano Nancy Gustafson spoke about *Songs by Heart*, a program she developed that provides interactive and therapeutic musical care for people with dementia. This project was inspired by her personal experience of caring for her mother with Alzheimer’s disease; Gustafson was astonished to discover that singing together brought her mother back to awareness. Today, she is implementing this program nationally, engaging patients with classics from the American songbook. Noting the connection between hearing loss in older adults and early cognitive decline, audiologists might play a role in the early identification of a patient’s risk of cognitive difficulties and recommend music therapy as a means to strengthen cognitive abilities.



Dr. Kraus, left, is a professor of auditory neuroscience at Northwestern University, investigating the neurobiology underlying speech and music perception and learning-associated brain plasticity. **Mr. White-Schwoch** is a data analyst in the Auditory Neuroscience Laboratory (www.brainvolts.northwestern.edu), where he focuses on translational questions in speech, language, and hearing.

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THERAPY FOR PATIENTS AND CAREGIVERS

Gustafson also spoke about how music can improve caregivers’ quality of life and wellness. Several speakers identified

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caregiver wellness as a major benefit of music therapy programs, especially in demanding situations. J. Todd Frazier, the director of Houston Methodist Hospital's Center for Performing Arts Medicine, has developed in-house music ensembles comprising health care providers and held art competitions and creative activities to reduce employee burnout. Large health care systems with demanding performance metrics and patient loads might implement similar programs to strengthen organizational culture and community. Barbara Else, a senior advisor for research and policy at the American Music Therapy Association, has used music therapy to relieve stress and anxiety for disaster relief workers.

Frazier identified two ways music programs can improve the bottom line. For one, by improving employee happiness and organizational culture, his hospital system has improved employee retention, reducing the cost of hiring new health care providers. He also found that having a creative community in a hospital system improves patient experiences and leads to more positive feedback, a factor that increasingly determines payment rates. Captain Moira McGuire, the assistant chief of general internal medicine and chief of integrative health and wellness at Walter Reed National Military Medical Center reaffirmed the potential of music to strengthen culture and cohesion in health care organizations.

The last two speakers focused on two medical conditions within speech and hearing. Elizabeth Stegemöller,

PhD, an assistant professor of kinesiology at Iowa State University, is studying music therapy in Parkinson's disease. She adapted a brain plasticity model that hypothesizes music can address Parkinson's symptoms by increasing reward activity in the brain, and showed that music can improve gait, swallowing, and music activity in patients with

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Parkinson's. Finally, Blythe LaGasse, PhD, an associate professor at Colorado State University, presented the use of music therapy in autism. She highlighted the customizable nature of music therapy treatments, which is crucial in managing a diverse spectrum disorder such as autism (see previous article on interdisciplinary treatment of autism that includes audiologists and music therapists: <http://bit.ly/2LLOIM6>). 