

Institution: Anglia Ruskin University		
Unit of Assessment: Unit 33		
Title of case study: Changing the lives of people living with dementia (PWD) and their families through music therapy research		
Period when the underpinning research was undertaken: 2013-present		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Helen Odell-Miller	Professor of Music Therapy, Director Cambridge Institute for Music Therapy Research (CIMTR)	01.08.1994-present
Jörg Fachner	Professor of Music, Health and the Brain	07.01.2012-present
Period when the claimed impact occurred: August 2013-December 2020		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact Our research led to the transformation of patterns of care, for people living with dementia (PWD), their families and caregivers. Powerful evidence showed how music helps memory, reduces agitation, improves relationships and synchrony for PWD. In 2019, Odell-Miller led the British Association for Music Therapy's (BAMT) response for evidence to NICE, including our underpinning research, resulting in the inclusion of music therapy in NICE guidelines for the first time. Our consultancy work in care homes enhanced care for c.20,000 PWD since 2014. Our participation in the 2019 BBC TV documentary <i>Our Dementia Choir</i> showed clear benefits of our music therapy approaches to PWD, their families and care givers.		
2. Underpinning research Our main underpinning research arose from our randomised controlled trial (RCT) feasibility study investigating the impact of music therapy on managing neuropsychiatric symptoms for people with dementia and their carers (Ref. 1). Designed and led by Odell-Miller and Hsu, in collaboration with an international network of experts, including Professor John Hodges (University of Sydney) and MHA Care Homes UK, our study analysed outcome measures for: individuals receiving weekly music therapy individually and standard care; and for those receiving standard care alone. Agitation reduced significantly for those receiving music therapy in a cluster randomised trial. In addition, carers' attitudes showed improvement in their approaches to care. This led to exploring different environments, such as groups in the community, and adapting and investigating approaches including improvisation, live singing, song writing, listening to music, and instrumental musical interactions for PWD. Further underpinning collaborative research, including Odell-Miller's contributions (Ref. 2), investigated changing policy for care of PWD. We also show (Ref. 1) indications that training carers to use music in their daily communication with people with dementia improves quality of life for both PWD and their carers. In 2015, we jointly ran the first international music therapy conference specifically on music therapy and dementia with BAMT, and MHA care homes, where 44 papers were presented and over 300 people from the health and care sectors attended. Odell-Miller and colleagues (Ref. 3) discuss the 'indirect' role of music therapists, working with communities, families, carers and multidisciplinary teams, such as training and supervision of		

others using music in everyday care. As our previous study (Ref 1), and Ref. 3 show, indirect music therapy improves communication with PWD, and carers' own well-being. Subsequently, Odell-Miller as Principal Investigator for the UK, together with academic partners from 4 other countries (Australia, Poland, Norway and Germany), developed a protocol for training family carers living at home, using a music therapy intervention, and won a £2,500,000 EU Joint Programme – Neurodegenerative Disease (JPND) award for the project HOMESIDE. The UK part is funded by the Alzheimer's Society for £367,000. The RCT research protocol, for which Odell-Miller is a lead author, is published in *BMJ Open* (Ref. 4).

A key element of our research is investigating the mechanisms of how music therapy works clinically, and scientifically. We investigate the links between music therapy techniques, and how these are delivered to meet the needs of, and achieve outcomes which benefit, PWD and their carers. Taking the neuroscientific understanding of music therapy for people with dementia to a new level, CIMTR's Fachner and colleagues demonstrate (Ref. 5) ground-breaking research in EEG hyper-scanning studies, linking neural pathway activity to the synchrony between therapist and patients in music therapy sessions. Frontal dynamics of emotional activity confirm the strong musical impact upon brain activity, especially relevant for people with dementia. Results suggest that shared emotional states and experienced feelings of mutuality are shown in the corresponding EEG data. Normally-perceived changes during significant moments of interest, previously defined by the scientific community as 'anecdotal evidence', now have a neural signature that can be identified and analysed with adequate adaptive brain research methods.

3. References to the research

(Ref. 1) Hsu, M.H., Flowerdew, R., Parker, M., Fachner, J., and Odell-Miller, H. (2015). 'Individual music therapy for managing neuropsychiatric symptoms for people with dementia and their carers: a cluster randomised controlled feasibility study'. Journal article. *BMC Geriatrics*. Vol 15, Issue 84 DOI: <https://doi.org/10.1186/s12877-015-0082-4>

(Ref. 2) Gold, C; Eickholt, J.; Assmus, J.; Stige, B.; Wake, J.; Baker, F.; Tamplin, J.; Clark, I.; Lee, C.; Jacobsen, S.; Ridder, H.; Kreutz, G.; Muthesius, D.; Wosch, T.; Ceccato, E.; Raglio, A.; Ruggeri, M.; Vink, A.; Zuidema, S.; Odell-Miller, H.; Orrell, M.; Schneider, J.; Kubiak, C.; Romeo, R.; Geretsegger, M. (2019). 'Music Interventions for Dementia and Depression in Elderly care (MIDDEL): protocol and statistical analysis plan for a multinational cluster-randomised trial.' Journal article. *BMJ Open* 2019. DOI <https://dx.doi.org/10.1136/bmjopen-2018-023436> Submitted in REF2.

(Ref. 3) Odell-Miller, H., Ridder, H. M., and Schmidt, W. (2017) 'Music Therapy: A Profession for the Future. Why music? Why and when is a music therapist needed?' In Inge Nygaard Pedersen et al. *Approaches: An Interdisciplinary Journal of Music Therapy Special feature* Vol. 9, Issue 1. ISSN 2459-3338 pp. 9-56. [online] Available from: <http://approaches.gr/wp-content/uploads/2017/09/Approaches-9-1-2017.pdf>

(Ref. 4) Baker, F.A., Bloska, J., Braat, S., Bukowska, A., Clark, I.N., Hsu, M.H., Kvamme, T., Lautenschlager, N.T., Lee, Y-E.C., Smrokowska-Reichmann, A., Sousa, T., Stensæth, K., Tamplin, J., Wosch, T., and Odell-Miller, H. (2019). 'HOMESIDE: Home-based family caregiver-delivered music and reading interventions for people living with dementia: Protocol of a randomised controlled trial'. Journal Article. *BMJ Open* Vol 9, Issue 11 [online] Available from: <http://dx.doi.org/10.1136/bmjopen-2019-031332>. Submitted in REF2.

(Ref. 5) Fachner, J. C., Maidhof, C., Grocke, D., Nygaard Pedersen, I., Trondalen, G., Tucek, G., and Bonde, L. O. (2019). "Telling me not to worry..." Hyperscanning and neural dynamics of emotion processing during guided imagery and music.' Journal article. *Frontiers in psychology*, Vol 10, pp. 1561. [online] Available from: <https://doi.org/10.3389/fpsyg.2019.01561> Submitted in REF 2.

4. Details of the impact

Influencing Policy and Practice

Based on her extensive research (**Refs 1-4**) and expertise in music therapy, Odell-Miller was invited to be a Commissioner for the National Commission on Music and Dementia (NCMD) [**Source 1**]. Submitting our research as evidence, and reviewing global research, resulted in the report [**Source 1**] which was launched and presented at the House of Lords in January 2018. As a direct result, the national campaign 'Music4Dementia 2020' was initiated, implementing recommendations including those highlighted by Odell-Miller, on strategies embedding music and music therapy throughout the dementia journey, improving reduction of dementia symptoms. In her testimonial letter [**Source 2**], the CEO of Music4Dementia highlights the links between Odell-Miller's research and the influence of the research in developing policies such as rolling out music therapy in dementia care. For example, the individualised music therapy programmes using Odell-Miller's original approach have now been implemented in care homes such as Methodist Homes Association (MHA), a large service provider of 83 care homes in the UK. NCMD worked with policy makers for health and public health, and with health commissioners to embed music and music therapy in the normal pathway of care for older people with dementia from diagnosis to treatment. Influenced by our research outcomes, MHA care homes have increased their music therapy team from 12 to 25, to create the largest music therapy team in care homes in the UK [**Source 3**], thereby enhancing the lives of people living with dementia and their carers.

An ongoing collaboration with MHA, which included Odell-Miller serving as an official consultant (2017-2018), has led to MHA changing policy and care provision to offer music therapy to 22,000 of its clients across 65 care homes since 2014, transforming quality of life including reduction of agitation and regulation of mood [**Source 3**]. This includes countrywide improvisational music therapy approaches, developed by Odell-Miller (**Refs 1-4**).

Odell-Miller and Hsu's research (2015), and project evaluations from *Together in Sound* (TiS), and CIMTR's music and brain research (Fachner 2019), were also included in BAMT's submission to the NICE (2019) guidelines, resulting in the inclusion of music therapy in guidelines for dementia and older people's quality of life, for the first time [**Source 4**]. This means that people living with dementia and their families and carers have a right to receive music therapy, and that it should be funded.

Raising profile of music therapy and changing public perceptions

We have further contributed to the firm embedding of a musical culture in care, devising more formal and short training courses for professional musicians, for example with the Britten Pears Foundation and Saffron Hall Trust. This is evident through our project *Together in Sound* [**Source 5**] and evidenced in Music4Dementia 2020 and BBC Music Day campaigns in 2019 and 2020. Odell-Miller participated on a panel about music for PWD on the BBC's *Woman's Hour* on 26.09.19 [**Source 2**]. *Woman's Hour* generally draws an average of 3.7 million listeners a week. In addition, Odell-Miller and Hsu's research contributed to the evidence base for the recent web resource for PWD called BBC Music Memories.

Direct impact on PWD is exhibited in the ongoing collaboration with Saffron Hall Trust and the resulting programme *Together in Sound* (TiS), led by Cambridge Institute for Music Therapy Researchers Odell-Miller and Senior Lecturer Molyneux. In November 2020, a new film was launched about the project, with PWD and their companions leading the making of the film [**Source 6**]. The programme has been running since 2017 and around 35 dyads (PWD and their home-based partner, family companion, carer/friend) per year have received music therapy over that time. Discussing the success of TiS, the CEO of Saffron Hall Trust stated that "both carers and those living with dementia have registered extraordinarily high levels of satisfaction with the programme" [**Source 2**]. Carers and the PWD reported positive changes in lifestyle and relationship quality, finding the music therapy different to other activities. [**Source 5**]. As one

carer said “The music is wonderful, excellent. We do *Singing for the Brain* (SB) as well and have been doing that since [my wife] was diagnosed. They are both great [SB and TiS], but this is different with so many aspects, improvisation, more creative, a bit of everything.” **[Source 5]**. The project has also been used to demonstrate the impact of Saffron Hall itself through an official evaluation by NESTA **[Source 5]**, enabling Saffron Hall to access further funding and increase client numbers from 20 to 50 couples 2018-2020. The TiS project music therapy groups, including professional musicians from the London Philharmonic Orchestra and Britten Sinfonia, continued and pioneered online music therapy during the COVID-19 pandemic which participants described as a “lifeline” **[Source 5]**. The move online of the music therapy groups due to COVID-19 connected couples with each other during lockdown and isolation. The work was featured on prime time BBC1 national news in April 2020, with participants describing music therapy as an “uplifting experience”. This contributed to a national change in perception of PWD and of how to combat isolation at home during COVID-19 positively **[Source 7]**, as evidenced by Odell-Miller and Fachner’s invitations to interview for three national newspaper reports on music and dementia between September-December 2020 **[Source 7]**. Participants in the project were able to musically interact playfully with one another, reducing isolation during lockdown and the pandemic. Similarly, CIMTR’s team led the international change in delivery to dyads at home of the music and reading interventions from in-person to online delivery, in the aforementioned international Homeside RCT trial **(Ref. 4)**.

Earlier, music therapy researchers at ARU improved the profile of music therapy for PWD. For example, in 2015 approximately 300 people attended the first international public conference for music therapy and dementia, hosted at ARU. Chaired by Odell-Miller, in partnership with BAMT and MHA, the conference united third sector organisations in dementia care including Dementia UK, Live Music Now, HEE England and BAMT, and improved knowledge of music therapy **[Source 8]**. The importance of access to music for PWD was further highlighted in 2016 when Odell-Miller was awarded an OBE for services to music therapy including research, resulting in publicity including conversations with HRH Prince William and MPs **[Source 9]**. Subsequently Odell-Miller led and hosted a high-level debate at the International Consortium for Music Therapy’s public meeting, for over 80 people, hosted by CIMTR. This event changed perceptions of the public on the latest music therapy research and, as a Commissioner from the NHS Cambridge Clinical Commissioning Group (CCG) commented, the level of music therapy research is ‘compelling and ground-breaking’.

Seminal to changing patterns of music and music therapy interventions for PWD was the BBC1 documentary *Our Dementia Choir*, viewed by millions around the UK and beyond **[Source 10]**. It featured ARU neuroscientific music therapy research as well as ARU-trained music therapists. The CEO of Chiltern Music, a large music therapy provider, noted an increase of 27% in website visits the week after the broadcast. Page views relating to community music therapy groups increased by 300%, while page views relating to community events increased by 116% **[Source 2]**.

5. Sources to corroborate the impact

[Source 1] Bowel, S., Bamford, S.M. (2018). *What would life be - without a song or a dance, what are we? - Commission on Music and Dementia*. Published by the International Longevity Centre (ILCUK) in collaboration with the Utle Foundation: London. Report. [online] Available from: <https://ilcuk.org.uk/what-would-life-be-without-a-song-or-dance-what-are-we/>

[Source 2] Testimonials from music providers and experts including the CEO of Music4Dementia and the CEO of Chiltern Music.

[Source 3] Collaboration with MHA Care Homes including testimony and press release.

[Source 4] Inclusion of music therapy in NICE guidelines: <https://www.nice.org.uk/news/article/people-with-dementia-should-be-offered-activities-that-can-help-promote-wellbeing>

[Source 5] Evaluations, testimony, and news coverage of *Together in Sound*.

[Source 6] Film: 'Together in Sound: A Journey with Dementia' (13 November 2020) link:
<https://www.youtube.com/watch?v=8whgpvaCWcc>

[Source 7] Interviews with national newspapers including the *Guardian*, the *Observer* and the *Daily Mail*.

[Source 8] BAMT ARU and MHA joint conference https://www.bamt.org/DB/news-view/bamt-collaborates-with-arun-and-mha-to-support-firs?ps=_mMKXViPAI8Hun1ifYoL9bt3BfV9eQ

[Source 9] OBE Awards 2016 <https://www.caremanagementmatters.co.uk/2016-new-year-honours-for-health-and-social-care/>

[Source 10] Fachner et al. involvement in *Our Dementia Choir*:
<https://www.bbc.co.uk/news/stories-48124591>