YORKSHIRE DANCE

Dementia Care Mapping

Evaluating Data & Finding Trends

In Mature Company

Year 2

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Contents

1) Executive Summary

'In Mature Company' is a three-year project led by Yorkshire Dance that explores the impact of dance and music in reducing loneliness and isolation of residents living with dementia in care homes. The project specifically looks at the impact of touch and uses Dementia Care Mapping as a research tool to better understand the impact of the sessions. This report focusses on year 2 of the project and captures findings from the Dementia Care Mapping research.

In year 2, Dementia Care Mapping took place in two care homes (Care Home A and B). A total of 12 mapping sessions produced 50 individual resident maps. An additional 2 control map sessions were carried out at Care Home B prior to the start of the project.

Highlights from the data include:

- The two most prevalent Behaviour Category Codes (BCCs) during the creative sessions were "Expressive" and "Articulation" with 40.6% at Care Home A and 52% at Care Home B.
- Residents slept for 38% of the time during the control maps compared to 8.5% of the time when a creative session was taking place.
- Residents spent 54% of time during the creative sessions in a positive ME value (+3 or +5) in comparison to 20.5% of time during the control maps. During the control maps, the most prevalent ME value was +1 with 60.5%.
- The average group well/ill-being score (WIB) was 1.4 during the creative sessions in comparison to 0.65 during the control maps.
- 76 personal enhancers (PEs) were delivered during the creative sessions in comparison to only 6 during the control maps.
- An average of 22 moments of touch were delivered on days when creative sessions were taking place in comparison to an average of 10.5 moments of touch during a control map.

The following trends are the most prevalent within the mapping data:

- Control Data Vs. Session Data: Creative sessions have a positive impact on residents by encouraging self-expression and other behaviours with a high potential for wellbeing. Residents sleep less when creative sessions are taking place.
- Enhancing Personhood: More Personal Enhancers (PEs) are delivered during a creative session. They promote a person-centred approach, have a positive impact on the wellbeing of residents and can support those who find it harder to engage.
- Person-Centred Approach: Frequent and longer 1:1 interactions paired with a person-centred approach encourage residents to engage during the creative sessions, promoting higher levels of individual wellbeing.
- When Touch Occurs: Non-functional touch (touch that isn't primarily used to provide practical care) is used frequently during the creative sessions. When mood and engagement values are lower, more instances of touch occur. This includes more frequent moments that are categorised as warmth and comfort that are received in response to a resident's ME value.
- Post-Session Impact: Residents who are more engaged experience a bigger drop in their ME value post-session, whereas residents who are less engaged during the session remain neutral or their ME value increases.
- Care Home Input: A greater presence of Care Staff during the creative sessions can have a positive impact on wellbeing. They can help to deliver personal enhancers and increase 1:1 interactions. Due to their knowledge of residents, they can help artists to use a person-centred approach to delivery.

- Environment and Space: Delivering sessions in "separate" lounges (as opposed to multi-purpose or through-spaces) has a positive impact on resident wellbeing.
- Start and Finish to Sessions: Starting and finishing sessions at a slower pace has a positive impact on resident wellbeing.
- Care Home Community: Supporting inter-resident communication and facilitating full group activity develops the sense of community within the care home and has a positive impact on resident wellbeing.

The following conclusions have been identified:

- The creative sessions reduce social isolation by promoting a sense of community amongst the residents and encouraging inter-resident relationships.
- Touch, in response to a resident's low ME value, can transform their wellbeing positively. Touch encourages residents to engage and can be used to communicate with residents non-verbally.

The mappers are recommending the following for similar care home projects:

- Family members should be encouraged to attend sessions.
- Care staff should be encouraged to participate in sessions if they feel confident doing so.
- Sessions should take place in a separate lounge (as opposed to a multi-purpose space).
- Artists should use a slow start and finish to sessions to encourage wider engagement.
- Artists should facilitate inter-resident interactions and group activity to enhance care home community.
- Mapper should conduct pre-project control maps in all care homes.
- Mappers should conduct an equal number of mapping sessions and standardise length of maps.
- Mappers should build in structured mapping analysis time.
- Post-intervention mapping should take place after the project ends.

2) Context

For the purpose of this report, the names of all care home residents have been changed for anonymity.

The names of both care homes have also been changed and they will be referred to as Care Home A and Care Home B.

Care Home A

This care home is set over three floors and provides residential care, nursing care, and dementia care. It also has a provision for adults with complex care needs, respite and short break care, and palliative end of life care. There are 96 registered care beds in individually designed ensuite bedrooms and a range of communal spaces including a bistro, cinema room, activities room, hair salon and spa. The care home has a designated Wellbeing and Activities Coordinator and also a Wellbeing and Activities Assistant.

This is home to 60 residents living with dementia. Dementia Care Mapping took place on the ground floor of this care home, in the dementia care unit. Residents have varying degrees of dementia, some have more complex needs, and some have additional needs such as visual impairments and hearing impairments. Residents have varying degrees of physical ability; some move and walk independently or with a Zimmer frame, whereas others need a wheelchair, hoist, and care staff support. Between 4-15 residents attended the 'In Mature Company' weekly sessions during the twenty-week project.

Care Home B

This purpose-built care home provides residential care, nursing care, respite, and end of life care. There are also a number of 'Extra Care Plus' apartments that allow older adults to rent accommodation and have a package of services tailored to their life and social care needs. There are a total of 62 single bedrooms, 6 ensuite bedrooms, a number of spacious lounges and a sheltered courtyard garden. The care home has a designated Activities Coordinator.

Dementia Care Mapping took place in the residential care unit, which is home to 16 residents living with dementia. Residents have varying degrees of dementia and some have additional needs such as visual impairments and hearing impairments. The residents have varying degrees of physical ability; some move and walk independently or with a Zimmer frame, and others needing a wheelchair, hoist, and care staff support. Along with 10-13 residents from the residential care unit, two residents who live in the "Extra Care Plus" apartments regularly joined in the 'In Mature Company' sessions during the twenty-week project.

3) Methodology

Mapping session length

A typical mapping session is between 1-2 hours in length. The mapping session begins before the creative session starts and continues after the session ends. The data collected therefore includes observations from pre, during and post- session.

Control Maps

Two control maps lasting 1 hour 40 minutes were conducted at Care Home B to allow the mappers to observe the residents when a creative session was not taking place and observe daily life in the care home.

Mappers position in the space

On arriving at the care home, the mappers introduce themselves to the residents to gain their consent. The mappers sit in close proximity to the residents being mapped. Mappers do not include themselves in the session and wear dark clothing to avoid attracting attention or distracting the residents.

Identifying which residents to map

In year 1 of the project the mappers identified which residents to map through a conversation with the artistic team on the day of each session. This meant that during the twenty-week project, some residents were mapped many times, some residents less often and some residents not at all. This was problematic when it came to reporting as they had collected varying quantities of data from many different residents.

It was decided that in year 2 of the project the mappers would each choose three residents to map for the duration of the twenty-week project. By observing the same residents each week, the mappers could get to know the individuals better and notice patterns in behaviour more easily. To anticipate diverse data, the care home recommended residents who were fairly different, for example, more engaged Vs. less engaged, verbal Vs. non-verbal, physically more abled Vs. physically less abled, as well as those with varying stages of dementia.

Mapping methodology

Each mapping session measures:

1. Individual and group levels of wellbeing and ill-being before a creative session, during a creative session, and after a creative session.
2. Care staff and artist interactions which either promote or undermine person-centred care and wellbeing.
3. The number of times touch is used and the type of touch this is, e.g. non-verbal communication, functional/practical care, expressive activity, to provide warmth or comfort.

These three aspects are observed and coded against 4 categories:

1. **Behaviour Category Codes (BCC)** – 23 alphabetised codes representing what a person is doing. These have varying potentials for wellbeing: high, moderate, low and last. For example, Malcolm is drinking a cup of tea. This is coded as the BCC "F" for "Food". (See appendix 1).
2. **Mood and Engagement Value (ME)** – 6 levels that represent how negative, neutral or positive a person's mood and engagement. For example, Malcolm is clapping along to an Elvis CD. He is smiling and tapping his feet. This is coded as +3; his mood is content, happy, relaxed; his engagement is considerable. (See appendix 2).

3. **Personal Enhancers (PE)** – 17 interpersonal skills that can be used by a person to support or enhance the personhood of a resident. PEs can be recorded at two levels, E = enhancing, HE = highly enhancing. For example, Malcolm is crying and reaches out to a care worker who is passing. The care worker takes Malcolm's hand and asks him what's wrong. They sit together quietly until Malcolm has stopped crying. This is coded as PE 2: "Holding" (providing safety, security and comfort) at level "E" (enhancing). (See appendix 3).
4. **Personal Detractors (PD)** - 17 interpersonal skills that can be used by a person to undermine the personhood of a resident. PDs can be recorded at two levels, D = detracting, HD = highly detracting. For example, Malcolm is crying and reaches out to a care worker who is passing. The care worker says ***"stop attention seeking; you're only doing this because you know I'm busy"***. This is coded as PD 2: "Withholding" (refusing to give asked for attention or to meet an evident need for contact) at level "HD" (highly detracting). (See appendix 3).

Feedback to inform artistic practice

Observations are collated into an individual resident report and a group report. The mappers compile a series of questions and points of discussion about individual residents or the group as a whole. These points are not the personal opinions of the mappers and are based only on their observations.

The mappers share these reports with the artistic team and facilitate an open discussion about the findings. The artists use this feedback to evaluate and develop the sessions going forward.

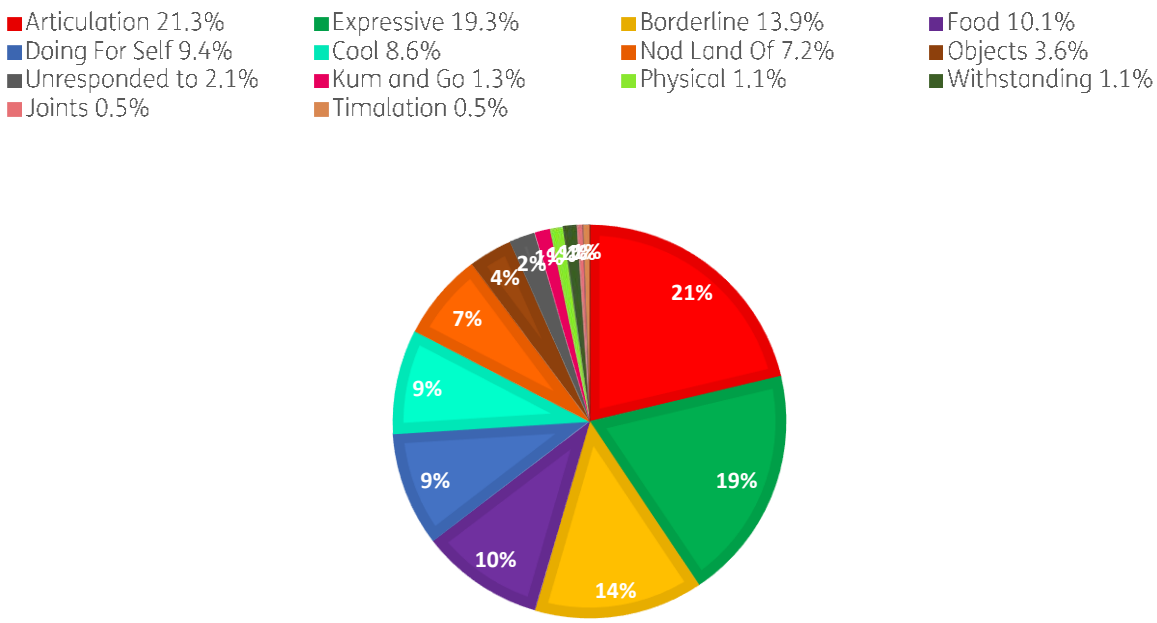
4) Data

Care Home A (6 maps)

Total BCCs

This pie chart shows the behaviour category codes (BCCs) that were observed in the 6 maps at Care Home A and their proportional percentages. The data covers pre-session, during session and post-session:

Fig. 1 - Behaviour Category Codes



The two most prevalent behaviour category codes (BCCs) were "Articulation" (interacting with others verbally or otherwise) and "Expressive" (expressive or creative activities). These BCCs account for 40.6% of the mapped time and both have a high potential for wellbeing.

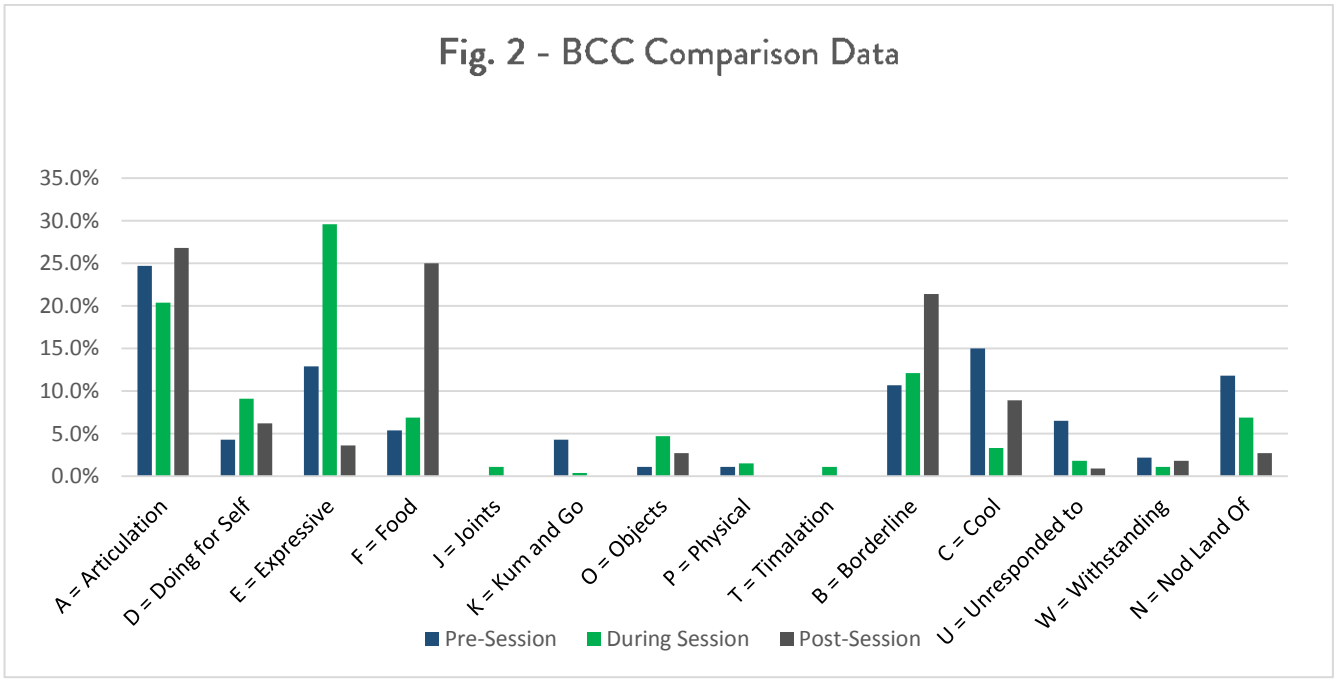
Other BCCs mapped with a high potential for wellbeing included "Food" (eating or drinking), "Doing for self" (self-care), "Objects" (displaying attachment to or relating to inanimate objects), "Kum and go" (walking, standing or moving independently), "Physical" (receiving practical, physical or personal care), "Joints" (exercise or physical sport), and "Timalation" (direct engagement of the senses). These BCCs account for a further 26.5% of mapped time.

The third most prevalent BCC was "Borderline" (being engaged but passively – watching) accounting for 13.9% of mapped time. This BCC has a moderate potential for wellbeing.

BCCs with a low potential for wellbeing made up 11.8% of the map. These are "Cool" (being disengaged, withdrawn), "Unresponded to" (attempting to communicate without receiving a response), and "Withstanding" (repetitive self-stimulation of a sustained nature). The final BCC mapped for 7.2% of the time was "Nod land of" (sleeping, dozing) which is the lowest possible BCC with any potential for wellbeing.

Comparison of BCC data from pre-session, during session and post-session

This chart shows the BCCs that were observed in the 6 maps at Care Home A and their proportional percentages. This is split into pre-session (from the very start of the mapping period to the start of the creative session), during the session (whilst the creative session is actually taking place) and post-session (from the creative session finishing to the very end of the mapping period):



The most commonly mapped BCC during the creative sessions was "Expressive" which has a high potential for wellbeing. The 'In Mature Company' project is designed to encourage residents to actively engage, using their own creative expression to participate (as opposed to watching a "performance") so this statistic is positive, particularly as the BCC of "Expressive" is coded alongside other BCCs with a high potential for wellbeing such as "Joints" and "Objects". These BCCs relate to other activity seen in the sessions such as physical warm ups and the interaction with props. There is still opportunity, however, for "Expressive" to be mapped more consistently for individual residents throughout sessions.

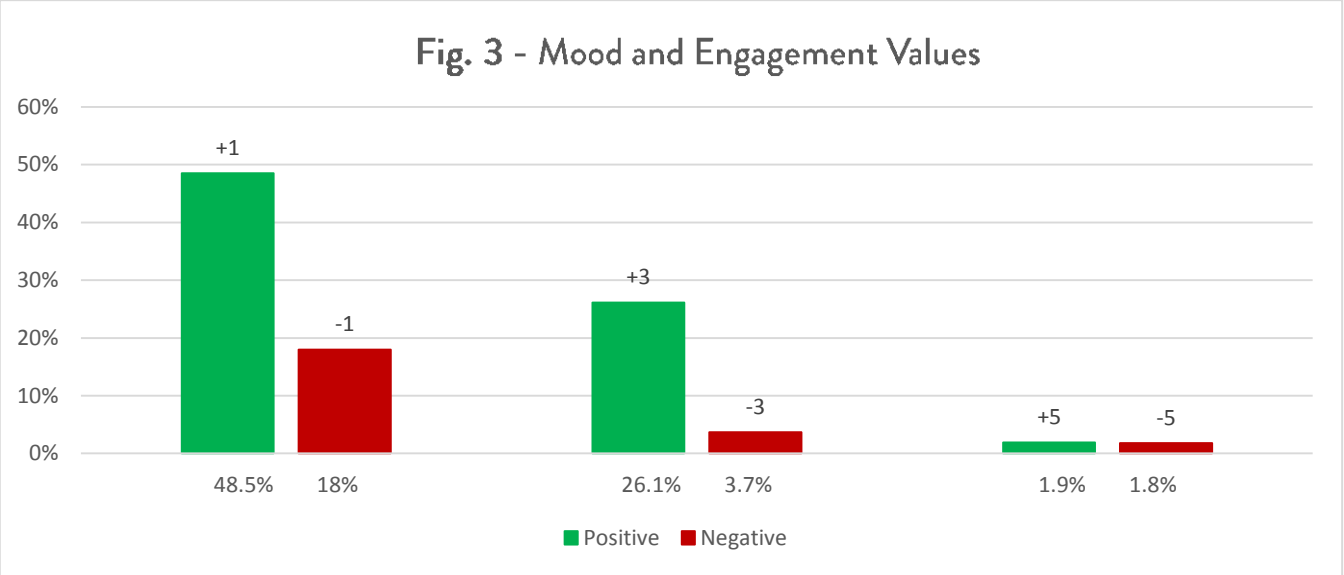
"Articulation" was mapped less during the sessions than pre or post. This may be because the other high potential BCCs seen during the session trumped this, for example, if a resident was talking at the same time as dancing, they were mapped as "Expressive" over "Articulation".

The BCC of "Food" was predominant post-session as this was the time that the residents receive a mid-afternoon cup of tea and biscuit/snack.

"Nod, Land Of" (sleeping/dozing) dropped from pre-session to during-session which could suggest the positive impact of the sessions; residents were sleeping less and engaging more. It dropped further, however, from during-session to post-session. This could be because residents were coded as "Food" when receiving a cup of tea and biscuits. Care staff were often observed waking residents to give them food and drink, part of the practical care they must deliver.

Total ME Values

This chart shows the mood and engagement (ME) values observed in the six maps at Care Home A and their proportional percentages. The data covers pre-session, during session and post-session:



The most prevalent mood and engagement (ME) value, accounting for 48.5% of mapped time, is +1 (neutral, absence of overt signs of positive or negative mood / engagement, alert and focussed on surroundings, brief or intermittent engagement).

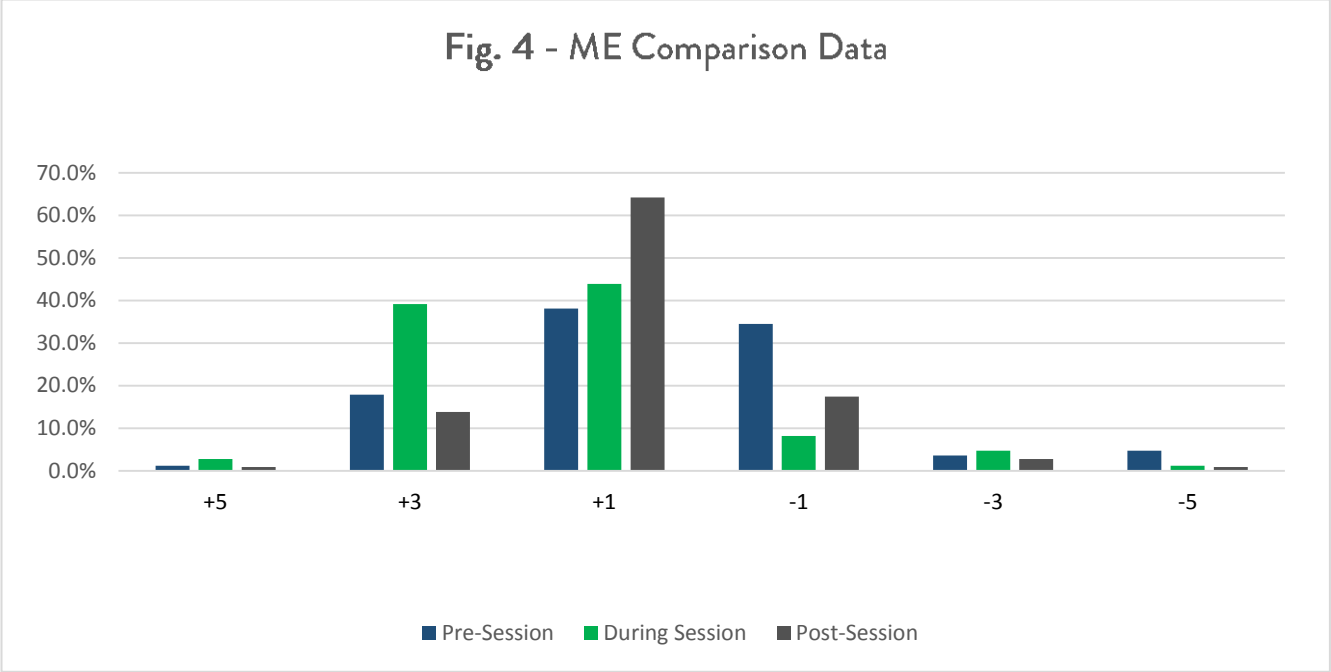
The second most prevalent ME value is +3, making up 26.1% of mapped time (content, happy, relaxed, considerable positive mood / engagement, concentrating but distractible, considerable engagement).

Residents were mapped as either -1, -3 or -5 for 23.5% of mapped time. This indicates that residents were showing signs of being in a negative mood, withdrawn and out of contact.

For the remaining 1.9% of time, residents were mapped as +5. This is the highest ME value indicating residents are very happy, cheerful, in a very high positive mood, very absorbed and deeply engrossed/engaged.

Comparison of ME data from pre-session, during session and post-session

This chart shows the ME values observed in the 6 maps at Care Home A and their proportional percentages. This is split into pre-session (from the very start of the mapping period to the start of the creative session), during the session (whilst the creative session is actually taking place) and post-session (from the creative session finishing to the very end of the mapping period):

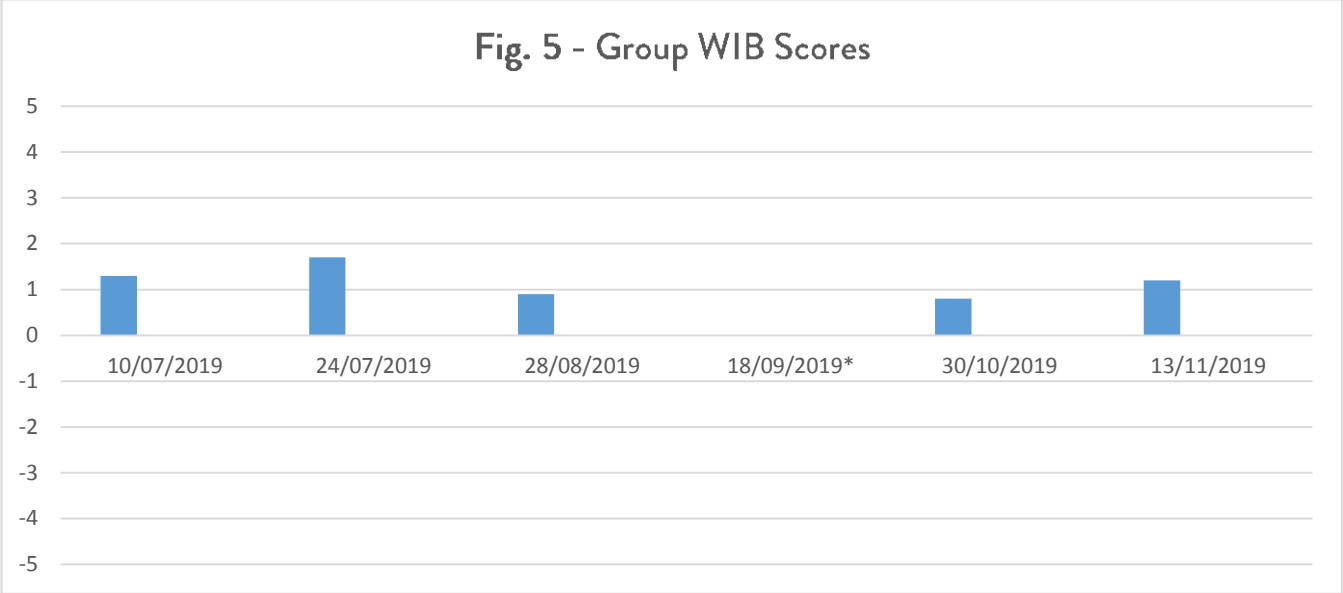


The two highest ME values of +5 and +3 were mapped more frequently during the creative session than pre or post. This indicates that mood and engagement was generally higher when the session was taking place. The predominant ME value during the session, however, is still +1. This could be because some residents found it harder to actively engage and preferred to engage passively by watching others. It could also be because some residents require more 1:1 support through interactions with artists and care staff. It was observed that some residents had higher ME values when involved in a 1:1 interaction but when left alone, their mood became neutral and they only engaged intermittently.

Residents were more often in a slightly negative mood and withdrawn (-1) either pre or post-session. The BCC of "Cool" (being disengaged, withdrawn) was therefore more prevalent at these times. Interestingly, the ME value of -3 (considerable signs of a negative mood) was slightly higher during the session than pre or post. This could be due to specific reactions from some individuals. At Care Home A, 1 or 2 residents sometimes displayed a resistance to being in the room. Their ME value could become more negative in response to the artist interactions. For example, a resident who was in a neutral mood was asked if they would like to join in the session. Their ME value then became more negative as they articulated that they did not want to participate.

Group WIB Scores

Residents have an individual WIB (well and ill-being) score which shows their average mood and engagement value during the mapping period. This can range between -5 and +5. The group WIB score is an average mood and engagement value for the entire mapped group of residents during the mapping period. This chart shows the group WIB score for each of the 6 maps at Care Home A:



**18/09/2019 the group WIB score is 0.*

The group WIB scores for the 6 sessions at Care Home A range from 0 to 1.7. This covers the whole mapping time, including pre-session, during-session and post-session. Post-session impact is difficult to sustain as outlined in the 'trends' section and this is also reflected in these WIB scores.

The lowest group WIB score of 0 was observed in map 4 on 18/09/2019. Firstly, Beryl, who was usually the most engaged resident mapped at this care home, was not present on this date and therefore the group WIB score was generally lower. Liz, a resident who often showed a resistance to being in the room, had an individual WIB score -0.4, which wasn't unusual for Liz. Bob, who often engaged and was usually in a positive mood, had a lower individual WIB score of -0.2 on this date. Bob was visited by a medical professional and the care staff tried to encourage him to leave the session and go to his room. During these interactions with the medical professional and care staff, Bob was mapped as a -5, becoming very distressed and showing very great signs of a negative mood. He received personal detractors (PDs) during this exchange from both care staff and the medical professional. At 15:40, for example, Bob received the PD of "accusation" when care staff and the medical professional were trying to help him into his wheelchair. He said "shut your f**king mouth" and the medical professional replied "stop being so rude"; they were blaming Bob for his behaviour. After these exchanges, the artists did manage to bring Bob back into the session using personal enhancers (PEs) and did manage to increase his ME value to +3. At 15:45, when trying to calm Bob down after he was distressed and angry, an artist put on a piece of Scottish music and said "Bob, this one's for you". They were recognising Bob's unique taste in music and valuing him as an individual.

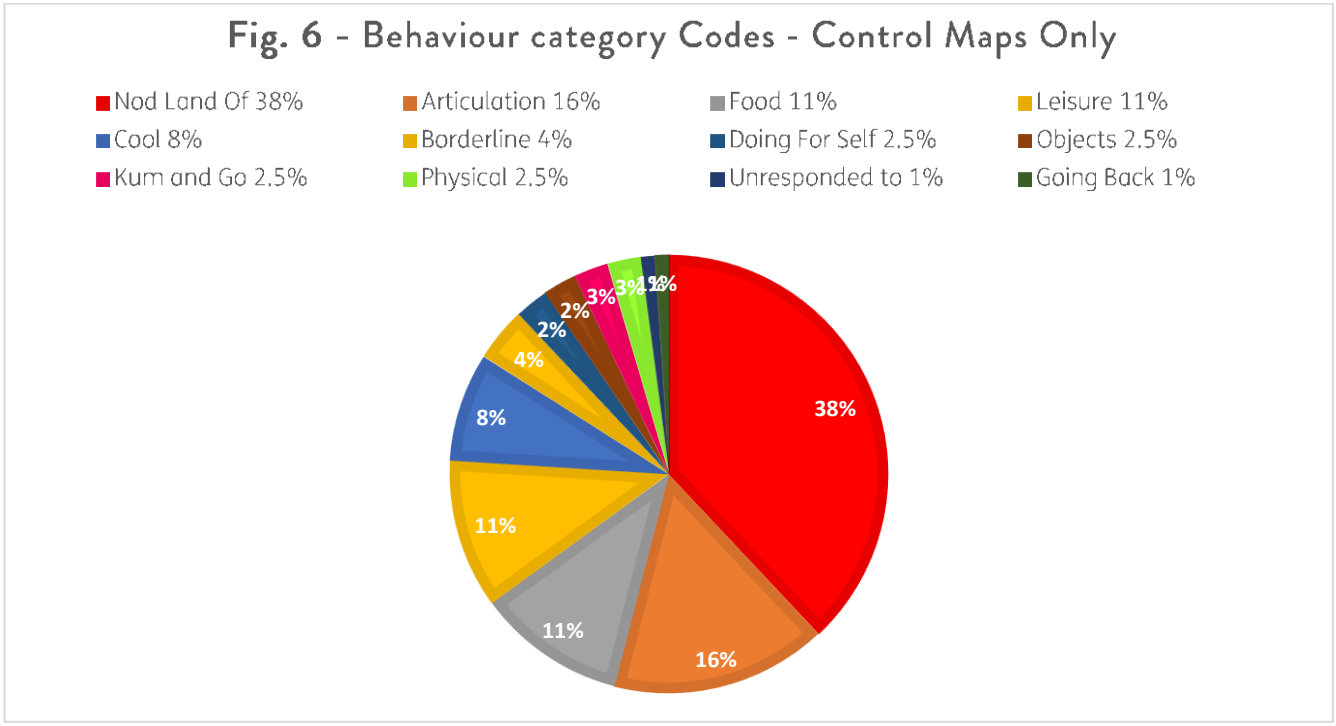
The highest group WIB score of 1.7 was observed in map 2 on 24/07/2019. On this date, Bob had an individual WIB score of 2.7, was considerably engaged and in a considerably positive mood. The artists encouraged Bob to engage by using music. The following PE was mapped: at 14:40, an artist asked Bob "what was that song you were singing? Was it Scottish?" This is the PE of "Recognition" (recognising the participant's uniqueness with an open attitude) as the artist noticed that Bob was singing earlier in the session and wanted to find out more about the music that Bob likes. Beryl was given agency during the session by the artists to help increase her wellbeing. The following PE was mapped for Beryl: at 14:20, Beryl and an artist were dancing together in the space. They were holding hands and moving. The artist said "you will have to teach me, I am learning" and they continued to dance together. This was a PE of "Empowerment" (assisting the participant to discover or employ abilities and skills).

Care Home B (8 maps)

A total of 8 mapping sessions were conducted at Care Home B. 2 of these were control maps and the other 6 maps took place on days when the 'In Mature Company' sessions were taking place. For the purpose of comparison, Care Home B data has been split into control maps and pre/during/post-session maps.

Total BCCs – Control Maps Only

This pie chart shows the behaviour category codes (BCCs) observed in the **2 control maps** at Care Home B and their proportional percentages:



The most prevalent behaviour category code (BCC) during the control maps at Care Home B was "Nod, land of" (sleeping, dozing). This BCC accounts for 38% of the mapped time and has the lowest possible potential for wellbeing.

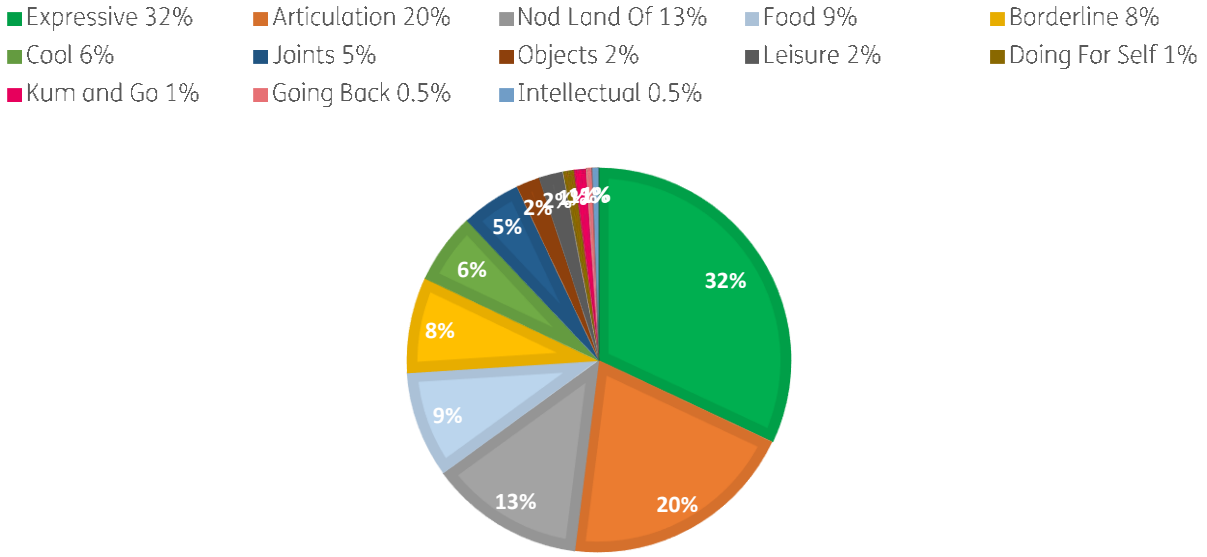
The next most common BCCs mapped were "Articulation" (interacting with others verbally or otherwise), "Food" (eating or drinking) and "Leisure" (leisure, fun and recreational activities) which account for a further 38% of mapped time. These BCCs have a high potential for wellbeing.
The mappers found that the articulations were mainly between residents and care staff and were predominantly around functional/practical care, such as a care worker asking a resident "Do you want a cup of tea?" or "What would you like for your dinner?" Most of the leisure activity involved watching the television, which was on in the background. Some residents engaged more with the television than others.

The BCC of "Expressive", which was predominant during creative sessions, was not mapped at all during the control maps. This indicates that residents were not exposed to opportunities for creativity or self-expression.

Total BCCs – Pre/During/Post-Session Only

This pie chart shows the behaviour category codes (BCCs) observed in the 6 maps at Care Home B that took place on days with creative sessions and their proportional percentages:

Fig. 7 - Behaviour Category Codes - Pre/During/Post-session Only

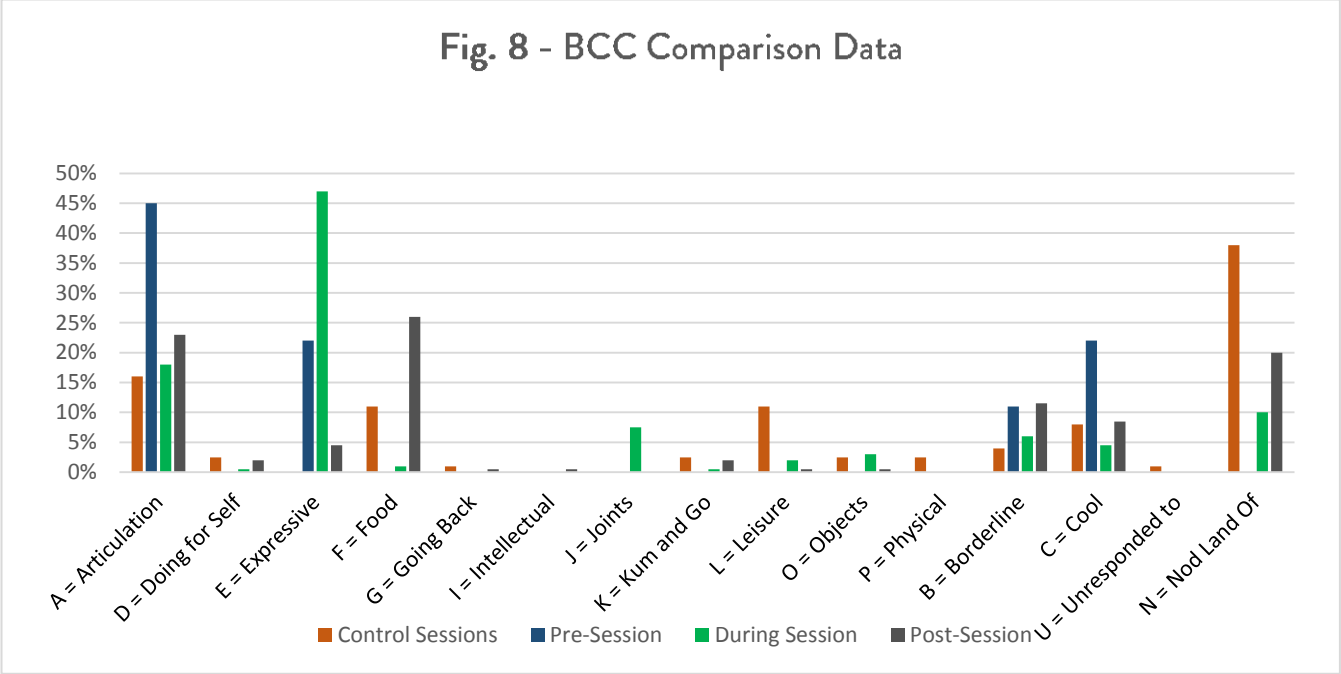


The most prevalent behaviour category code (BCC) was "Expressive" (expressive or creative activities). In comparison to the control maps, this shows that the residents were given opportunities to be creative or express themselves. The second more prevalent BCC was "Articulation" (interacting with others verbally or otherwise). These two BCCs account for 52% of the mapped time and have a high potential for wellbeing.

The third most prevalent BCC was "Nod, land of" (sleeping, dozing) accounting for 13% of mapped time. This BCC has the lowest possible potential for wellbeing. This percentage is lower than in the control maps, where sleeping is much more prominent.

Comparison of BCC data from control sessions, pre-session, during session and post-session

This chart shows the BCCs that were observed in the 8 maps at Care Home B and their proportional percentages. This is split into data from the 2 control maps and data from the 6 maps on dates when creative sessions were taking place. The latter is split into pre-session (from the very start of the mapping period to the start of the creative session), during the session (whilst the creative session is actually taking place) and post-session (from the creative session finishing to the very end of the mapping period):



*Note about comparative data: The mappers collected a limited amount of pre-session data at Care Home B. Each "mapping period" (control, pre-session, during-session, post-session) was a different length of time. Mapping session length was an uncontrollable factor because: the mappers could not access the space at the desired time; the length of creative sessions delivered by the artists varied; and other constrictions outlined in the conclusions section. Across the 6 maps on days when sessions were taking place, there were a total of 3 pre-session timeframes per resident in comparison to 76 during-session timeframes and 38 post-session timeframes. Therefore, no valid conclusions can be drawn from the limited amount of pre-session data.

As with Care Home A, the most commonly mapped BCC during the creative sessions at Care Home B was "Expressive" which has a high potential for wellbeing. The BCC of "Joints", such as physical warm ups, also has a high potential for wellbeing. "Joints" was not mapped at all during the control sessions, pre-session or post-session. This suggests that when a creative session wasn't taking place, residents were not being encouraged to undertake physical exercise.

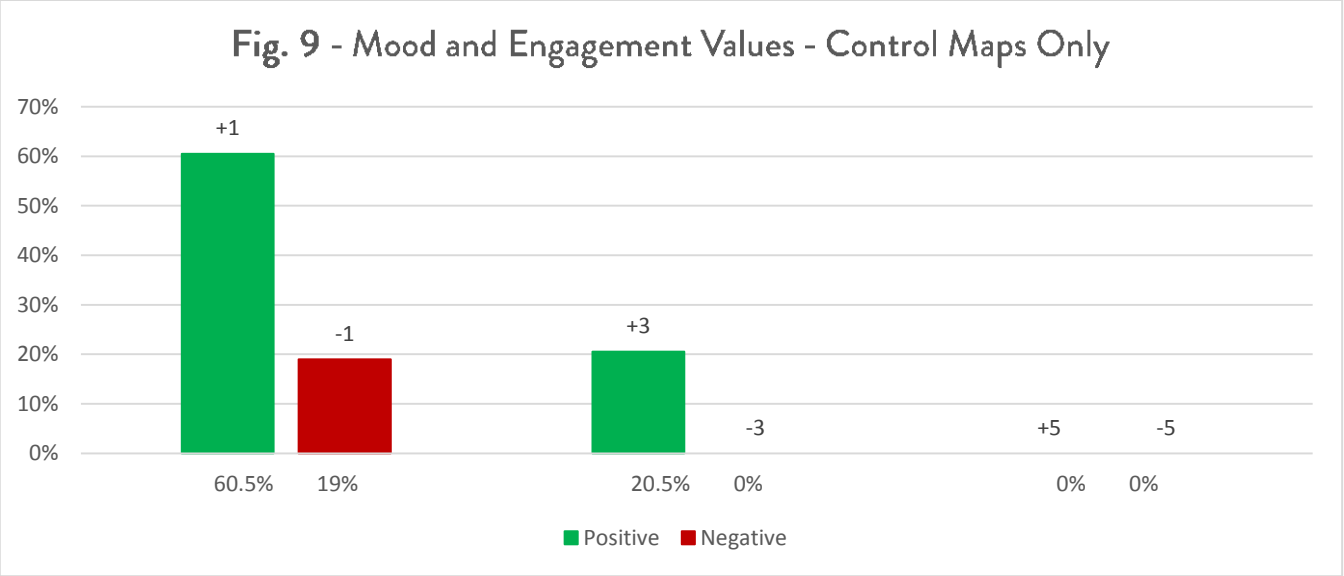
"Articulation" was mapped less during the sessions than pre or post. This was also observed at Care Home A and may be because the other high potential BCCs seen during sessions trumped this, for example, if a resident was talking at the same time as dancing, they were mapped as "Expressive" over "Articulation". It could also be because articulation was used regularly by care staff during the delivery of practical/functional care which mostly took place before or after the sessions, such as asking if they'd like a cup of tea.

Again, another similarity to Care Home A was that the BCC of "Food" was predominant post-session as this was the time that the residents received a mid-afternoon cup of tea and biscuit/snack.

In Care Home A, the BCC "Nod, Land Of" was mapped more pre-session than during-session and more during-session than post-session. This could be because residents received a drink and snack straight after the creative session and were therefore less likely to be sleeping. The complete opposite was the case at Care Home B; sleeping was observed more post-session. One resident, Rosemary, was considerably engaged throughout the creative session but once it finished, often fell asleep. This suggests that some residents required more creative stimulation than others and became withdrawn or tired when no activity was taking place. The fact that no sleep was observed pre-session cannot be analysed due to the limited amount of pre-session data.

Total ME Values – Control Maps Only

This chart shows the mood and engagement (ME) values observed in the 2 control maps at Care Home B and their proportional percentages:



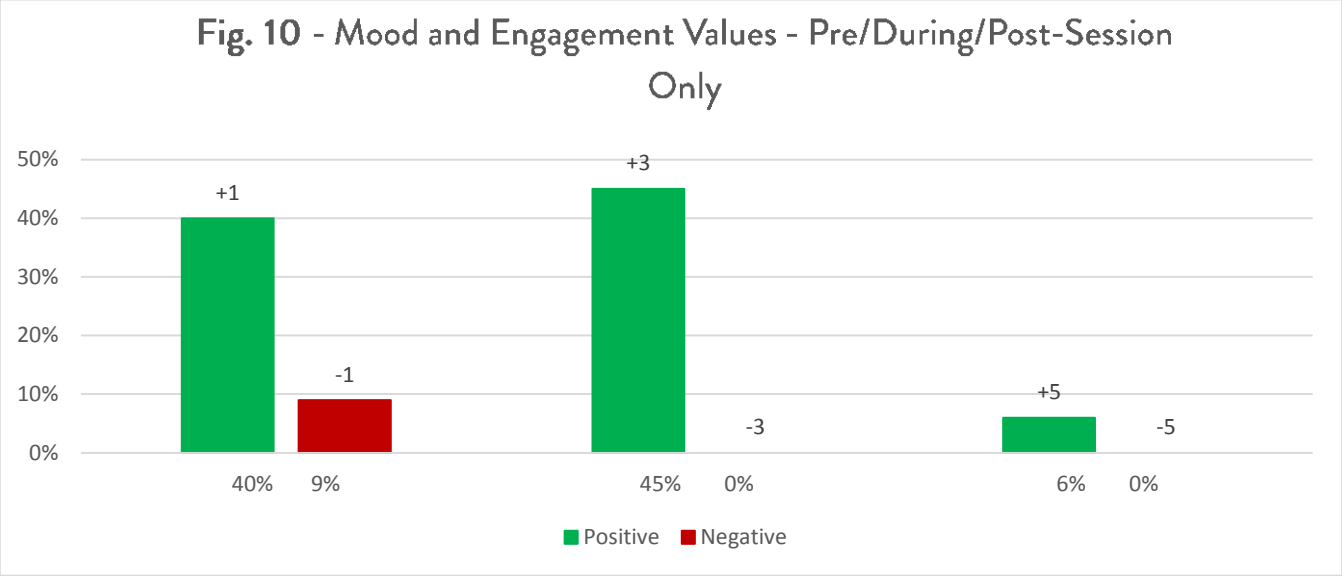
The most prevalent mood and engagement value (ME), making up 60.5% of mapped time, was +1. The second most prevalent ME value was +3, making up 20.5% of mapped time. Residents were mapped as -1 for the remaining 19% of mapped time (mood = small signs of being in a negative mood / engagement = withdrawn and out of contact).

No residents were observed as +5 during the control maps (mood = very happy, cheerful, very high positive mood / engagement = very absorbed, deeply engrossed/engaged). This may be because no organised activity was taking place and therefore 1:1 interactions, which we know have a positive impact on a resident's ME value, were fewer.

No residents were observed as -3 (mood = considerable signs of a negative mood) or -5 (mood = very distressed, very great signs of a negative mood).

Total ME Values – Pre/During/Post-Session Only

This chart shows the mood and engagement (ME) values observed in the 6 maps at Care Home B that took place on days with creative sessions and their proportional percentages:



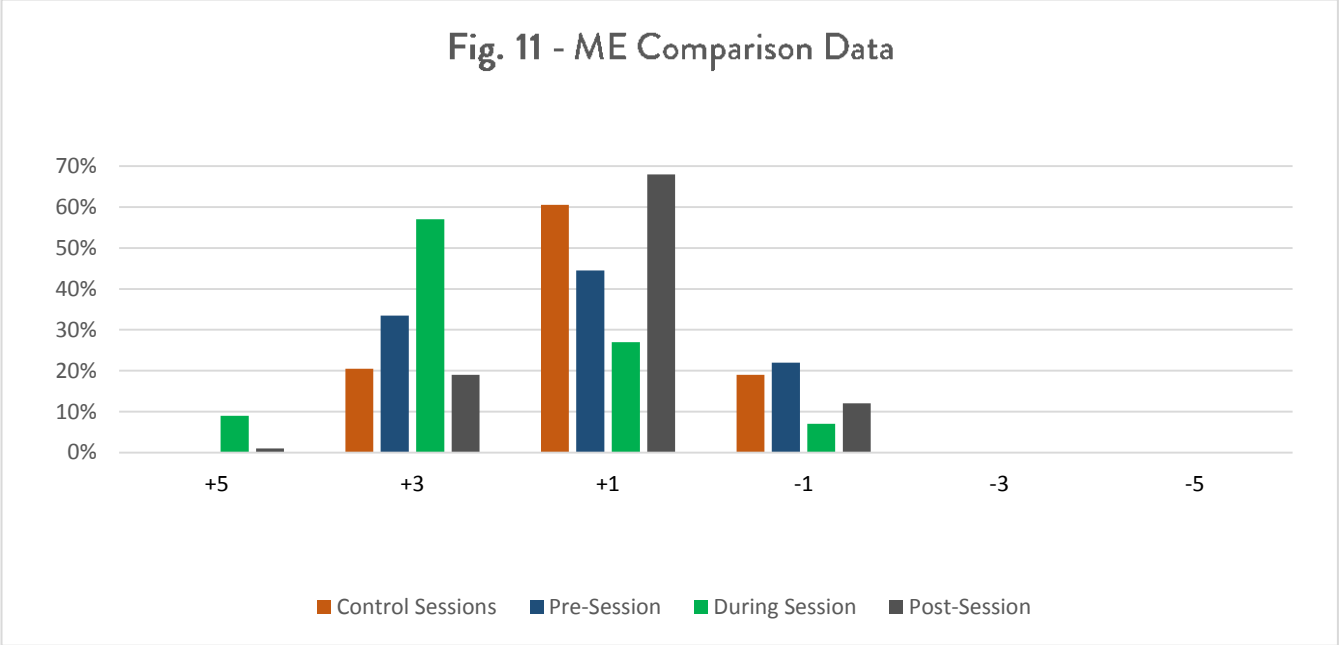
The most prevalent mood and engagement value (ME), making up 45% of mapped time, was +3. This percentage of +3 was higher than in the control maps when no organised activity was taking place. This was closely followed by +1 making up 40% of the mapped time. Residents were mapped as -1 for 9% of mapped time.

In comparison to the control maps, some residents were observed to be in the highest possible ME value of +5 for the remaining 6% of the mapped time.

No residents were observed as -3 or -5 during any of the maps at Care Home B.

Comparison of ME values from control sessions, pre-session, during session and post-session

This chart shows the ME values that were observed in the 8 maps at Care Home B and their proportional percentages. This is split into data from the 2 control maps and data from the 6 maps on dates when creative sessions were taking place. The latter is split into pre-session (from the very start of the mapping period to the start of the creative session), during the session (whilst the creative session is actually taking place) and post-session (from the creative session finishing to the very end of the mapping period):



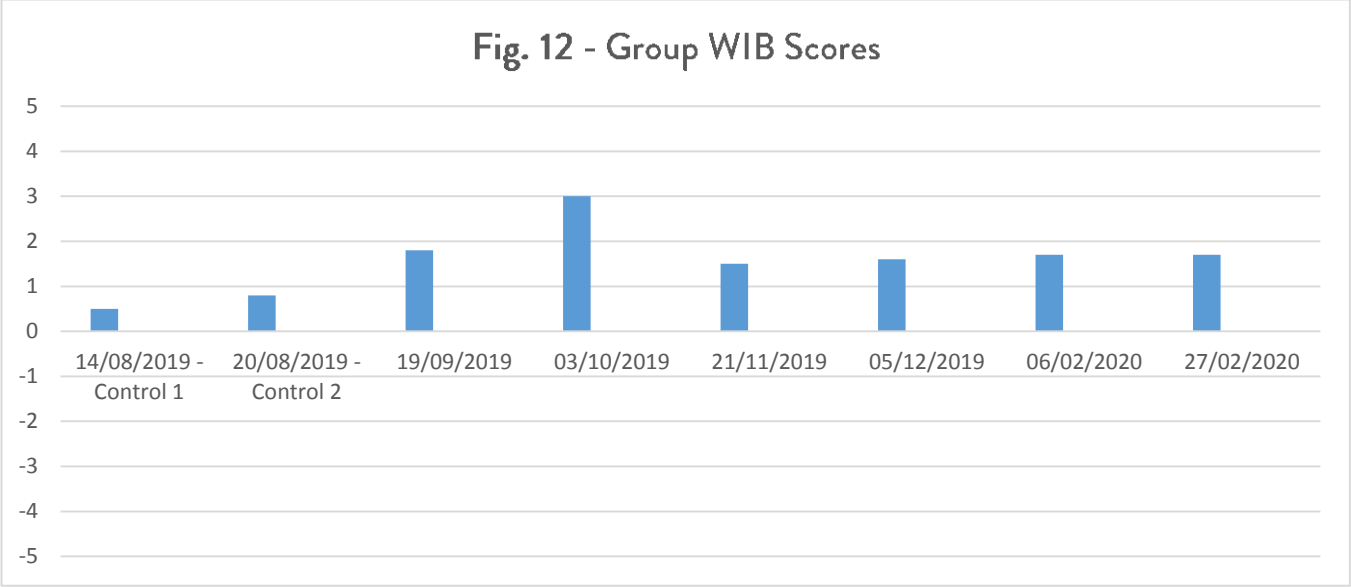
The highest ME value of +5 was not mapped at all during the control maps or pre-session. The mappers did observe this ME value during the session which suggests the sessions were having a positive impact on the wellbeing of some residents. There was a small percentage of +5 mapped post-session. This may suggest that the sessions were having a lasting impact on some residents, however, because this data is limited, it cannot be used as conclusive evidence.

The mappers observed the ME value of +3 more frequently pre-session than post-session. This could be due to the following factors: when the mappers entered the space this could have impacted on the wellbeing of the residents as there were new people in the room who the residents got to know over time, the care staff may have communicated to the residents that a session would take place after lunch, or the presence of the mappers may have indicated that a session would be taking place, thus creating excitement and anticipation.

No residents were observed as -3 or -5 across any of the maps at Care Home B. In comparison to Care Home A, no residents at Care Home B showed a resistance to being in the room during the maps and there were no examples of highly negative moods or residents being very withdrawn. This was not necessarily reflective of the care home environment or staff and may have been due to individual resident behaviours and personalities.

Group WIB Scores

This chart shows the group WIB score for each of the eight maps at Care Home B (two control maps & two session maps):



The group WIB scores for the two control sessions at Care Home B are 0.5 and 0.8. These two group WIB scores are lower than any of the group WIB scores observed on days when sessions were taking place. This confirms that the sessions did have a positive impact on the wellbeing of the care home residents.

On days when the sessions were taking place, the group WIB scores ranged from between 1.5 and 3.0. This covered the whole mapping time, including pre-session, during-session and post-session.

The highest group WIB score of 3.0 was observed in map 2 on 03/10/2019. The reason for this could be that on this date, the main lounge was being decorated so the artists decided to hold the session in a smaller lounge elsewhere in the care home. The residents were asked if they wished to move into a different lounge for the session and only the more engaged residents expressed an interest. This resulted in a small group session of 6 female residents who all found it easier to engage and usually took a more active role in the sessions. The artists adapted the session content to this more engaged group, giving more agency to residents and leading more "complex" activities. The size of the space also allowed the residents to interact with each other more easily, holding eye contact and speaking across the small circle to one another. The higher group WIB score on this date therefore reflected the space, increased social interaction and the higher ME values of these particular residents.

The lowest group WIB score on a day when a session was taking place was 1.5 observed in map 3 on 21/11/2019. This is not a result of unusually low ME values for these particular residents. In fact, 3 out of 5 of the mapped residents had individual WIB scores of more than 2.0 on this date. The other 2 residents had individual WIB scores of 0.1 and 0.7. Joe, who sometimes engaged during the session but often needed 1:1 support, was particularly tired on this day and slept for 67% of the mapped time. Gregory, who also benefitted from 1:1 support and engaged intermittently, slept for 50% of the mapped time. "Nod, Land of" doesn't receive an ME value (unless the sleep is obviously uncomfortable) so this brought Joe and Gregory's individual WIB scores down, and therefore, the group WIB score was lower than in other maps.

PEs/PDs

There are 17 Personal Enhancers (PEs) that support or uphold the personhood of a resident. There are 17 contrasting Personal Detractors (PDs) that undermine the personhood of a resident. These PEs and PDs are grouped into five categories: comfort, identity, attachment, occupation and inclusion, all of which uphold a person's psychological needs.

The below tables shows the number of PEs and PDs used by: A) the 'In Mature Company' artists or volunteers, B) the care home staff, or C) others including visiting family, medical professionals, and other residents. This is split into data from the control maps and pre, during and post-session data from the 12 maps on dates when creative sessions were taking place:

Fig. 13 – PEs/PDs

Control Session PEs	Artists	Care Staff	Other	Control Session PDs	Artists	Care Staff	Other
Comfort		1	2	Comfort		2	
Identity				Identity		2	1
Attachment		1		Attachment		3	
Occupation				Occupation		4	
Inclusion		1	1	Inclusion		3	
TOTAL PEs		3	3	TOTAL PDs		14	1
Pre-Session PEs	Artists	Care Staff	Other	Pre-Session PDs	Artists	Care Staff	Other
Comfort				Comfort			
Identity				Identity		1	
Attachment			1	Attachment		1	
Occupation	1	2		Occupation		1	1
Inclusion	1			Inclusion			
TOTAL PEs	2	2	1	TOTAL PDs	0	3	1
During Session PEs	Artists	Care Staff	Other	During Session PDs	Artists	Care Staff	Other
Comfort	7	2		Comfort	1	1	
Identity	1		1	Identity			
Attachment	3	1		Attachment			4
Occupation	44	2		Occupation	1	3	3
Inclusion	13	1	1	Inclusion		1	
TOTAL PEs	68	6	2	TOTAL PDs	2	5	7
Post-Session PEs	Artists	Care Staff	Other	Post-Session PDs	Artists	Care Staff	Other
Comfort	2		1	Comfort			
Identity			1	Identity		1	
Attachment				Attachment		1	
Occupation	1		1	Occupation	1	1	
Inclusion	3	2		Inclusion		2	
TOTAL PEs	6	2	3	TOTAL PDs	1	5	0

Residents experienced more PEs during creative sessions than at any other time, an average of 6.33 PEs per creative session. 89% of PEs were delivered by the 'In Mature Company' artists or volunteers.

Residents experienced more PDs during the control maps. A total of 15 PDs were observed, six during Control map 1 and nine during Control Map 2, an average of 7.5 per control session. In comparison, an average of 1.17 PDs were observed during creative sessions.

The table below shows the relationship between PEs and the ME value of the timeframe in which they occur. This is split into data from the control maps and data from the maps on dates when creative sessions were taking place at Care Home A and Care Home B:

Fig. 14 – PEs and MEs

ME Value in Corresponding Timeframe	Control Maps (No. of PEs)	Care Home A (No. of PEs)	Care Home B (No. of PEs)	**Total No. PEs Delivered**
+5		10	11	21
+3	3	32	27	62
+1	2	6	6	14
-1	1	1		2
-3				
-5		1		1

Out of a total of 100 PEs mapped across the entire project, 62% occurred in a timeframe in which the resident was mapped as an ME value of +3. A further 21% of PEs occurred in a timeframe in which the resident was mapped as an ME value of +5.

Only 3% of PEs corresponded to a timeframe in which the resident was in a negative mood with lower engagement.

Touch

In year 2, the mappers continued to focus on the impact of touch but took a different approach to data collection and analysis. Initially, a new coding system was developed where the mappers attached touch to a behaviour category code, however, in practice this wasn't representative of the unique moment of touch observed. Therefore, in addition to the new coding, the mappers recorded the context or for what purpose the moment of touch was received. It was evident that touch within the sessions upholds the psychological need for comfort and thus results in a higher ME value. Touch also has the greatest impact on ME values when used during 1:1 interactions.

Across the 62 individual resident maps at Care Home A and Care Home B, there were a total of 264 moments of touch observed. In order to show the variety of touch, the mappers divided these moments into 6 categories following the completion of all maps. These categories are:

Comfort: to provide comfort to a resident through moments such as handholding when they are distressed, a hand on their shoulder to provide reassurance, a leg rub/arm rub to communicate to a resident that they are in a safe place and are surrounded by people they can trust.

Warmth: to demonstrate genuine care for a resident through handholding, massage, shaking hands, stroking, hair rub, kissing on the cheek or hand.

Expressive: to connect with another person during expressive activity or dance, such as holding hands whilst dancing or swaying with another person.

Touch also using object or instrument supported by another: to stimulate the senses using objects whilst involved in touch with another person, for example, weaving a ribbon through a resident's hand or stroking a balloon across the resident's body so they feel the texture of the balloon.

Receiving practical care (functional touch): to deliver practical care such as supporting someone to stand up or rubbing cream on a resident's back.

To wake a resident: to wake a resident from sleep, most often in the form of an arm rub or hand stroke.

Below, the touch data for the 2 control maps at Care Home B is analysed separately from the data for the 12 maps on the days that sessions were taking place at both Care Home A and Care Home B.

Fig. 15 – Touch in Control Maps

Type of Touch	Number of Moments Recorded
Comfort	2 moments
Warmth	8 moments
Expressive	0 moments
Touch with object or instrument	0 moments
Receiving Practical care (functional touch)	11 moments
To wake a resident	0 moments
Total moments of touch mapped	21

These moments of touch were predominantly between residents and care staff as opposed to between residents. 4 out of the 8 moments of warmth were between Wilma and a family member who visited for the latter half of the control map.

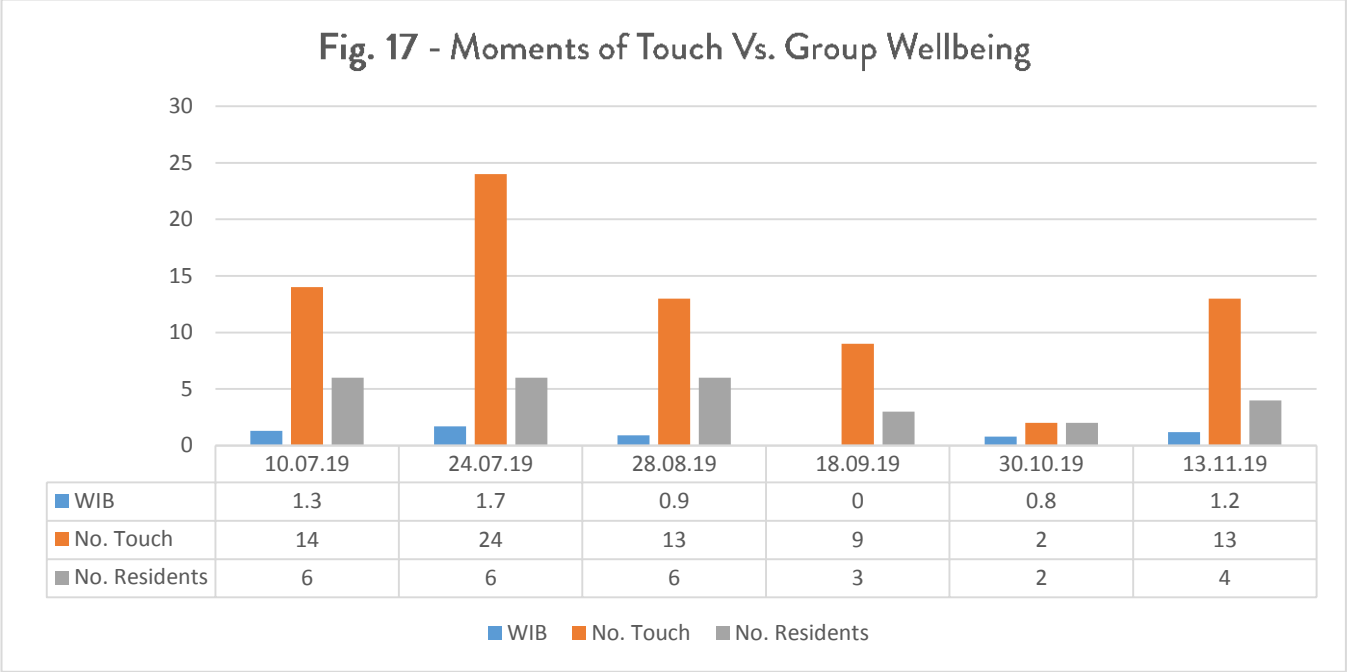
Fig. 16 – Touch in Pre/During/Post-Session Maps

Type of Touch	Number of Moments Recorded
Comfort	64 moments
Warmth	107 moments
Expressive	46 moments
Touch with object or instrument	13 moments
Receiving Practical care (functional touch)	5 moments
To wake a resident	8 moments
Total moments of touch mapped	264

An average of 22 moments of touch occurred on days when creative sessions were taking place. In comparison, an average of 10.5 moments of touch occurred during each control map.

Care Home A

The below chart explores the relationship between the group WIB score and the number of moments of touch observed at Care Home A on days when creative sessions were taking place:



**Maximum WIB score is +5. Minimum WIB score -5.*

The highest number of touch was recorded in map 2 on 24/07/19 with a total of 24 moments for the entire mapping period. During this map the highest WIB score of 1.7 was also recorded.

For the first three maps, all 6 residents were present and the mappers found that more moments of touch resulted in a greater group WIB score. This correlation, however, was not apparent in the final three maps. This could be because not all mapped residents were present or due to individual resident experiences.

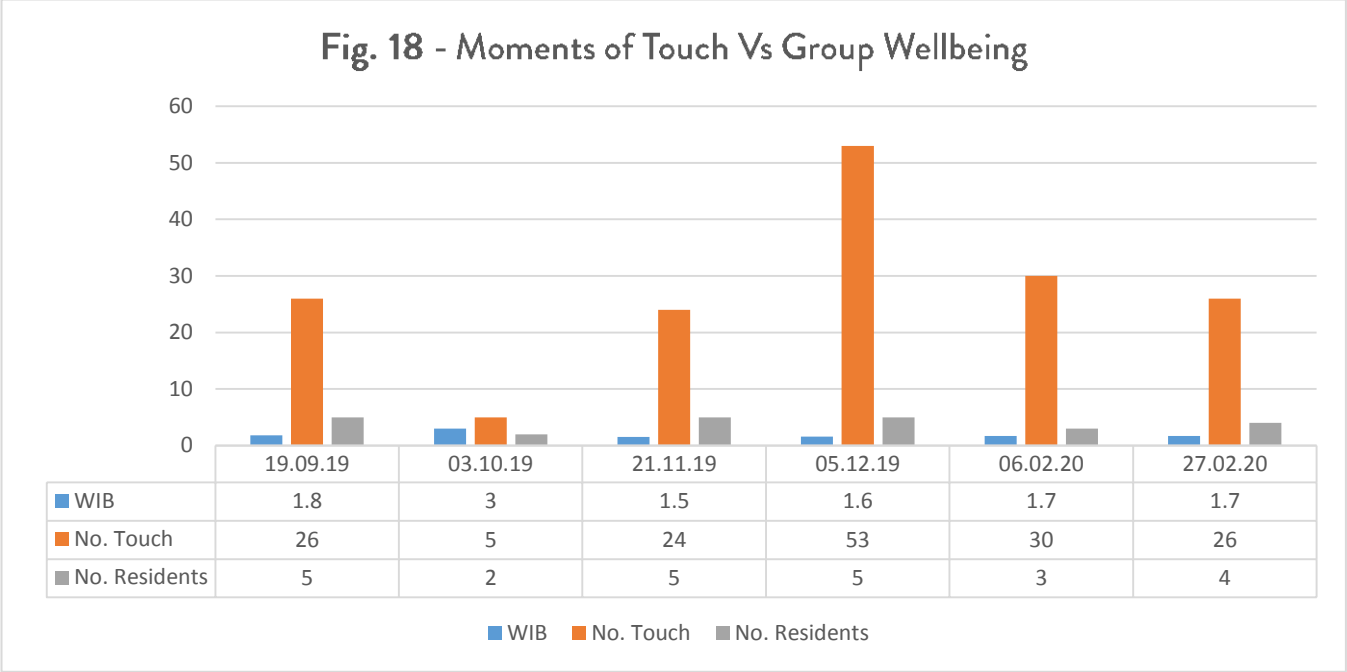
Of the three residents present during map 4 on 18/09/19, 2 were mapped as in a negative ME value for an average of 64% of the time. Bob received 6 moments of touch during this map, however, due to a medical professional visiting during session and attempting to remove him from the space, his ME levels were impacted. The other negative ME values related to Liz, who sat on the outer circle not participating in the session and did not receive any moments of touch.

The moments of touch were lower in map 5 than in previous maps as the only residents present were the 2 residents who received the fewest moments of touch throughout the entire project. One of these was Paula and her relationship with touch is explained in the case study in the 'person-centred approach' trend. The other resident who experienced the lowest number of touch was Liz because she did not actively engage within the sessions and positioned herself on the outer circle.

In map 6 on 13/11/19, fewer residents were present, however the relationship between WIB and number of touch is comparable to that in maps 1-3.

Care Home B

The below chart explores the relationship between the group WIB score and number of moments of touch observed at Care Home B on days when creative sessions were taking place:



**Maximum WIB score is +5. Minimum WIB score -5.*

In Care Home B, the highest number of touch recorded was during map 4 on 05/12/19 with 53 individual moments, however, this wasn't the highest WIB overall.

The highest group WIB score was observed when the least amount of touch took place during map 2 on 03/10/19. This map had the smallest number of mapped residents present. This map saw an unexpected change in physical environment and only the highly engaged residents were in attendance.

In map 4 on 5/12/19, Gregory had family visiting and received 23 moments of touch. This increased the overall number of moments of touch but did not impact the group WIB score.

5) Case Studies

Case Study 1: a person-centred approach for residents who find it harder to engage

At the start of the project, some residents did not engage with the creative session or interact with others. Year 1 data concluded that residents who found it harder to engage required more frequent and longer 1:1 interactions. This was true for Paula at Care Home A and Gregory at Care Home B, however, they also required a more person-centred approach.

At the start of the project in Care Home A, Paula had low ME values and was non-verbal. For the first 3 sessions her individual WIB score was between 1.0-1.2. She appeared to watch the session intermittently, sometimes using eye contact, but would not interact with other residents verbally. One particular artist approached her regularly, attempting to offer her an instrument or their hand. Paula would watch the artist and use sustained eye-contact, however, she would not take the instrument or their hand. This artist repeated this approach every session, offering an instrument at a slow pace. In map 3 on 20/08/20, the artist offered Paula their hand as they greeted her and she responded by reaching her hand out to shake theirs. This was the first moment of touch mapped for Paula, one of only 3 moments across the six maps. In the final two maps, Paula's engagement shifted and she began to display intermittent high levels of engagement as the artists supported her to engage creatively. The same artist offered Paula an instrument, holding it out in front of her for a number of minutes. Paula eventually took the instrument from their hand and played it. This was the first time the mappers had seen Paula play an instrument, however, again, no moments of touch were observed. Due to their increased knowledge of Paula, the artists used a person-centred approach to engage her using sustained eye contact and a slow pace.

In Care Home B, Gregory, who at the start of the project also had low ME values, used minimal eye contact and often found it difficult to stay awake. For the first three maps when creative session were taking place (discounting the control maps) his individual WIB score was between 0.1-1.2. For his first two maps, Gregory was sleeping for a total 17 timeframes. The artists attempted to find different ways to engage him. Gregory could communicate verbally and sometimes talked to the artists during 1:1 interactions, however, when offered a creative activity, he didn't engage. The artists regularly approached Gregory to wake him from sleep and to offer moments of touch. In the first map when a session was taking place, Gregory received 10 moments of touch. Despite this, his ME values were generally low and his individual WIB score was 0.3. Between maps 5 and 6, the artists were told by Care Staff that Gregory has both a visual and hearing impairment. Due to their new knowledge of his impairments, the artists began to use a person-centred approach to encourage Gregory to engage and in map 6 on 05/12/19, he received a total of 23 moments of touch, considerably more than he had in previous weeks. Gregory's individual WIB score was 1.2 and he only slept for 4 timeframes, only 3 of which were actually during the creative session. This quantity of touch continued throughout the remainder of the project and in the final session, Gregory displayed higher levels of engagement for a longer period of time than in any previous maps. The artists played Gregory's favourite song and placed the speaker very close so that he could hear it. This moment saw Gregory display higher ME values and ignited conversations with the artists about memories relating to the song. In total, Gregory received 58 moments of touch, the highest quantity of any resident across both care homes.

Case Study 2: Relationship between engagement and touch

At Care Home B in Map 6 on 05/12/2019, the following comparison was made. Rosemary, who was almost always considerably or highly engaged during the creative sessions and was regularly given agency, had an individual WIB score of 3.0 on this day. She experienced 6 moments of touch during the map: 3 involved a welcome or goodbye from an artist, 1 was expressive during an activity of passing a 'tap' around the circle, and 2 were holding hands with her neighbour. Touch was not used by the artists to support Rosemary or offer warmth during this map, for example, holding her hand or stroking her arm.

Whereas David, who sometimes engages but benefits from more 1:1 support from artists, had an individual WIB score of 0.2 on this day. He experienced 12 moments of touch during the map, double the amount that Rosemary received. Some of these moments were a welcome or goodbye from an artist or were experienced during expressive activity. There were other moments, however, where artists or care staff used touch to encourage David to engage, for example, holding his hand and saying "come on David". These 1:1 interactions helped him engage, although often for a very short time, and often when the 1:1 ended, his ME value dropped. In two consecutive timeframes, David said to different artists "they've all fallen out with me". On 3 occasions, touch was used to comfort David when he was showing signs of negativity or distress such as this.

Case Study 3: Post-session ME Values

Three factors impact on how a resident engages post-session. These are environmental, personal, and in-session engagement levels. These factors were identified through qualitative data collected alongside quantitative data and examples are outlined below:

Environmental

At Care Home B, there were attempts from Care Staff to sustain the levels of engagement in the space post-session. For the final 2 maps, a member of Care Staff hosted a "music from the decades" quiz game. It involved a resident throwing a beanbag onto a plastic sheet and where it landed determined the decade of music that they had to answer a question about. Some of the residents engaged with this when directly invited to and the activity impacted their ME value, however, it did not bring together all residents and was not a group activity. In map 8 on 27/02/20 for example, David had spent 33% of his time engaging in an expressive activity during the creative session. When the artists left the space and the quiz began, however, David was mapped as "Food" whilst drinking his tea and eating a biscuit, and then he fell asleep. The quiz did not impact on David's ME value as he did not engage with the activity.

Personal

There were 11 timeframes in which residents were mapped as the BCC of 'Expressive' post-session. At Care Home A, Bob actively engaged in singing during the session. Once the session finished and the artists left the space, he ate some cake and drank his juice. He then resumed singing, something he enjoys, despite the rest of the room being in silence. His engagement was considerable again which suggested that the session had a lasting impact on his wellbeing. Bob's ME value was a +3 and he was mapped as the BCC of 'Expressive'. For the entirety of that map, Bob spent 61% of the time engaging in an expressive activity.

In-Session Engagement Levels:

At Care Home B during the creative session in map 6 on 05/12/20, Gregory was observed for 14 timeframes; he was mapped with an ME value of +1 for 9 of these. In the same session, Rosemary was also mapped for 14 timeframes; she was mapped as having an ME value of +3 for 11 of these. Rosemary was clearly more engaged than Gregory was during the creative activity. After the session finished, the artists remained in the space for a further three timeframes, clearing away their equipment. When they left the space at 14:55, Gregory was mapped for a further five timeframes; he was mapped as having an ME value of +3 for 2 of these. To compare, Rosemary quickly fell asleep once the artists had left the room. She was only awake for one of the 5 post-session timeframes where she was mapped as +1.

6) New Trends

In year 1, DCM data highlighted key trends such as: the importance of 1:1 interactions, agency within the sessions, a resistance to being in the room/sleeping, the inclusion of history and biography, attachment to objects/props, and pace/clarity of the session. These trends remain important but the year 2 data has revealed new discoveries. The new trends highlighted below are the most prevalent within the year 2 mapping data.

Trend 1 – Control Data Vs. Session Data

BCCs with a higher potential for wellbeing were experienced more frequently during creative sessions than during the control maps. During the controls, residents were mapped as sleeping/dozing for 38% of the time (fig. 6) as opposed to 8.5% of time when the creative sessions were taking place (fig. 2 and fig. 8). As "Nod, Land of" is the BCC with the lowest possible potential for wellbeing, residents experienced higher levels of wellbeing during the creative sessions.

The creative sessions had a positive impact on wellbeing as the activity allowed residents to exercise creative expression. The BCC of "Expressive", which was the most prevalent behaviour observed during creative sessions (fig. 2 and fig. 8), was not mapped at all during the control maps, indicating that residents were not exposed to opportunities for creativity or self-expression.

The BCC of "Leisure" was observed for 11% of the mapped time during the control maps (fig. 6). This was mainly residents watching the television. Although this BCC has a high potential for wellbeing, during the control maps it was mostly observed alongside the ME value of +1. In fact, the ME value of +1 was mapped for 60.5% of time during the control maps (fig. 9). When creative sessions were taking place, "Leisure" was only observed for 1% of the mapped time (fig. 2 and fig. 8). The television was always switched off prior to a session starting and residents were encouraged to engage with other high potential BCCs such as "Expressive", "Articulation" and "Joints". Higher ME values were observed, with +3 and +5 making up 54% of the mapped time (fig. 4 and fig. 11).

Trend 2 – Enhancing Personhood

More personal enhancers (PEs) were delivered during a creative session than when a session was not taking place. PEs promote a person-centred approach, have a positive impact on the wellbeing of residents and can support those who find it harder to engage.

Across all 14 maps (2 control maps and 12 maps on days when sessions were taking place), 100 PEs were delivered by either artists, care staff or others (fig. 14). PEs go beyond the delivery of normal care and support the personhood of a resident. In a timeframe when a PE was received by a resident, 83% of ME values observed were either considerably positive (+3) or highly positive (+5). This data shows that PEs therefore had a direct positive impact on the wellbeing of residents.

In Care Home B on 05/12/19, PEs were seen to have a direct positive impact on Rosemary's ME value. Rosemary spent 67% of the mapped time in a considerably positive mood with considerable engagement (+3) and 17% of the mapped time in a highly positive mood with high engagement (+5). Rosemary received 5 PEs during this map, 4 of which corresponded to timeframes in which her ME value was +5 and the 5th of which corresponded to a timeframe in which her ME value was +3.

On days when a creative session was taking place (excluding the control maps) 2 PEs were observed during timeframes in which the resident had a negative ME value. This was at Care Home A in map 4 on 18/09/19 when Bob had a visit from a medical professional. In a timeframe that Bob was mapped as -5, an artist used a PE of 'Acknowledgment' to try to calm Bob after he had been distressed and angry. The artist put on a piece of Scottish music and said "Bob, this one's for you". They were recognising Bob's unique taste in music and valuing him as an individual, using a person-centred approach to the delivery of the session. In the next timeframe, Bob's ME value changed to -1 and in the subsequent timeframe it increased to a +3. This example shows the value of using a person-centred approach to change a resident's mood and engagement and increase wellbeing.

Trend 3 – A Person-Centred Approach

Frequent and longer 1:1 interactions paired with a person-centred approach encouraged residents to engage during the creative sessions, promoting higher levels of individual wellbeing.

During the creative sessions, the artists used a range of person-centred approaches to encourage those who find it harder to engage as outlined in 'Case Study 1'. They had to be adaptive and responsive to the needs of individual residents during the sessions.

Trend 4 – When Touch Occurs

Non-functional touch occurred more frequently during the creative sessions. An average of 22 moments of touch occurred during a creative session (fig. 16) in comparison to an average of 10.5 moments during a control map (fig. 15). The creative sessions therefore allow and encourage more than double the number of moments of touch than when a session is not taking place.

The six categories of touch used within the sessions had varying impacts on the residents.

The artists were responsive to the ME values of the residents and used touch to encourage engagement. When ME values were lower, more instances of touch occurred. The categories of warmth and comfort were the most prevalent with 171 moments observed as they were received in response to a resident's ME value (fig. 16). When resident ME values were higher, fewer moments of touch occurred. This is supported by the Care Home B data in map 2 on 03/10/19 where only 5 moments of touch were observed. Only the more engaged residents were participating in this creative session and therefore there were fewer moments of touch (fig. 18). The 2 mapped residents present during this session had the consistently highest individual WIB scores throughout the entire project. An example of this correlation between quantity of touch and ME values is highlighted in 'Case Study 2'.

Some residents were able to engage independently with the dance or movement activity and did not necessarily need support from artists or others. This was reflected by expressive touch being the third most prevalent with 46 moments observed (fig. 16).

Due to the variety of dance and creative activity taking place within the sessions, it was difficult for the mappers to conclude that every moment of touch was having a direct impact on a resident's ME value. Other factors needed to be taken into consideration, such as the use of music, the overall group mood, residents' personalities, and events occurring prior to the session. In addition, the number of moments of touch and how they related to the group WIB score was not consistent. The data does, however, enhance the importance of a person-centred approach and the celebration of differences from resident

to resident. At Care Home B, for example, touch was specifically used as a way to communicate non-verbally with Gregory due to his visual and hearing impairments and create an accessible entry point into the session. Therefore the analysis of touch goes beyond quantitative data and the mappers also had to take into consideration qualitative research and context in order to provide an in-depth examination of the impact of touch.

Trend 5 – Post-session Impact

It was expected that ME values would decrease post-session, however, quantitative data showed that residents in both care homes spent an average of 66% of time in a neutral ME value of +1 in the timeframes immediately after the creative session (fig. 4 and fig. 11). The ME value of +3 (considerably positive mood with considerable engagement) was mapped for an average of 16% of the time post-session as opposed to 48% of time when a creative session was taking place.

Three factors were identified which positively or negatively impact on resident ME values post-session (see case study three for examples):

Environmental:

Environmental factors included receiving food or drink, visits from family members, essential care delivered by Care Staff, and other activity facilitated by Care Staff e.g. a music quiz.

Personal:

Personal factors included residents' personalities, stages or complexity of dementia, and other health related factors.

In-session Engagement Levels:

Data showed that residents who presented high levels of engagement (ME Values) during the session became considerably less engaged post-session, whereas residents with lower ME values in the creative session either maintained or had a much smaller decrease in ME value post session.

Trend 6 – Care Home Input

The presence of Care Staff during the creative sessions had a positive impact on the wellbeing of residents. Care Staff's primary focus is to deliver best practice practical care. There are opportunities within the creative sessions, however, for Care Staff to interact with residents beyond their normal care and deliver Personal Enhancers (PEs).

At Care Home A, Beryl received a PE of "warmth" from a Care Worker during map 3 on 28/08/19 at 15:55. In the previous timeframe, Beryl was in a neutral mood with intermittent engagement and was watching the space passively. A Care Worker approached Beryl, gave her a hug and held her hand. They laughed and joked together. Beryl's ME value improved to a +3 during that timeframe and she became more actively engaged.

Similarly, at Care Home B during map 6 on 05/12/2019 at 13:55, Joe received a PE of "fun" from a Care Worker. Joe was enjoying the activity of sending a paper duck along a piece of string to another resident across the room. A Care Worker said "our Joe is controlling a horse by the looks of it!" The Care Worker was using fun and humour and both she and Joe laughed together. After having an ME value of

+3 for the previous two timeframes, Joe's ME value increased to a +5 during this timeframe; he was in a very high positive mood and was absorbed in the activity. This was the only ME value of +5 observed for Joe during this map and the data suggests that the PE he received from the Care Worker had in impact on his wellbeing.

As they were not always present during the sessions, there were fewer examples of PEs from Care Staff than from artists. Only taking into account the pre, during and post-session data (not the control maps when artists were not present), 82% of all PEs observed were delivered by the project artists or volunteers (fig. 14). Only 10% of PEs were delivered by Care Staff. If more PEs were delivered by Care Staff, this may have led to a positive impact on overall resident wellbeing. This could be achieved by having an increased Care Staff presence during the creative sessions. An increased presence would also allow for more 1:1 interactions which often encourage resident engagement.

The remaining 8% of PEs observed were delivered by other people, such as visiting family members. A Care Home may want to encourage family members to attend the creative sessions. Visiting family may help to increase support not only for their loved one, but also for the other residents, increasing the overall number of 1:1 interactions and delivering additional PEs.

In some instances, the mappers observed Personal Detractors (PDs). These mostly related to and were in the context of the delivery of practical care. At Care Home A in map 4 on 18/09/19 at 14:25, a Care Worker used a PD of "Objectification" towards Paula. They lifted up Paula's feet onto her wheelchair footrests and wheeled her out of the room without any explanation. They did not tell her what they were doing or where they were going. This could be viewed as treating Paula as an object and not respecting her personhood. Paula was then absent from the space during the creative session and did not receive the opportunity to participate. If Care Staff actively encouraged residents to participate, it is possible that this could have a positive impact on their wellbeing as they are exposed to expressive activity, 1:1 interactions, and the opportunity to receive more PEs.

Due to their knowledge of the residents, Care Staff can be helpful in finding ways for residents to engage as described in the case study in the 'Person-Centred Approach' trend. At Care Home B between maps 5 and 6, the artists discovered that Gregory has both a visual and hearing impairment. This information was provided by the Care Staff and allowed the artists to change their way of interacting with Gregory, for example, using touch more regularly and playing music closer to Gregory's ear. This input from the Care Home resulted in Gregory's ME value increasing overall, with his highest individual WIB score of 1.2 observed on the final map of the project.

Trend 7 – Environment and Space

Delivering sessions in "separate" lounges (as opposed to multi-purpose or through-spaces) had a positive impact on resident's wellbeing.

Care Home A and Care Home B had different lounge spaces creating different environments. In Care Home A, the lounge on the ground floor is a communal space that is also a hub of activity for Care Staff, external visitors and residents. In order to access a resident's bedroom or the small kitchen, all staff and visitors have to pass through the lounge space. The space was busy and loud, with Care Staff discussing care plans, preparing drinks and snacks, and putting laundry away. This affected the residents' focus during the sessions and was problematic for the artists who were trying to create an intimate, calm and creative environment.

These distracting elements within the space also created some confusion for residents who mimicked behaviour that they observed within this space. In Care Home A in map 4 on 18/09/19, Cathy walked in and out of the space at regular intervals throughout the map. Although she usually engaged in the sessions and appeared to enjoy herself, on this occasion she was very distracted and restless, following Care Staff and visitors in and out of the space.

An example that further upholds the importance of a "separate" lounge space is map 4 at Care Home B on 03/10/20 where the creative session took place in a different space that usual. This change of environment had a positive impact on the engagement levels of those involved. The temporary space used was not a through space but a small designated private space where the variables within the space (light, sound, seating arrangement) could be easily controlled by the artists. The residents involved not only had higher ME values but also demonstrated a greater sense of community. The data highlighted the importance of space and environment on a resident's ability to actively engage and be creative within the session.

Trend 8 – Start and Finish to Sessions

Starting and finishing sessions at a slower pace had a positive impact on residents' wellbeing.

A regular pattern was observed for both artistic teams' approaches. As both sessions had residents with a range of needs, the entry point for engagement varied on an individual resident basis. The sessions in both Care Home A and Care Home B had a steady, slower-paced start and end to the session.

In Care Home A, for example, the artists approached every resident to welcome them to the session. They played quiet music and the pace was slow and relaxed. Once the residents were welcomed into the space, the Lead Artist addressed the group and announced the date and time. This placed the residents in that moment with the artists. The slower start to the session meant that residents who required a slower pace in order to understand what was happening could be on the same level of awareness and engagement to others.

By comparison, in Care Home B the artists entered the space with a speaker on a trolley. The music was often a recognisable song that was played regularly and was a signifier of the session beginning. Like in Care Home A, the artists approached residents individually and welcomed them into the space. Although this entrance was a higher energy approach, it still reflected a slower paced start to the sessions with residents being greeted in some form. In both sessions, all residents were greeted by at least one artist, either verbally or through a non-verbal moment of touch.

The sessions ended in a similar way; the artists thanked everyone for their participation and the session 'formally' ended. Usually the artists spent a further few timeframes within the space, packing away their equipment and saying goodbye to individual residents on a 1:1 basis. On some occasions, these interactions immediately post-session provided an opportunity for artists to learn more about residents or play a song that a resident may have spoken about previously. In Care Home B, for example, the artists had learnt about Gregory's interest in Irish music. In map 8 on 27/02/20, knowing Gregory had difficulty hearing the music during the group session, an artist moved the speaker closer to Gregory after the session had finished. They played him some Irish music and chatted to him about it. During these timeframes, Gregory's ME value was +3 and his BCC was "Expressive" as he sang and tapped along to the music. This person-centred response from the artist was also mapped as a PE of "including". Such interactions could not always occur during the creative sessions but due to the gradual end to the session, the artists were able to offer person-centred 1:1 interactions that enabled residents to continue to engage once the session has finished.

Trend 9 – Care Home Community

Supporting inter-resident communication and facilitating full group activity developed the sense of community within the care home and had a positive impact on residents' wellbeing. With the main focus of the project being about reducing social isolation and loneliness within care settings, the mappers had noticed the importance of a sense of community within the public lounges.

In Care Home B, the session took place in a large space with all residents sat in one big circle. The highly engaged residents impacted the engagement of other residents around them, often encouraging them to join in. For example, in map 8 on 27/02/20, Wilma was kicking her legs in the air and following the activity. She noticed her neighbour, Rosemary, not joining in and gave her some words of encouragement. Visitors and family members often joined in the sessions at Care Home B, helping to support their loved one other residents too. The mappers noticed the greatest sense of community when the artists facilitated full group activities, such as the parachute (where every resident in the room could hold the edge) or the activity that used string to connect people across the room from one another. In map 5 on 21/11/20 between 14:30-14:40, the artists encouraged all residents to hold the parachute together and follow the instructions, lifting it higher, then lower, and so on. This activity saw residents interacting with each other in ways the mappers had not seen before, in particular, encouraging them to hold eye contact with residents across the room who they wouldn't normally interact with. This had a positive impact on BCCs and ME values. For the three timeframes during this activity, Rosemary was mapped as the BCC of "Expressive" and the ME value of +5 for 2 timeframes and +3 for the 3rd timeframe. These large group activities were also supported by volunteers or additional staff who encouraged residents to communicate with each other across the room and helped them to discover new abilities during the session.

In comparison, Care Home A sessions were much slower paced and involved fewer residents. The focus of these session was more on delivering 1:1s, often with less verbal instruction between artist and resident. Some residents did not sit in the main circle but in an outer circle, meaning that not all residents could see each other and large group activity was therefore not possible. The development of community at Care Home A came in smaller instances through 1:1s between residents. In map 3 on 28/08/19 at 15:05, Bob received a PE of "warmth" from another resident, Beryl. Bob struggled to reach for a fruit bowl on the table next to him. Beryl asked if he was alright and they chatted whilst she held his hand. This continued for the next few timeframes. Bob was mapped as in a considerably high mood with high levels of engagement throughout this mapping period. These inter-resident interactions had an impact on wellbeing and highlight the importance of community within care settings.

7) Conclusions

Reducing Social Isolation and Loneliness

The creative sessions had a positive impact on the wellbeing of the care home residents for 54% of the mapped time during sessions with residents displaying an ME value of either +3 or +5 (fig. 4 and fig. 11). Residents were in neither a positive or negative mood for a further 35% of the mapped time during the creative sessions (+1).

During the creative sessions, the artists created a sense of community amongst the residents as evidenced in the 'Care Home Community' trend. This helped to reduce social isolation and loneliness amongst the residents. The creative sessions also promoted the development of inter-resident relationships, thus also reducing social isolation and loneliness.

Touch

During the creative sessions, touch was predominantly used to show warmth and comfort in response to a resident's low ME value and as a result, transforming their wellbeing positively. It was also used to encourage residents to engage and the data indicates that more moments of touch were mapped for those who found it harder to engage. Residents who found it easier to engage received fewer moments of touch.

Touch was used as a way of communicating with residents without the use of verbal language, offering a different invitation to engage within the session and an easier entry point for particular residents.

Touch was embedded within the sessions and was an inherent response from artists to be person-centred. Moments of touch showed an artist's desire to connect with the residents, often beyond creativity, and to form an impactful relationship. Although the data shows it is possible for touch to have a positive impact on a resident's wellbeing, due to many other factors touch cannot be solely responsible for the increase of a resident's ME value.

Other Conclusions

- The content of the sessions encouraged residents to freely express themselves in a creative way. This was reinforced by the data that during the creative sessions "expressive" was the most frequently mapped BCC (fig. 2 and fig. 8). This can be compared to the control map data which concluded that residents slept for a much larger proportion of time on a day with no creative activity (fig. 6). This data highlights how the creative sessions engaged residents in a different way to their normal everyday routine.
- Care Staff played a vital role in supporting the sessions and improving overall resident wellbeing. When Care Staff showed commitment and interest in the project and directly engaged during the sessions, there were numerous positive results as shown in the data. As stated in the 'Care Home Input' trend, if there was an even greater involvement from Care Staff, there may have been a bigger impact on the residents' overall engagement during and after the session.
- The physical environment of the lounge space had an impact on the session and how residents engaged. Multi-purpose or through-spaces can be problematic for the artists leading the session and for the residents participating. Due to unforeseen circumstances, the change of environment was tested within one map at Care Home B. The data and trends showed that the

change of environment to a more "private" and intimate space had a direct, positive impact on how particular individuals engaged with the creative session.

Conclusions of Year 2 Methodology

- For year 2, the 2 mappers each selected 3 individuals to map at each care home. The number of maps carried out in each care home was consistent (excluding the two control maps for Care Home B), six maps of the creative session in each care home. Unfortunately, not every resident was present for all maps due to some expected resident drop off. For example, Alan was moved to the nursing ward at Care Home B and Beryl was moved to a different floor at Care Home A. Beryl occasionally still came downstairs to participate in the sessions but did not remain a consistent member of the group. One resident also sadly passed away during the 20-week period. The drop off rate impacted the data and meant that not every map had all 6 residents present. In year 1, the impact of drop off wasn't noticeable as the mappers observed different residents each week. It is important to note how much care homes are consistently adapting to suit the needs of their residents and the data collected from mapping the same residents outweighs the small drop off rate within the entire project.
- Time of day is another variable which impacted on the mapping data. All creative sessions took place in the afternoon straight after lunch; the residents could be full and sleep perhaps more likely. Having the creative sessions directly after a mealtime meant that they sometimes started late resulting in a shorter session and less pre-session mapping time. Controlling the time of day variable was challenging and the mappers discovered it was not always possible to map pre-session. Sometimes the residents were not yet in the lounge as they were finishing their lunch, for example. At Care Home A "protected mealtimes" were a policy whereby nobody could pass through the dining room whilst the residents were eating. The lounge was only accessible by passing through the dining room so the mappers had to wait until lunch was finished, resulting in less pre-session mapping data. As the mappers were not able to map each "mapping period" (pre, during or post session) for the same length of time, Dementia Care Mapping needs to be embedded within the initial session timetable to allow for this.
- Mapping the same residents across the 20 week project reinforced the person-centred ideology. It was clear to see the individuality of residents, with each mapping session bringing with it new learning and discoveries about the residents and the creative process. It became apparent what the residents enjoyed, what skills they possessed, and when moments of engagement were important for them. As a result, the maps also highlighted to the artists particular moments of highs and lows during certain activities. The artists could then be person-centred and flexible in their approach in order to engage as many residents as possible, as highlighted in the trends section of this report.
- Due to timescales of the project, the mappers were unable to complete controls maps at Care Home A. Therefore there was no comparable date available for Care Home A. The mappers also had less time in the care home to get to know the residents and their "usual" behaviours.
- In year 1, the mappers worked independently to analyse their individual maps and produce a report for the mapping session. At the end of the year, the mappers worked together to identify trends across all 31 individual maps and 7 sessions. This way of working reduced the mappers' ability to identify trends throughout the year. The mappers had intended to rectify this in year 2 by ensuring consistent analysis at various intervals throughout the project. As the sessions took place in the afternoon, however, this reduced the time they could spend analysing data immediately after the mapping session and impacted on their ability to conduct post-mapping evaluation.

8) Recommendations

The recommendations from year 1 are still valid. The Dementia Care Mappers have identified the following new recommendations for year 2 intended to improve both Dementia Care Mapping and the delivery of a similar project to 'In Mature Company' in the future:

1. Creative projects of this type should take a person centred approach to dance. Using a resident's history, biography, personality, interests and skills to shape the content of a creative session can enhance the resident experience.

2. To support the in depth analysis of the impact of touch, artists, care staff and visitors should use touch more within creative sessions. In year 2, the Mappers coded touch by attaching it to a pre-existing BCC code and explaining its context and purpose to support the data. Functional touch is seen regularly in care home settings, particularly from care staff as they provide practical care for the residents. The use of non-functional touch is also incredibly important to increasing wellbeing, such as non-verbal communication, providing comfort or warmth, or during expressive activity. Touch should also be used as a way of encouraging residents who find it harder to engage.

3. The artistic team should work with the care homes to access profiles of the residents and use 1:1 interactions to build their knowledge of a resident's access needs, personality, likes, dislikes, background, etc. Knowing about a resident's history and biography can allow the artists to shape the session content to be accessible, appropriate and interesting for individuals and therefore increase ME values.

4. Care Staff should be encouraged to participate in the creative sessions if they feel confident doing so. This could result in a greater number of personal enhancers which can have a positive impact on a resident's wellbeing. Care staff are also valuable in increasing support during the sessions and allowing for more 1:1 interactions which increase resident engagement.

5. Care Staff and artists should encourage family members to attend the creative sessions. Visiting family can help to increase support not only for their loved one, but also for the other residents, increasing the overall number of 1:1 interactions and delivering additional personal enhancers.

6. The sessions should take place within a "separate" lounge space if possible. This reduces distractions and excess noise, can help residents stay engaged for longer, and can increase a sense of community. If only a multi-purpose or through-space is available, the environment should be controlled as much as possible by arranging the seating to feel inclusive, limiting access through the space during the session, and keeping background noise levels to a minimum.

7. Using a slow pace to start and finish the creative sessions can allow all residents, including those who find it harder to engage, an entry point into the sessions. Artists can use 1:1 interactions to greet and say goodbye to residents, adhering to a person-centred approach.

8. In order to increase a sense of care home community and encourage inter-resident interactions, artists should trial: facilitate full group activities during the sessions by using a parachute, string, or similar prop to connect residents across the room from one another, both physically using the object and also through eye contact; encourage 1:1 interactions between residents by positioning their chairs accordingly and by sitting residents who find it easier to engage next to those who find it harder to engage.

9. If conducting a similar project in future, it is recommended to conduct control maps for **all** of the care homes to allow for comparative data. The control maps at Care Home B were essential in providing this. The findings helped prove that creative sessions are having a positive impact on wellbeing, and in particular, allow residents to express themselves and be creative. This creativity is

something that was not seen at all during the control maps. The predominant BCC that was mapped during the controls was "Nod, Land Of" (sleeping) which gave the mappers a baseline to compare against during the session weeks. Residents did indeed sleep much less during the creative sessions than during the control maps.

10. To increase the validity of DCM data, an equal number of mapping sessions and individual maps of the same standard length should be completed for each care home. The mappers did not collect as much pre-session data as planned due to not being able to access the space at the desired time, the timing of resident's lunch and tea breaks, and the length of the session as designed by the artists. It is recommended to work with the care home and artists prior to the start of the project to structure this, for example, if lunch finishes at 13.30, the creative session should start at 14.00, allowing the mappers a full hour of pre-session mapping data.
11. To increase understanding of the mapping data, structured time should be allocated for both mappers to code, analyse and plan together and feed back to the artists and care team. This can be difficult due to the time constraints of the project, availability of the artists and care staff, and complexity of the DCM data analysis. It is recommended that within a project that runs for a number of weeks/months, breaks are included to allow for this work to take place. It is recommended trends are identified throughout the project at regular intervals, not only to impact the creative session as they develop but also in preparation for a final report that can be shared with artists, funders, care staff and other interested parties.
12. If possible, it is recommended that post-intervention mapping takes places after the project ends. This would mean going back into the same care home at the same time that the sessions would have been taking place. It would allow the mappers to observe whether the programme of sessions as a whole has had any lasting impact on the care home residents.

9) Index

Dementia Care Mapping: a tool that prepares staff to take the perspective of the person living with dementia in assessing the quality of the care they provide. It empowers staff teams to engage in evidence-based critical reflection in order to improve the quality of care for people living with dementia.

Enriched Model of Dementia: asserts that all of the following affect how a person living with dementia acts, feels and thinks; neurological impairment, health and physical wellbeing, biography and life history, personality, and social psychology.

Personhood: the quality or condition of being an individual person.

Person-Centred Approach: focusing on the individual's personal needs, wants, desires and goals so that they become central to the delivery of the creative session.

BCC: 23 alphabetised Behaviour Category Codes representing what a person is doing. These have varying potentials for wellbeing. (see appendix 1).

High Potential for Wellbeing: This relates to particular behaviour category codes that have a greater potential for an individual to experience high wellbeing. (See appendix 1. Green highlighted codes).

Moderate Potential for Wellbeing: This relates to particular behaviour category codes that have a moderate potential for wellbeing. (See appendix 1. Yellow highlighted code).

Low Potential for Wellbeing: This relates to particular behaviour category codes that have a low potential for wellbeing. (See appendix 1. Blue highlighted codes).

Last Potential for Wellbeing: This relates to the behaviour category code "Nod, Land Of" (sleeping/dozing) which has the lowest possible potential for wellbeing. (See appendix 1. Pink highlighted code).

ME Value: Mood and Engagement Value. This relates to what manner the behaviour category code is being displayed.

(+5 to – 5): This is the mood and engagement scale. With +5 being extreme levels of high mood and engagement and -5 being extreme levels of low mood and engagement. (See appendix 2).

PE: Personal Enhancers are 17 interpersonal skills that can be used by a person to support or enhance the personhood of a resident. PEs can be recorded at two levels, E = enhancing, HE = highly enhancing. (See appendix 3).

PD: Personal Detractors are 17 interpersonal skills that can be used by a person to undermine the personhood of a resident. PDs can be recorded at two levels, D = detracting, HD = highly detracting. (See appendix 3).

Timeframe: Refers to each 5 minute interval that an individual is mapped.

10) Appendices

Appendix 1:

High Mod Low Last

DCM™ 8 Crib Sheet

BEHAVIOUR CATEGORY CODES

Code	Memory cue	General description of category
A	Articulation	Interacting with others verbally or otherwise
B	Borderline	Being engaged but passively (watching)
C	Cool	Being disengaged, withdrawn
D	Doing for self	Self care
E	Expressive	Expressive or creative activities
F	Food	Eating or drinking
G	Going back	Reminiscence and life review
I	Intellectual	Prioritising the use of intellectual abilities
J	Joints	Exercise or physical sport
K	Kum and Go	Walking, standing or moving independently
L	Leisure	Leisure, fun and recreational activities
N	Nod Land Of	Sleeping, dozing
O	Objects	Displaying attachment to or relating to inanimate objects
P	Physical	Receiving practical, physical or personal care
R	Religion	Engaging in a religious activity
S	Sexual expression	Sexual expression
T	Timalation	Direct engagement of the senses
U	Unresponded to	Attempting to communicate without receiving a response
V	Vocational	Work or work-like activity
W	Withstanding	Repetitive self-stimulation of a sustained nature (not of other or outside of self)
X	Excretion	Episodes related to excretion
Y	Yourself	Interaction in the absence of any observable other
Z	Zero option	Fits none of existing categories

Each colour represents the potential for well-being:

Green - High

Yellow - Moderate

Blue - Low

Pink – Last

Appendix 2:

Mood	ME value	Engagement
Very happy, cheerful. Very high positive mood.	+5	Very absorbed, deeply engrossed/engaged.
Content, happy, relaxed. Considerable positive mood.	+3	Concentrating but distractible. Considerable engagement.
Neutral. Absence of overt signs of positive or negative mood.	+1	Alert and focussed on surroundings. Brief or intermittent engagement.
Small signs of negative mood.	-1	Withdrawn and out of contact.
Considerable signs of negative mood.	-3	
Very distressed. Very great signs of negative mood.	-5	

Appendix 3:

Personal Detractions and Enhancers

Comfort				
Intimidation	Making a participant fearful by using spoken threats or physical power	1	**Warmth**	Demonstrating genuine affection, care and concern for the participant
Withholding	Refusing to give asked for attention, or to meet an evident need	2	**Holding**	Providing safety, security and comfort to a participant
Outpacing	Providing information at a rate too fast for a participant to understand	3	**Relaxed pace**	Recognising the importance of helping create a relaxed atmosphere

Identity				
Infantilization	Treating a participant in a patronising way as if they were a small child	4	**Respect**	Treating the participant as valued and recognising their experience and age
Labelling	Using a label as the main way to describe or relate to someone	5	**Acceptance**	Entering into a relationship based on an attitude of acceptance
Disparagement	Telling a participant that they are incompetent, useless, worthless	6	**Celebration**	Recognising, supporting and taking delight in the participant's skills and achievements

Attachment				
Accusation	Blaming the participant for things they have done, or have not been able to do	7	**Acknowledgement**	Recognising the participant as unique and valuing them as an individual
Treachery	Using trickery or deception to distract or manipulate a participant	8	**Genuineness**	Being honest and open with the participant in a way that is sensitive to their needs and feelings
Invalidation	Failing to acknowledge the reality of a participant	9	**Validation**	Recognising and supporting the reality of the participant

Occupation				
Disempowerment	Not allowing a participant to use the abilities that they do have	10	**Empowerment**	Assisting the participant to discover or employ abilities and skills
Imposition	Forcing a participant to do something, or denying them choice	11	**Facilitation**	Assessing levels of support required and providing it
Disruption	Interfering with something a participant is doing, breaking their 'frame of reference'	12	**Enabling**	Recognising and encouraging a participant's engagement
Objectification	Treating a participant as if they were a lump of dead matter or an object	13	**Collaboration**	Treating the participant as a full and equal partner in what is happening

Inclusion				
Stigmatization	Treating a participant as if they were a diseased object or an outcast	14	**Recognition**	Recognising the participant's uniqueness, with an open attitude
Ignoring	Carrying on in the presence of a participant as if they are not there	15	**Including**	Enabling the participant to be and feel included, physically and psychologically
Banishment	Sending the participant away, excluding them; physically or psychologically	16	**Belonging**	Providing a sense of acceptance in a particular setting
Mockery	Making fun of a participant; and making jokes at their expense	17	**Fun**	Using and responding to the use of fun and humour

Detracting (d) - an episode mildly or moderately detracts or 'puts down' the participant.

Highly detracting (hd) - an episode severely or very severely detracts or 'puts down' the participant.

Enhancing (e) - an episode is supportive of personhood and shows use of interpersonal skills on behalf of the care worker.

Highly enhancing (he) - an episode is highly supportive of and shows use of a high level of interpersonal skills on behalf of the care worker.